

# Fortress: A New Sea Denial option

Shang-su Wu, Research Fellow  
Rajaratnam School of International Studies, Singapore  
[issswu@ntu.edu.sg](mailto:issswu@ntu.edu.sg)

# Outline of Presentation

- Sea denial and fortresses
- Disappearing fortresses and potential for reemerging.
- Comparison with mobile platforms and a new version of fortress fleet strategy
- Example for potential application: Vietnam
- Challenges and conclusion

# Sea Denial and Fortress

- Sea denial: preventing enemy's control and use of sea.
- Asymmetrical nature: mobile means.
- Fortresses were supposed to be stronger than warships: weight, space and observation.
- Limited range and coverage of ocean.
- Weak air defence capability.

# Disappearance of Fortresses

- Nuclear warfare: meaningless conventional protection, focus on strategic strike and mobile survival.
- Anti-ship missiles equipped on various platforms available in the arms market.
- Bipolar international environment: struggle for global sea power, mutual check, and balance of power.

# Changing Conditions

- Conventional nature of armed conflict.
- Newly rising sea powers: low projection of power due to small naval aviation and no overseas bases.
- Relatively falling US dominance: less willing to use force.
- More responsibility and uncertainty for coastal states: littoral environment, fait accompli and counter force orientation.

# Comparison with Mobile Platforms

- Defence means: weight, space and power.
- Surface vessels: sinking, dilemma between price and defence.
- Submarines: most stealth and deterrent, fragile when found, onshore facilities.
- Aircraft: highest mobility, fragile on land and in air.
- Onshore vehicles: hiding, surveillance, and obstruction.

# Characteristics of Fortress (1)

- Robust for most conventional weapons: concentration on PGM leads to smaller payload.
- Long-range strike means: SAM and anti-ship missiles: enough to cover EEZs.
- Layered defence rings: long and short-range SAMs, EW, CIWS, chafe, new armours ( reactive and hollow structure).
- Sufficient space and power to add new means, such rail gun and laser.

# Characteristics of Fortress (2)

- Available technology: most from naval systems, ex: land Aegis.
- Never sunk: unlikely to lose. Relatively easy to repair.
- Shaping the gravity of warfare: stand-off nature.
- Different politic messages:
  - ❖ Enemy's attack on onshore fortress would be more aggressive than mobile platforms on sea and air.
  - ❖ No mobility: unlikely use for invasion: better international image.

# How to Face Bunker Buster

- GBU-57 of 30,000lb is able to penetrate 200ft concrete, as GBU-28 of 5000lb can reach 20ft.
- Limited platforms to carry out heavy GBUs. Land-based aircraft can be estimated.
- New sea powers do not similar capability.
- Layered defence may intercept projectiles or decrease their effect of explosion.
- U-boat pen example.
- Less likely to conflict with the status-quo sea power.



# Inability to Replace Mobile Platforms

Peace time function:

- Patrol and law enforcement: low level conflicts.
- Diplomacy: visit, showing flags.
- International cooperation: HADR, joint exercises.
- National pride.

Wartime function:

- Mobile warfare.
- Surveillance.
- Remote strike.

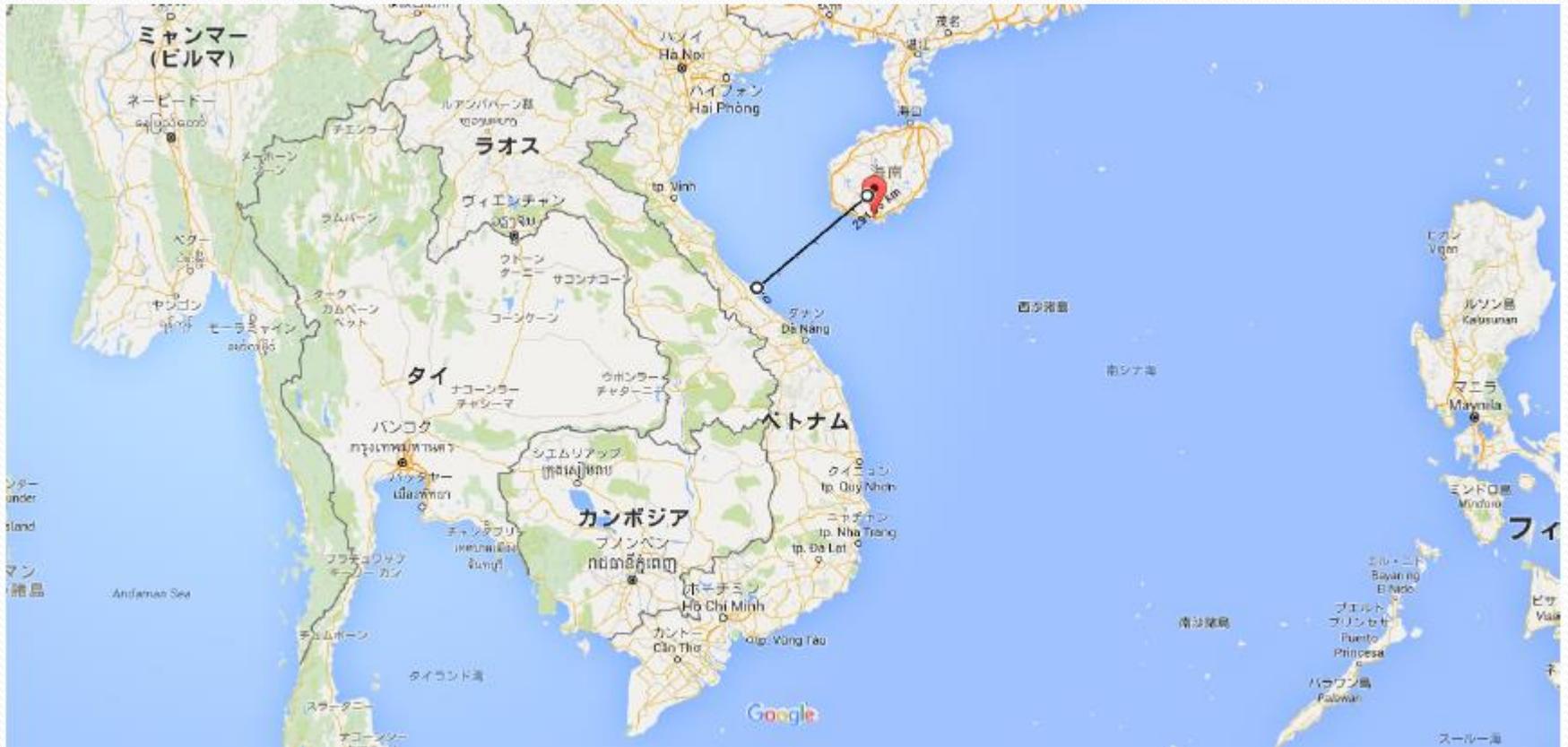
# New Fortress Fleet Strategy

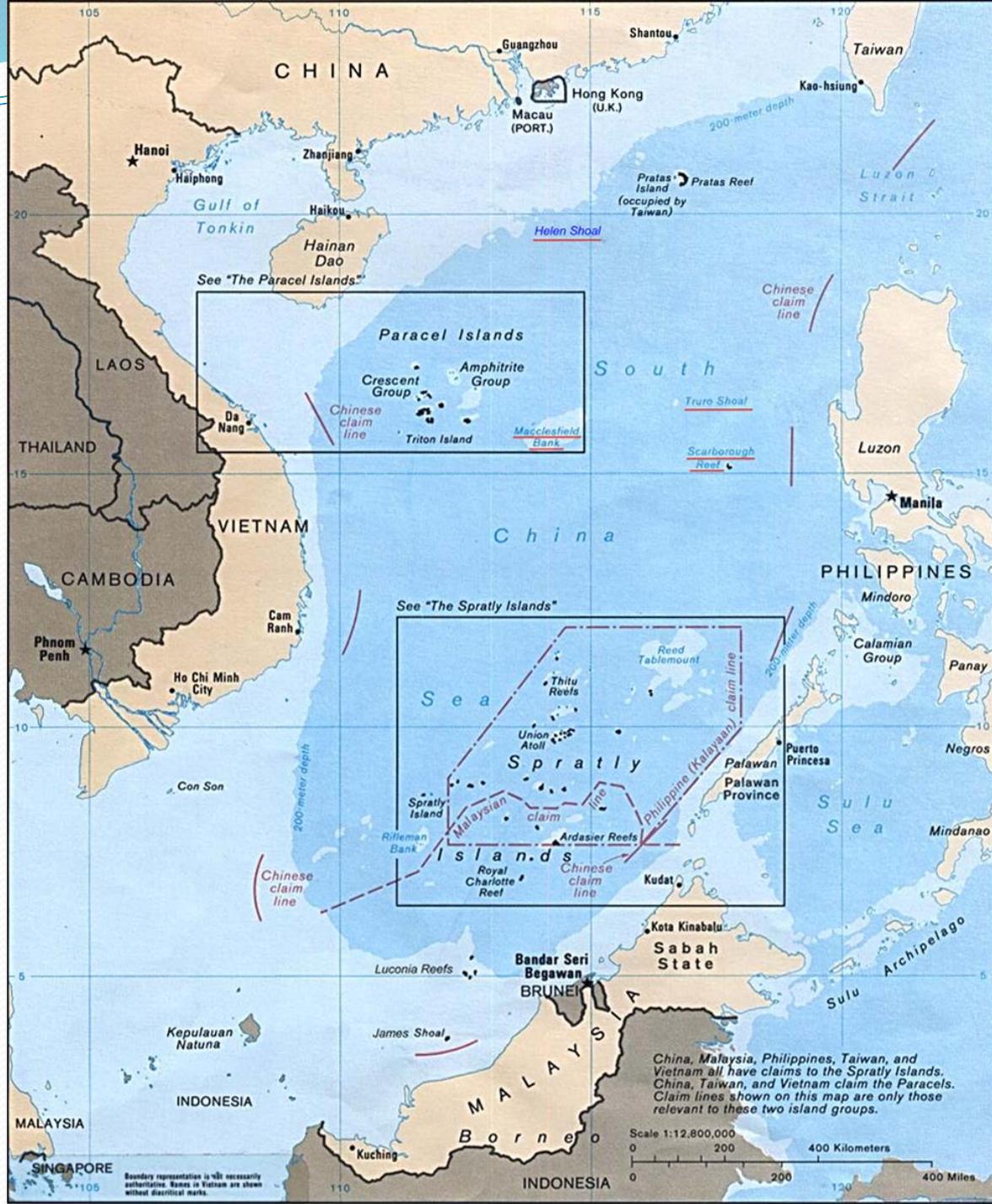
- Two level games: mobile platforms for low-tensed scenarios; fortress for high-tensed warfare.
- Escalation for enemy to ponder: clear message for escalation without offence.
- Easy to IFF.
- Reshape the gravity of warfare: less pressure on mobile platforms.
- Longer course of war: stronger deterrence.

# Vietnam

- Considerable investment in mobile platforms but insufficient to counter Chinese counterpart.
- Geostrategic advantage: adjacent Yulin naval base.
- Fortress to blockade China's major base and most communication lines to the South China Sea.
- Available weapon systems: S-300, P-800 and 3M-54.

# The Location of Yulin Naval Base





See "The Paracel Islands"

**Paracel Islands**

Amphitrite Group

Crescent Group

Triton Island

Da Nang

Chinese claim line

Macclesfield Bank

See "The Spratly Islands"

**Spratly Islands**

Reed Bank

Thitu Reefs

Union Atoll

Ardasier Reefs

Royal Charlotte Reef

Spratly Island

Rileman Bank

Malaysian claim line

Philippine (Malay) claim line

Chinese claim line

China, Malaysia, Philippines, Taiwan, and Vietnam all have claims to the Spratly Islands. China, Taiwan, and Vietnam claim the Paracels. Claim lines shown on this map are only those relevant to these two island groups.

Scale 1:12,800,000

0 200 400 Kilometers

0 200 400 Miles

Boundary representation is not necessarily authoritative. Names in Vietnam are shown without diacritical marks.

# Challenges

- New technology.
- Unlikely to be a showcase.
- Lack of multipurpose.
- Electronic inferiority: similar to mobile platforms.
- Over horizon surveillance : similar to mobile platforms.
- Integration of various systems: technological capacity.

**Thank You Very Much**

[issswu@ntu.edu.sg](mailto:issswu@ntu.edu.sg)