China’s Activities in the South China Sea
(China’s development activities on the features and trends in related countries)

April 2019
Japan Ministry of Defense
In the SCS, claims conflict between ASEAN countries and China over the territorial rights of Spratly and Paracel islands.

China, Taiwan, Vietnam, and Philippines etc. claim territorial sovereignty of seven features etc. in the Spratly Islands.

China, Taiwan, Vietnam, and Philippines etc. claim territorial sovereignty of the Paracel Islands.

“Nine-dash line”
Since 2013, China has conducted runway extension works at Woody Island in the Paracels.
Since 2014, China has pressed ahead with rapid and large-scale land reclamation works in 7 features in the Spratlys. By the late-2015 when the reclamation had been mostly completed, area of the reclamation work was approx. 12.9㎢.
After the completion of the reclamation, China continues developing various infrastructure and further militarization, being reported that it conducted takeoff and landing exercises and that it deployed surface-to-air missiles and anti-ship missiles.
Building port facilities in the SCS could dramatically improve China’s ISR and other mission capabilities in the SCS.

Runway construction on the Fiery Cross, Subi, and Mischief Reefs (incl. 3,000m-class) would lead to an increase in China’s air force presence in the SCS.
1. China’s Occupation in the Spratly Islands
China has made advances into the SCS by exploiting power vacuums (to the Paracel Islands in 50s-70s and to the Spratly Islands since 80s.)

Timeline

1950s: France withdraws from French Indochina
1950s: China occupies half of the Paracel Islands (South Vietnam also advances to Paracel Islands)
1973: U.S. withdraws from South Vietnam
1974: China occupies the entire Paracel Islands after dislodging South Vietnam (1975: Collapse of South Vietnam after the Vietnam War)
Mid-1980s: Soviet military in Vietnam decreases
1980s: China advances to the Spratly Islands
1988: China occupies 6 features of the Spratly Islands
1992: U.S. withdraws from the Philippines
1995: China occupies Mischief Reef
2000s: China advances to the southern SCS
2012: China gains de facto control over Scarborough Shoal
2014-: China conducts rapid and large-scale reclamation and infrastructure building in the SCS
China gained *de facto* control over 7 maritime features in the Spratlys and built structures at all of the 7 features.

Based on its sovereignty claim, China has taken legislative and administrative actions such as the enactment of the Law on Territorial Sea (1992) and establishment of Sansha City and the Sansha Security District (2012).
1-3 China’s Occupation in the SCS after Reclamation

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- After the completion of the reclamation, China continues developing infrastructure which can be used for military purposes, with further militarization.

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1-4 China’s Reclamation Activities in the SCS (for each feature) ①

January 2014

1. Johnson South Reef ①

Before reclamation: App. 0.001㎢

(Ref.) CSIS Asia Maritime Transparency Initiative / DigitalGlobe (incl. photo)
US DoD Annual Report to Congress 2016
1. Johnson South Reef

November 2016

Quay
Dredged channel
Lighthouse
Gun Battery
Gun Battery
Gun Battery
Original outpost
Radar/communications facility
Helipad
Power generation (Solar array)
Headquarters

After reclamation: App.0.109㎢
(Reclamation completed in 2014)

Sources: CSIS Asia Maritime Transparency Initiative (photo) / U.S. DoD Annual Report to Congress 2017 (size) / Google Earth (length)
1-4 China’s Reclamation Activities in the SCS (for each feature)

2. Hughes Reef ①

February 2010

Original outpost

Before reclamation: App. 0.001㎢

(Ref.) CSIS Asia Maritime Transparency Initiative / DigitalGlobe (incl. photo)
US DoD Annual Report to Congress 2016
2. Hughes Reef

Descriptions of infrastructure are based on points made by CSIS/AMTI, US DoD annual report to the Congress (2017), and other open sources.

Sources: CSIS Asia Maritime Transparency Initiative (photo) / U.S. DoD Annual Report to Congress 2017 /Google Earth (length)
| March 2013 | 3. Cuarteron Reef | Before reclamation: App. 0.001㎢ |

(Ref.) CSIS Asia Maritime Transparency Initiative / DigitalGlobe (incl. photo)

US DoD Annual Report to Congress 2016
After reclamation: App. 0.247㎢ (Reclamation completion in 2014)

3. Cuarteron Reef

- Dredged channel
- Lighthouse
- Radar/Communication facility
- Headquarters
- Helipad
- Gun Battery
- Quay (with a loading crane)

Descriptions of infrastructure are based on points made by CSIS/AMTI, US DoD annual report to Congress (2017), and other open sources.

Sources: CSIS Asia Maritime Transparency Initiative (photo) / U.S. DoD Annual Report to Congress 2016 (size) /Google Earth (length)
Before reclamation: App. 0.001㎢

(Ref.) CSIS Asia Maritime Transparency Initiative / DigitalGlobe (incl. photo)
US DoD Annual Report to Congress 2016
4. Gaven Reefs

- Gun battery
- Headquarters
- Helipad
- Radar/Communication facility
- Quay (with a loading crane)
- Dredged channel
- Original outpost

Sources: CSIS Asia Maritime Transparency Initiative (photo) / U.S. DoD Annual Report to Congress 2017 /Google Earth (length)

Descriptions of infrastructure are based on points made by CSIS/AMTI, US DoD annual report to the Congress (2017), and other open sources.
1-4 China’s Reclamation Activities in the SCS (for each feature) ⑤

5. Fiery Cross Reef

Before reclamation: App. 0.010㎢

Original outpost

(Ref.) CSIS Asia Maritime Transparency Initiative / DigitalGlobe (incl. photo)
US DoD Annual Report to Congress 2016
5. Fiery Cross Reef

Descriptions of infrastructure are based on points made by CSIS/AMTI, US DoD annual report to the Congress (2017), and other open sources.

Sources: CSIS Asia Maritime Transparency Initiative (photo) / U.S. DoD Annual Report to Congress 2017 /Google Earth (length)
1-4 China’s Reclamation Activities in the SCS (for each feature) ⑥

February 2015

6. Subi Reef

Original outpost (incl. EW radar [est.])

Before reclamation: App. 0.002㎢

(Ref.) CSIS Asia Maritime Transparency Initiative / DigitalGlobe (incl. photo)
US DoD Annual Report to Congress 2016, IHS Jane’s
6. Subi Reef

- Runway (approx. 3,000m)
- Hangers (completed)
- SAM shelters
- Gun battery
- Underground storage facility
- Runway (completed)

After reclamation: App. 4.10㎢ (Reclamation completed in 2015)

Sources: CSIS Asia Maritime Transparency Initiative (photo) / U.S. DoD Annual Report to Congress 2017 / Google Earth (length)
China’s Reclamation Activities in the SCS (for each feature)

7. Mischief Reef

February 2015

Original outpost

Before reclamation: App. 0.002㎢

(Ref.) CSIS Asia Maritime Transparency Initiative / DigitalGlobe (incl. photo)
US DoD Annual Report to Congress 2016
7. Mischief Reef

After reclamation: App. 5.70㎢ (Reclamation completed in 2015)

Sources: CSIS Asia Maritime Transparency Initiative (photo) / U.S. DoD Annual Report to Congress 2017 / Google Earth (length)
Initially, China denied its intentions to pursue militarization, and repeatedly mentioned the necessity of “defensive facilities”. Recently, government media reports that the reclamation works are “to strengthen the necessary military defences of the South China sea”

- **September 2015**: On his visit to the U.S., President Xi stated “China does not intend to pursue militarization” in the SCS.
- **February 2016**: Foreign Minister Wang Yi said “(As an answer to the question regarding a report about the deployment of SAM systems on Woody Island, the report is a fake created by some western media, and) China’s limited, necessary defense facilities on Nansha (Spratly) Islands are in accordance with international law, which endows every sovereign state with the rights of self-protection and self-defense. These facilities have nothing to do with militarization”
- **December 2017**: CHINA NANHAI reported “To strengthen the necessary military defense of the South China sea within China’s sovereignty, China has rationally expanded the area of its islands and reefs.”

※ CHINA NANHAI (nanhai.haiwainet.cn) is a website jointly run by the National Marine Date and Information Service and the People’s Daily Overseas Edition. The website opened in August 2016.
2. Recent activities of PLA in the South China Sea
Points made by CSIS/AMTI (May 9, 2018)

- Satellite imagery from April 28 reveals the first image of a military aircraft Y-8, deployed to China's base at Subi Reef (a). With these deployments, military aircraft have now verifiably landed on all of "Big three". (April 2016, a transport aircraft landed at Fiery Cross Reef to evacuate personnel who had fallen ill. A photo in January 2018 shows two Y-7 military transport aircraft on Mischief Reef (b))
- On April 9, the WSJ published satellite imagery showing military jamming equipment on Mischief Reef (c). The article cited a U.S. official who said the jamming systems were deployed to Fiery Cross Reef as well.
- On May 2, CNBC reported that China had deployed YJ-12B anti-ship cruise missiles and HQ-9B surface-to-air missile systems on each of the reefs in Spratly island as part of military exercises in early April. This is the first confirmed placement of such platforms on the islands.

【Vietnamese MOFA Spokesperson (May 8, 2018)】
"Vietnam is deeply concerned about the information. All militarized activities, including the installation of missiles on Spratly archipelago, seriously violate the country’s sovereignty over the islands. The actions cause tension and instability in the region."

2-1 Recent activities of PLA in the South China Sea①

The missile platforms of YJ-12B ASCM and HQ-9B SAM were moved to the outposts in the Spratly Islands within the past 30 days, according to sources who spoke on the condition of anonymity. Pentagon official told CNBC “The further militarization of outposts will only serve to raise tensions and create greater distrust among claimants.”

YJ-12ASCM ※ (Max range 500km)
HQ-9SAM ※ (Max range 200km)
※YJ-12 was originally developed as an air-to-ship missile, but recently the development of surface launched and ship launched variant is pointed out.
Most of China’s recent deployments in the Big three followed a pattern set earlier at Woody Island, its largest outpost and administrative seat in the Paracel Islands. From harbor dredging and runway improvements to hangar and radar construction, upgrades at Woody Island have served as a blueprint for things to come on China’s Spratly holdings to the south. China deployed HQ-9s and anti-ship cruise missiles (YJ-62s) to Woody in 2016. Satellite imagery also captured five Y-8 aircraft on the island in November 2017 (a). China has repeatedly deployed J-10 and J-11 fighter jets to Woody Island (b). Satellite imagery from April 2016 also captured what are believed to be Z-8 helicopters and BZK-005 drone deployed to Woody Island (c).
2-1 Recent activities of PLA in the South China Sea

- On May 18, 2018, China Ministry of Defense announced that PLAF H-6K bombers and other aircraft conducted takeoff and landing exercises in “the southern sea area”.
- Then, CSIS/AMTI and Defense News etc. stated that they had identified the location of the exercises as Woody Island in the Paracels.
- These exercises were the first confirmed case where China landed its bombers on an airstrip on the South China Sea features.

**[China Ministry of Defense’s comment (May 18, 2018)]**

“PLAF H-6K bombers improving maritime combat capability through take off and landing exercises on islands”:

A division of the PLAF recently conducted takeoff and landing exercises on islands with organized various multiple bombers including H-6K and trained to improve “Full Territory, Full-time Assault and All-round Strike” capabilities. The commander Hao Jianke took the lead in piloting and taking off on an H-6K bomber from an airfield in the southern area. The division conducted assault training onto targets on the sea and then performed takeoff and landing exercises at an airfield on an island, achieving the goals of the training and equipping experience of takeoff and landing on islands with the PLAF bomber units. • • • Focusing on realizing the strategic objectives of “Air and Space Integration, Both Offensive & Defensive Operations,” the PLAF is marching towards the modernization of entire-territory-operations and the transformation into a strategic military service. According to an military expert, Wang Mingliang, the bombers’ deployment to conduct takeoff and landing exercises in the southern sea area contributes to the improvement of the combat capability in response to the threats on the maritime safety as well as the preparation of war and the training of combat capability.

**CSIS/AMTI Analysis on H-6’s Coverage**

*The most advanced H-6 variant is H-6K, it is pointed out that its radius of operation reaches 3,500km.*

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People’s Daily reported the video of H-6K conducting takeoff and landing exercises

※Defense News identified the location of the exercise as Woody Island based on this video

**Philippines and Vietnam criticized the issue**

Example of military aircraft that was deployed in South China Sea (based on the classification by CSIS/AMTI, including presumption)
3. Security Implications by China’s Militarization in the Spratly Islands
Building port facilities in the SCS could dramatically improve China’s ISR and other mission capabilities in the SCS.

- Building port facilities of certain size capable of berthing, resupply and maintenance would enable China to maintain more robust naval and maritime law enforcement presence in the entire SCS.
- This development would dramatically improve China’s ISR and other mission capabilities in the central and southern portions of the SCS.
- Some observers refer to considerable impacts on coastal states in the SCS as well as on the sea lane.

E.g., Fiery Cross Reef

(Ref: 3-1 Possible Impact of Building Port Facilities in the Spratly Islands)
The three features with runways and support facilities would enable China to forward-deploy various aerial platforms (incl. fighters, bombers and UAVs)

- In general terms, its ramifications potentially include:
  1. China’s improved air power-projection capability over the entire SCS (especially, significant improvement in China’s ISR and other mission capabilities in the central and southern portion of the SCS);
  2. enhanced China’s air superiority over the SCS; and
  3. improved “Anti-Access/Area-Denial” capabilities against the U.S. military presence and its intervention to contingencies; and

- It could lead to possible declaration of an “SCS Air Defense Identification Zone” by China in the future

[See.] “Regarding when to declare such a zone [SCS ADIZ], it will depend on whether China is facing security threats from the air, and what the level of the air safety threat.” (China Defense Ministry, June 2016)
4. Situations in Other Related Countries
Although main coastal states in the SCS strive to enhance their navy/air force capabilities, a vast gap with China remains both qualitatively and quantitatively.
4-2 Development Trends of Other Countries/Regions in the SCS

Vietnam, the Philippines, Malaysia, and Taiwan in the 80s/90s built runways (600-1,200m) on the land features over which they have *de facto* control. All of them have done facility maintenance and development. Reports suggest that Vietnam has recently conducted reclamation work.

- **Spratly Islands**
  - **Spratly Island (V)**: These satellite photos indicate the reclamation area was approx. 37,190 ㎡.
  - **Paracel Islands**
    - **Sin Cowe Island (V)**: These satellite photos indicate the reclamation area was approx. 105,501 ㎡.
    - **West London Reef (V)**: These satellite photos indicate the reclamation area was approx. 285,303 ㎡.
  - **Thitu Island (P)**: Approx. 1,200m runway.
  - **Swallow Reef (M)**: Approx. 1,400m runway.
  - **Itu Aba Island (T)**: Airfield infrastructure expanded.

- **Brunei**
  - ** approximate 1,200m runway.

- **Malaysia**
  - **Sand Cay (V)**: A lighthouse (height: 12.7m) completed in October 2015; harbor expansion completed in December 2015, in which 3,000t-class vessels can berth.

- **Vietnam**
  - **Thitu Island (P)**: Harbor expansion completed in Dec. 2015.

- **Taiwan**
  - **Itu Aba Island (T)**: Harbor expansion completed in October 2015.

Structures on features etc.:
- China’s
- Taiwan’s
- Vietnam’s
- the Philippines’
- Malaysia’s
※ Thin dash lines show 200 NM from coasts geographically.

*(CSIS/AMTI points out that Vietnam reclaimed 486,000 square meters in 10 features in total in 2 years since 2014.)*

*(In 2011, a plan to repair the runway announced; in January 2016, a plan to implement a civilian aircraft tracking system.)*

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(Source: CSIS/AMTI, media reports)
4-3 Efforts of the U.S. and other countries in the SCS

PLA and Maritime Law Enforcement Forces (MLEFs):
- improve ISR and other mission capabilities with port and runway construction and with sustained deployment of vessels and aircraft in the SCS
- improve A2/AD capabilities against U.S. intervention

The U.S. strengthens relations with the SCS neighboring countries
- Seeking closer ties with the SCS neighboring countries through arms supplies and joint military trainings, and the resulting improvement of coping capabilities of their maritime security. The U.S. expressed 259-million-dollar support in total to the following countries etc. in the next two years (November 2015):
  - To the Philippines: As an ally, the U.S. promotes reinforcement and expansion of existing security cooperation (including equipment support, capacity building of coast guard, and joint military exercises/trainings)
  - To Vietnam: The U.S. gradually expands the defense cooperation, which was previously tenuous, including arms supplies
  - To Indonesia: The U.S. expands the cooperation in the field of patrol capacity, ISR integration etc.
  - To Malaysia: The U.S. expands the cooperation such as enhancement of port security and joint military exercises

The U.S. expands its military presence
- Expanding the U.S. military presence by increasing port calls of naval vessels, reinforcing ISR activities, conducting various joint military trainings, strengthening unit deployment (of vessels such as aircraft carrier, and aircraft) etc.
  - Making the enhancement of maritime domain awareness (MDA) the urgent task in the SCS, the U.S. forces themselves actively conduct ISR activities
  - The U.S. expects the role of allies such as Japan and Australia (Australia has already conducted operations around the SCS using Butterworth (in Malaysia) as a base)
  - The U.S. deploys littoral combat ships (LCS) in Singapore (since April 2013) and it also deployed maritime warfare aircraft in the Philippines (since March 2016).
- The U.S. conducts “Freedom of Navigation Operations (FONOPs)” in order to counter excessive maritime claims
  - “We will continue to fly, sail, and operate wherever international law allows, and demonstrate resolve through operational presence in the South China Sea and beyond.” (Defense Secretary Mattis [June 2017] etc.)
“FONOP” is one of the means for carrying out “Freedom of Navigation (FON) Program”

The FON Program is characterized as below:

**Ends:** In order to preserve **the rights, freedoms, and lawful uses of the sea and airspace guaranteed to all states** under international law by demonstrating a **non-acquiescence to excessive maritime claims asserted by coastal states**.

**Ways:**
1. **Operational activities by U.S. military forces / DoD (i.e., “FONOP”)**
2. Consultations and representations by U.S. DoS

**History:** The FON Program has been **continuously carried out since 1979**.
2. Manner of “FONOP” [news report etc.]

- In May 2015, the U.S. Secretary of Defense Ash Carter said: “The U.S. will fly, sail and operate wherever international law allows.”
- According to the U.S. DoD “Asia-Pacific Maritime Security Strategy” (August 2015), “U.S. PACOM maintains a robust shaping presence in and around the SCS, with activities ranging from training and exercises with allies and partners to port calls to FONOPs and other routine operations” and “[a]s part of the Department’s routine presence activities, the U.S. Navy, U.S. Air Force, and U.S. Coast Guard conduct FONOPs.”
- In October 2015, the U.S. Navy conducted the “FONOP” within 12NM of the Subi Reef, the Spratly Islands (USS Lassen).
- In November 2015, PACOM commander Harry Harris said that the U.S. has been, and will be, conducting “FONOPs” in the SCS.
- In January 2016, the U.S. conducted the “FONOP” within 12NM of the Triton Island, the Paracel Islands (USS Curtis Wilbur). The U.S. Office of Secretary of Defense stated: “This operation was about challenging excessive maritime claims that restrict the rights and freedoms of the U.S. and other, not about territorial claims to land features. The U.S. takes no position on competing sovereignty claims between the parties to naturally-formed land features in the SCS.”
- In May 2016, the U.S. Navy conducted the “FONOP” within 12NM of the Fiery Cross Reef (USS William P. Lawrence).
- In October 2016, the U.S. Navy conducted the “FONOP” near the Paracel Islands (USS Decatur).
- In May 2017, the U.S. Navy conducted the “FONOP” within 12NM of the Mischief Reef (USS Dewey).
- In July 2017, the U.S. Navy conducted the “FONOP” within 12NM of the Triton Island, the Paracel Islands (USS Stetham).
- In August 2017, the U.S. Navy conducted the “FONOP” within 12NM of the Mischief Reef (USS John S. McCain).
- In October 2017, the U.S. Navy conducted the “FONOP” near the Paracel Islands (USS Chafee).
- In January 2018, the U.S. Navy conducted the “FONOP” within 12NM of the Scarborough Shoal (USS Hopper).
- In March 2018, the U.S. Navy conducted the “FONOP” within 12NM of the Mischief Reef (USS Mustin).
- In May 2018, the U.S. Navy conducted the “FONOP” within 12NM of the Paracel Islands (USS Higgins and Antietam).
- In September 2018, the U.S. Navy conducted the “FONOP” within 12NM of the Gaven Reef and Johnson South Reef, the Spratly Islands (USS Decatur).
- In November 2018, the U.S. Navy conducted the “FONOP” near the Paracel Islands (USS Chancellorsville).
- In January 2019, the U.S. Navy conducted the “FONOP” within 12NM of the Tree, Lincoln and Woody Island, the Spratly Islands (USS McCampbell).
- In February 2019, the U.S. Navy conducted the “FONOP” within 12NM of the Mischief Reef (USS Spruance and Preble).