

# **Jaws of the Dragon ORBAT 2025 v1**

## **Notes on ORBAT Construction**

These ORBATs are a living document as almost every force in the region is updating and changing their forces to counter China. The most effort has been put into correctly ascertaining the forces of China, Taiwan, and the US, and where mistakes remain, they are likely within the bounds of random readiness variation. Some elements of these ORBAT's contain only partial or fragmentary information (such as a list of some bases instead of all or drone purchases instead of full drone inventories). Where possible weaker sources have been cross checked, but the author is hindered by their lack of foreign language ability in the many languages of the region to obtain and read such information. As such errors and anachronisms may occur (particularly given my limited time and fallibility to keep everting up to date), correct them for your games and please inform me of any mistakes you find.

- Evan D'Alessandro

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# Australia

## RAN<sup>1</sup>

- 3 x Hobart DDG
- 8 x ANZAC FFG
- 6 x Minehunter Coastal
- 6 x Collins SS
- 2 x LHD
- 1 x LSD

Total amphibious lift can carry 1 Battalion, 2nd Battalion, Royal Australian Regiment (permanently assigned as the Amphibious Pre-landing Force).<sup>2</sup>

Fleet Base North has 1 wharf that can berth a Canberra class LHD.<sup>3</sup>

Australia has purchased a SURTASS-E system from the US, which are employable all of Australia's OSVs (ADV Reliant, ADV Guidance and ADV Ocean Protector), it is unclear if it could be equipping to the Arafura-class.<sup>4</sup>

## RAAF<sup>5</sup>

The RAAF is organized with one strike wing (24 x F/A-18) and some number of (likely 3) fighter wings (72 x F-35's)<sup>6</sup>

### **Squadron Breakdown**

- No. 1 Squadron – Boeing F/A-18F Super Hornet (Multi-Role Fighter)
- No. 2 Squadron – Boeing E-7A Wedgetail (AEW&C)
- No. 3 Squadron – Lockheed-Martin F-35A Lightning (Multi-Role Fighter)
- No. 4 Squadron – Pilatus PC-21 (JTAC Training)
- No. 6 Squadron – Boeing E/A-18G Growler (Electronic Warfare)
- No. 10 Squadron – Lockheed AP-3C Orion (Maritime Patrol)
- No. 11 Squadron – Boeing P-8 Poseidon (Maritime Patrol)
- No. 32 Squadron – Beechcraft King Air 350 (School of Air Warfare Support)
- No. 33 Squadron – Airbus KC-30A MRTT (Air Refueling/Transport)
- No. 34 Squadron – Boeing 737 BBJ, Dassault Falcon 7X (VIP Transport)
- No. 35 Squadron – Alenia C-27J Spartan (Transport)
- No. 36 Squadron – Boeing C-17A Globemaster III (Transport)
- No. 37 Squadron – Lockheed C-130J-30 Super Hercules (Transport)
- No. 75 Squadron – McDonnell Douglas F/A-18A Hornet (Multi-Role Fighter)
- No. 76 Squadron – BAE Systems Hawk 127 (Lead-in Fighter Training/ADF Support)

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<sup>1</sup> navy.gov.au - Accessed 01/31/22

<sup>2</sup> Australian Army Littoral Operations, Kapil Kajal, Janes Defense Weekly, 16<sup>th</sup> August 2023, pg. 27

<sup>3</sup> <https://www.defence.gov.au/news-events/news/2024-05-06/big-ships-berth-new-darwin-wharf>

<sup>4</sup> <https://www.navalnews.com/naval-news/2023/05/australia-cleared-for-207-million-modular-surtass-buy/>

<sup>5</sup> [https://en.wikipedia.org/wiki/Royal\\_Australian\\_Air\\_Force](https://en.wikipedia.org/wiki/Royal_Australian_Air_Force) - Accessed 01/31/22, the combat aircraft are verified by

<https://www.airforce.gov.au/technology/aircraft/air-combat> (accessed 6/22/2022), which states 24 F/A-18 flying, plus 50 operational F-35 as per <https://defbrief.com/2022/06/21/australias-f-35a-fleet-grows-to-50-airframes-with-latest-delivery/>

<sup>6</sup> *Australia Realigns its Military in Light of Regional Security Shifts*, Bradley Perrett, Aviation Week and Space Technology, Dec. 26 2022 – Jan 15, 2023, pg. 46-47

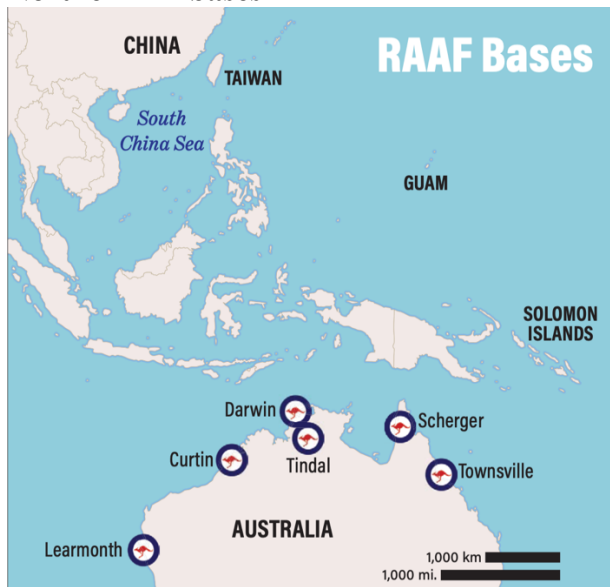
- No. 77 Squadron – Lockheed-Martin F-35A Lightning (Multi-Role Fighter)
- No. 79 Squadron – BAE Systems Hawk 127 (Hawk Conversion/ADF Support)
- No. 100 Squadron – Heritage aircraft
- No. 292 Squadron – Lockheed AP-3C Orion (AP-3C Conversion)
- CFS – Pacific Aerospace CT4B, Pilatus PC-21 (Flying Instructor Training)
- ADFBFTS – Pacific Aerospace CT4B (Basic Tri-Service Flying Training)
- No. 2 FTS – Pilatus PC-21 (Advanced RAAF and RAN Flying Training)
- No. 2 OCU – Lockheed-Martin F-35A Lightning (Multi-Role Fighter)
- ARDU – Various Aircraft Types (Flight Testing)

### Combat Aircraft Breakdown<sup>7</sup>

- 49 x F/A-18A
- 23 x F/A-18F
- 23 x F-35A

Australia as of April 2023 has 46 mothballed F/A-18 in storage.<sup>8</sup>

### Northern Airbases<sup>9</sup>



In peacetime squadrons are located at training bases near cities (mostly RAAF Amberly, Brisbane, and RAAF Williamtown, Newcastle). Tindal however does host a fighter squadron permanently.

### Army<sup>10</sup>

The army is increasingly focused on littoral operations.<sup>11</sup>

<sup>7</sup> <https://www.flightglobal.com/download?ac=83735> (2022)

<sup>8</sup> <https://www.thedrive.com/the-war-zone/australias-mothballed-f-a-18-hornets-should-be-given-to-ukraine> (2023)

<sup>9</sup> *Australia Realigns its Military in Light of Regional Security Shifts*, Bradley Perrett, Aviation Week and Space Technology, Dec. 26 2022 – Jan 15, 2023, pg. 46-47

<sup>10</sup> IISS *The Military Balance 2023*, pg.230. [https://en.wikipedia.org/wiki/Structure\\_of\\_the\\_Australian\\_Army](https://en.wikipedia.org/wiki/Structure_of_the_Australian_Army) - Accessed 02/03/22

<sup>11</sup> *Australian Army Littoral Operations*, Kapil Kajal, Janes Defense Weekly, 16<sup>th</sup> August 2023, pg. 27, *Changing gear: Australian Army transforms equipment and capability priorities*, Kapil Kajal, Janes Defense and Intelligence Review, August 2023, pg. 12

- 1st Division
  - 1<sup>st</sup> Div. is expeditionary, so when large forces are deployed abroad, they are subordinated to 1<sup>st</sup> Div.
  - Headquarters, 1st Division
  - Amphibious Task Group (Brisbane)
    - 2nd Battalion, Royal Australian Regiment (amphibious infantry)
- 3 Mech Infantry Brigades (1<sup>st</sup>, 3<sup>rd</sup>, 9<sup>th</sup>)<sup>12</sup>
  - 1<sup>st</sup> Brigade - Darwin
    - In the process of becoming a littoral force<sup>13</sup>
    - Composition
      - Combat Arms: 1 x Mechanized Infantry Regiments (1 normal or 1 light, unsure as to which), 1 x Motorized Infantry Regiment.
      - Support Arms: HQ, Artillery Regiment, Combat Engineer Regiment, Signal Regiment, Combat Service Support Battalion
  - 3<sup>rd</sup> Brigade - Townsville
    - Combat Arms: 1 x Armored Cav Regiment, 2 x Mechanized Infantry Regiments (1 normal, 1 light), 1 x Motorized Infantry Regiment.
    - Support Arms: HQ, Artillery Regiment, Combat Engineer Regiment, Signal Regiment, Combat Service Support Battalion
  - 9<sup>th</sup> Brigade - Brisbane
    - Combat Arms: 2 x Armored Cav Regiment, 3 x Mechanized Infantry Regiments (1 normal, 1 light, 1?), 1 x Motorized Infantry Regiment.
    - Support Arms: HQ, Artillery Regiment, Combat Engineer Regiment, Signal Regiment, Combat Service Support Battalion
- 10<sup>th</sup> Brigade (very early into forming)– Adelaide<sup>14</sup>
  - Will be concentrated on long range strike and missile defence
- 2 Combat Support Brigade – New South Wales
  - HQ, Intelligence Battalion, MP Battalion, Engineer Support Regiment, Signal Regiment, 2 Artillery Regiments
- 17th Sustainment Brigade - Dispersed
  - HQ, Signal Squadron, 3 Force Support Battalions, 3 Health Battalions
- 5 light batteries of artillery and a handful of additional regiments
- Special Operations Command – New South Wales
  - Special Air Service Regiment
  - 1st Commando Regiment
  - 2nd Commando Regiment
  - Special Operations Engineer Regiment
  - Special Operations Logistics Squadron
- 16th Aviation Brigade - Dispersed
  - 1st Aviation Regiment (Tiger ARH helicopters)
  - 5th Aviation Regiment (MRH 90 Taipan and Chinook helicopters)
  - 6th Aviation Regiment (MRH 90 Taipan helicopters)

<sup>12</sup> Compositions from IISS The Military Balance 2023, pg.230, modified as per Australian Army Littoral Operations, Kapil Kajal, Janes Defense Weekly, 16<sup>th</sup> August 2023, pg. 26

<sup>13</sup> Australian Army Littoral Operations, Kapil Kajal, Janes Defense Weekly, 16<sup>th</sup> August 2023, pg. 26

<sup>14</sup> <https://www.smh.com.au/politics/federal/hard-decisions-hundreds-of-troops-sent-north-in-australian-army-overhaul-20230927-p5e80r.html?btis=>

## **Missile Inventory**

- 260(-) x JASSM<sup>15</sup>
- 80 x JASSM-ER (Ordered July 2022)<sup>16</sup>
- 200 x LRASM (Ordered 2020)<sup>17</sup>

## **Partners and allies**

Operation Gateway with Malaysia under which the RAAF operates out of Royal Malaysian Air Force Base Butterworth providing maritime surveillance patrols in the North Indian Ocean and SCS.

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<sup>15</sup> ADF Weapons: Was JASSM the right choice?, Tom Muir, 1 August 2007, <https://www.australiandefence.com.au/F030B8C0-F806-11DD-8DFE0050568C22C9>. There are inevitably less than 260 due to training missiles, test firings, training, and exercises.

<sup>16</sup> *Australia Realigns it's Military in Light of Regional Security Shifts*, Bradley Perrett, Aviation Week and Space Technology, Dec. 26 2022 – Jan 15, 2023, pg. 46-47

<sup>17</sup> <https://www.navalnews.com/event-news/indo-pacific-2022/2022/05/up-to-200-lrasm-for-raaf-with-potentially-more-for-ran/> (2022)



## UK

The UK can muster 1 carrier group (reliant upon a single Fleet Solid Support Ship, RFA Fort Victoria), and 2 brigades (with understrength engineers) of it's nominal division.<sup>18</sup>

### Forces in Theater

- 2 x Offshore Patrol Vessel<sup>19</sup>
- British Forces Brunei<sup>20</sup>
  - Headquarters BFB
  - 2nd Battalion, the Royal Gurkha Rifles
  - 7 Flight Army Air Corps (Bell 212 helicopter)

### Reinforcements

- Queen Elizabeth Carrier Task Force
  - 1 x Queen Elizabeth Class Carrier
    - 2 x F-35B Squadrons
  - 2 x Type 45 Destroyer
  - 3 x Type 23 Frigates
  - Astute Class Submarine
- Ground units
  - 16 Air Assault Brigade Combat Team<sup>21</sup>
  - 3<sup>rd</sup> Commando Brigade<sup>22</sup>
  - Various elements can be activated and moved to Brunei or Japan\* to link up with units to form an Infantry Brigade on short notice.
    - 2nd Battalion, the Royal Gurkha Rifles
    - Elements of:
      - Parachute Regiment (1-4 bn)
      - Ranger Regiment (1-4 bn)
- Expeditionary Air Wings (UK Bases)
  - No. 121 Expeditionary Air Wing (RAF Coningsby) – multi-role operations
  - No. 135 Expeditionary Air Wing (RAF Leeming) – fighter operations
  - No. 138 Expeditionary Air Wing (RAF Marham) – fighter operations
  - No. 140 Expeditionary Air Wing (RAF Lossiemouth) – fighter operations

\*As per the Reciprocal Access Agreement signed in 2023

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<sup>18</sup> <https://rusi.org/explore-our-research/publications/commentary/hollow-force-choices-uk-armed-forces> (2024)

<sup>19</sup> <https://ukdefencejournal.org.uk/royal-navy-offshore-patrol-vessels-visit-san-diego-to-start-pacific-deployment/> (2021)

<sup>20</sup> <https://www.britishforcesbrunei.co.uk/about-bruneigarrison> - Accessed 3/08/22

<sup>21</sup> <https://www.army.mod.uk/who-we-are/formations-divisions-brigades/1st-united-kingdom-division/16-air-assault-brigade-combat-team/>

<sup>22</sup> *Joint Doctrine Publication 0-40, UK Space Power*, 2022, pg. 64



# France

## In Theater

- Nothing suitable for high intensity combat.<sup>23</sup>

## Reinforcements

- Navy<sup>24</sup>
  - Charles de Gaulle CSG
    - Air Wing<sup>25</sup>
      - 24 x Rafale M in 2 x Rafale Squadron (4<sup>th</sup> Gen Multirole)
      - 2 x E-2C Hawkeye
      - 2 x Dauphin Helicopters
      - 1 x NH-90 (usually)
    - Screen of Various
      - May include other nations ships integrated into the CSG<sup>26</sup>
    - No organic MPA<sup>27</sup>
  - 1 x Rubis or Suffren SSN
  - 1 x ESG
    - Centered on Mistral class
      - 1 x Troupes de Marine Brigade
    - Screen of Various
- Air<sup>28</sup>
  - 1 Mirage 200-5F Squadron (4<sup>th</sup> Gen Multirole)
  - 1 Mirage 2000D Squadron (3<sup>rd</sup> Gen Tac Bomber)
  - 2 Rafale Squadron (4<sup>th</sup> Gen Multirole)
- Army<sup>29</sup>
  - Scratch Pacific Mech Brigade
    - 2e RPIMa Regiment
    - 5<sup>th</sup> Regiment of Cuirassier
    - 5<sup>th</sup> Regiment Outre Mer
  - 11<sup>th</sup> Airborne Brigade
  - 27<sup>th</sup> Mountain Brigade
  - 9th Marine Infantry Brigade

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<sup>23</sup> Other units are present but are not for high intensity combat - [https://espritsurcouf.fr/geopolitique\\_la-strategie-de-la-france-dans-l-indo-pacifique\\_par\\_joseph-le-gall/](https://espritsurcouf.fr/geopolitique_la-strategie-de-la-france-dans-l-indo-pacifique_par_joseph-le-gall/)

<sup>24</sup> <https://www.iiss.org/blogs/research-paper/2022/03/taiwan-cross-strait-stability-and-european-security> (2022), pg. 26

<sup>25</sup> Carrier Strike Group 2.0, Eammanuel Huberdeau, Janes's Defense Weekly, 26 February 2020, pg. 28-31 (pg. 29)

<sup>26</sup> Carrier Strike Group 2.0, Eammanuel Huberdeau, Janes's Defense Weekly, 26 February 2020, pg. 28-31 (pg. 31)

<sup>27</sup> Carrier Strike Group 2.0, Eammanuel Huberdeau, Janes's Defense Weekly, 26 February 2020, pg. 28-31 (pg. 30)

<sup>28</sup> Numbers drawn from <https://www.flightglobal.com/download?ac=83735> (2022), numbers given as number that could be drawn for Pacific service.

<sup>29</sup> IISS The Military Balance 2021 pg.102. Selected units are the guess of the author.



# Canada

**Canadian Expeditionary Goal:** 3 frigates, 2 fighter squadrons, and 1 mechanized brigade.<sup>30</sup>

## Reality:

- *Navy:* 3 frigates might be possible in wartime.<sup>31</sup>
- *Air Force:* 2 squadrons will require time and effort as North American Aerospace Defense Command requirements (36 aircraft available for flight at any given time) consume a lot of available aircraft (e.g. all available aircraft squadrons)<sup>32</sup> so I would guess 1 squadron is possible with work, 2 is really stretching it.
- *Army:* Rapidly deployable (in a week) would be 1 light infantry bn+, a larger brigade deployment would take at least a month or more to organize and conduct.<sup>33</sup>

**Status of Forces:** “on average, only 45 percent of Canada’s air force fleet is operational, while the Royal Canadian Navy can operate at 46 percent of its capacity and the army at 54 percent”

<sup>34</sup> The rest of this equipment is uservicable and not ready to deploy.<sup>35</sup> “Internationally, only 58 percent of Canada’s committed “force elements ready to meet NATO notice move” are deployable.”<sup>36</sup>

## Army (Ready Forces)<sup>37</sup>

- 3 Mechanized Brigade Groups (5<sup>th</sup> CMBG,<sup>38</sup> 1<sup>st</sup> CMBG,<sup>39</sup> and 2<sup>nd</sup> CMBG)
  - three infantry battalions (two mechanized, one light)
  - an armoured regiment
  - an artillery regiment
  - a combat engineer regiment
  - a reconnaissance squadron
  - appropriate combat support, communications, medical and service support units
- Given the amount of airlift available, staging this into theater would be difficult with the heavy equipment. A scratch Light Infantry Brigade might more easily be formed by taking the three light infantry battalions plus supporting equipment.

## Navy

- MARPAC<sup>40</sup>
  - Frigates (Halifax Class)
    - HMCS Vancouver (FFH 331)
    - HMCS Regina (FFH 334)
    - HMCS Calgary (FFH 335)
    - HMCS Winnipeg (FFH 338)
    - HMCS Ottawa (FFH 341)

<sup>30</sup> <https://warontherocks.com/2024/04/dont-count-on-us-canadas-military-unreadiness/>

<sup>31</sup> Based on the statement that there are 3 available to deploy to Europe/Indo-Pac, mustanger a full 4-5 ship SAG should be doable.

<sup>32</sup> <https://warontherocks.com/2024/04/dont-count-on-us-canadas-military-unreadiness/>

<sup>33</sup> <https://warontherocks.com/2017/02/super-hornets-ch-canadian-airpower-falls-short-on-north-american-defense/>

<sup>34</sup> Personal conversation with individual involved in looking at Canadian Army expeditionary capabilities.

<sup>35</sup> <https://warontherocks.com/2024/04/dont-count-on-us-canadas-military-unreadiness/>

<sup>36</sup> <https://www.cbc.ca/amp/1.7135390>

<sup>37</sup> <https://warontherocks.com/2024/04/dont-count-on-us-canadas-military-unreadiness/>

<sup>38</sup> <https://www.canada.ca/en/army/corporate/the-canadian-army-of-today.html> (Accessed July 7, 2022)

<sup>39</sup> <https://www.canada.ca/en/army/corporate/2-canadian-division.html> (Accessed July 18, 2022)

<sup>40</sup> <https://www.canada.ca/en/army/corporate/3-canadian-division.html> (Accessed July 18, 2022)

<sup>40</sup> [https://en.wikipedia.org/wiki/Maritime\\_Forces\\_Pacific](https://en.wikipedia.org/wiki/Maritime_Forces_Pacific) (Accessed July 7, 2022)

- Coastal defence vessels (Kingston Class)
  - HMCS Nanaimo (MM 702)
  - HMCS Edmonton (MM 703)
  - HMCS Whitehorse (MM 705)
  - HMCS Yellowknife (MM 706)
  - HMCS Saskatoon (MM 709)
  - HMCS Brandon (MM 710)
- Submarines
  - HMCS Victoria (SSK 876)
  - HMCS Corner Brook (SSK 878)
  - HMCS Chicoutimi (SSK 879)
- MARALNT (possibly some units would be deployed to assist)<sup>41</sup>
  - A Fleet of 15 His Majesty's Canadian Ships:
    - 7 Multi-Role Patrol Frigates
    - 6 Maritime Coastal Defence Vessels
    - 2 Long Range Patrol Submarines

#### **Air Force (Expeditionary Elements Only)<sup>42</sup>**

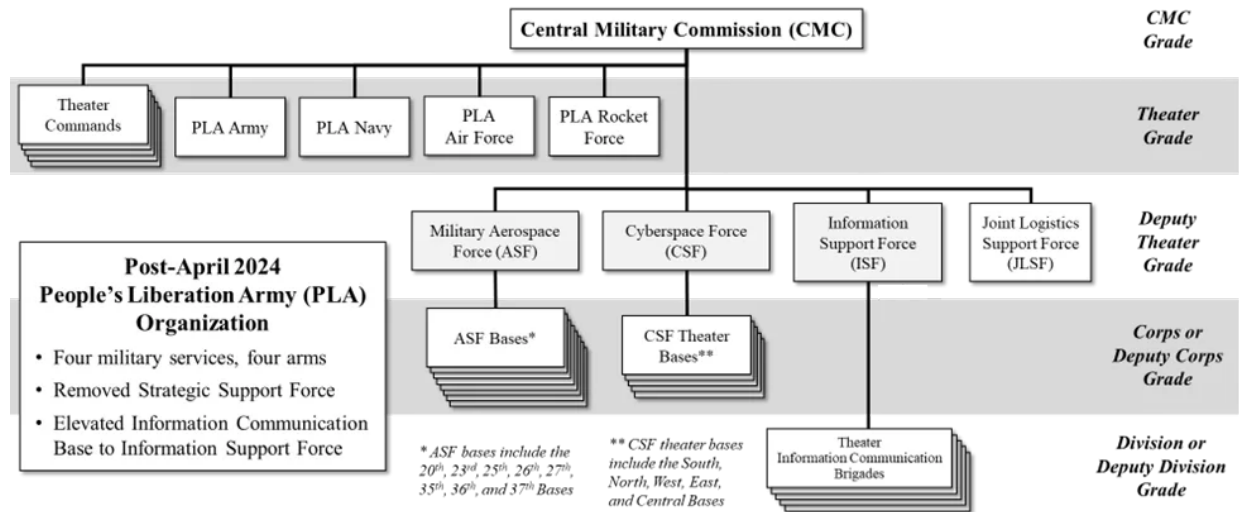
- 425 Tactical Fighter Squadron (CF-188 Hornet)
- 433 Tactical Fighter Squadron (CF-188 Hornet)
- 401 Tactical Fighter Squadron (CF-188 Hornet)
- 409 Tactical Fighter Squadron (CF-188 Hornet)

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<sup>41</sup> <https://www.canada.ca/en/navy/corporate/our-organization/structure/marlant/units.html> (Accessed July 7, 2022)

<sup>42</sup> Based on <https://www.canada.ca/en/air-force/corporate/wings-squadrons.html> and <https://www.canada.ca/en/air-force/corporate/reports-publications/royal-canadian-air-force-map.html> (accessed July 7, 2022)

## China Structure<sup>43</sup>



“The People’s Liberation Army (PLA) is evolving toward a “triple matrix” structure of four domain-focused services, four strategic/functional forces, and five regionally-focused theater commands.”<sup>44</sup> The “logic of ‘the CMC leads, theaters fight, and services build (军委管总, 战区主战, 军种主建).’” This can be understood to be similar to the US “where services are tasked to ‘man, train, and equip’ while combatant commands conduct operations.”<sup>45</sup> However post restructuring “It may now be more appropriate to say that ‘CMC leads, theaters fight, services build, and forces/branches support.’ This is a new paradigm whereby services are responsible for force construction, theaters are responsible for joint-force operations in geographic areas of responsibility, and forces/branches are responsible for strategic-level support through both the provisioning of vital services and capabilities and by conducting operations in critical domains of warfare.”<sup>46</sup> Thus the Forces are more like US functional combatant commands (like USCYBERCOM or USSPACECOM).

## Force Quality

### *In Short*

In official and public sources, the PLA is aware of the major issues with its force and is attempting to remedy them. This process has been going on starting since the mid-2010’s, but it is difficult to assess the effectiveness of their remedies to their problems.

### *Overall Force Quality*

<sup>43</sup> <https://jamestown.org/program/a-disturbance-in-the-force-the-reorganization-of-peoples-liberation-army-command-and-elimination-of-chinas-strategic-support-force/>

<sup>44</sup> <https://jamestown.org/program/planned-obsolescence-the-strategic-support-force-in-memoriam-2015-2024/>

<sup>45</sup> <https://jamestown.org/program/planned-obsolescence-the-strategic-support-force-in-memoriam-2015-2024/>

<sup>46</sup> <https://jamestown.org/program/planned-obsolescence-the-strategic-support-force-in-memoriam-2015-2024/>

Chinese ground forces (PLAGF, PLAAF Airborne Corps, PLANMC) are comprised ~50% of 2-year conscripts at company level and below.<sup>47</sup>

In recent years the PLA has instituted several initiatives to increase the quality of their personnel, which, while in early days seem to be making progress. The shift in 2021 to twice a year intake of conscripts, rather than once a year will likely improve the manning and quality of units, given that it works better with the training schedule the PLA uses (from 50% of conscripts being minimally qualified, to 75% year-round). Chinese units with large numbers of conscripts have visibility improved readiness as a result. It also allows for better recruitment of college students, however the twice a year cycle may be creating some issues within the force of seniority between different sets of conscripts leading to bullying. There remain issues with the quality of the NCO corps of which the PLA is aware. In 2022, new moves have been made to increase the quality of the NCO corps by clarifying roles and providing promotion pathways as well as providing better mechanisms to manage the NCOs leaving the service.<sup>48</sup> While it is early to make predictions on changes that will take many years to pan out, the moves thus far appear to be the correct ones to make.

### ***Ground Forces***

Non-amphibious brigades of Eastern, Southern, and Northern theater armies “may engage in cross-beach landing training (from PLAGF amphibious craft or PLAN landing ships) or sea-transport movements (using commercial civilian ships)” to train for being second echelon forces.<sup>49</sup>

### **Amphibious Units (PLAGF)**

PLAGF Amphibious Brigades appear to be capable amphibious operators, having gained skills over the past 5 years after their 2017 reorganization to the point of publicly conducting multi-brigade exercises.<sup>50</sup> There is however a complete lack of oppositional training against a proper OPFOR for PLAGF Amphibious Brigades.<sup>51</sup> Chinese sources often note that a lack of capability to conduct joint operations is a problem that is being worked on.<sup>52</sup>

These problems are compounded by the fact that both the PLAGF Amphib Brigades and PLANMC Brigades use 2-year conscripts meaning that long term knowledge is not kept. “[T]he PLA will likely need several more years before it is comfortable executing larger training events with multiple amphibious brigades landing simultaneously. Although recent smaller scale exercises utilized joint capabilities, with PLAN vessels delivering PLAGF landing forces and PLAAF aircraft providing fire support, the limited scale is not representative of the realistic requirements expected during a joint island landing campaign.”<sup>53</sup> In addition PLAGF

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<sup>47</sup> *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 71

<sup>48</sup> <https://warontherocks.com/2022/08/people-win-wars-a-2022-reality-check-on-pla-enlisted-force-and-related-matters/> (2022)

<sup>49</sup> *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 69

<sup>50</sup> *Crossing The Strait*, China’s Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 180.

<sup>51</sup> *Crossing The Strait*, China’s Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 178

<sup>52</sup> See any selection of the Chinese Maritime Studies Institute’s China Maritime Report’s

<sup>53</sup> *Crossing The Strait*, China’s Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 183



Amphibious Brigades and PLANMC Brigades may lack the ability to easily call for helicopter support.<sup>54</sup>

PLAGF units “conduct regular company- to battalion-level amphibious training exercises,” with increasing amounts of helicopter or heavy-lift insertion of personnel to support operations on the beach, but these operations rarely involve echelons above the battalion.<sup>55</sup> For more details on the training of PLAGF Amphibious Brigades, see the footnoted source.<sup>56</sup>

## Army Aviation

“Army aviation units in group armies frequently train with SOF units and are likely to be employed to insert small SOF teams beyond the beach to capture important inland objectives. PLAGF helicopter units train less frequently with infantry units”<sup>57</sup> “In recent years, PLAGF helicopter units have practiced operations from PLAN ships and large commercial ships.”<sup>58</sup>

## SOF

SOF train at small unit levels regularly in a variety of circumstances and with a variety of simulated missions and to practice different skills. They also practice in larger drills as part of combined arms training, with examples of SOF operations at battalion level.<sup>59</sup> Several areas of deficiency are noted:<sup>60</sup>

- Questions on the quality of special mission equipment available to SOF, though it is difficult to ascertain the extent of problems or if they have already been remedied.
- Lack of technical reconnaissance training, meaning that “SOF officers and personnel have comparatively weak ability to obtain and handle intelligence” (for example vehicle recognition, and lack of training with small drones).
- SOF units do not appear to train for psychological or unconventional war (training is focused on direct action).
- SOF units from different services also do not appear to train together regularly, and several SOF forces exist outside the normal chain of command, though moves to increase training appear to be happening.
- Lack of permanent joint command structure for SOF below the theater level. It appears that lower-level moves are being made to remedy this at the moment.

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<sup>54</sup> *Crossing The Strait*, China’s Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 178

<sup>55</sup> *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024  
<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmsi-studies>, pg. 75

<sup>56</sup> *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024  
<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmsi-studies>, pg. 71-73

<sup>57</sup> *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024  
<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmsi-studies>, pg. 70

<sup>58</sup> *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024  
<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmsi-studies>, pg. 70

<sup>59</sup> China Maritime Report No. 18: Chinese Special Operations in a Large-Scale Island Landing (2022) pg. 10-13

<sup>60</sup> China Maritime Report No. 18: Chinese Special Operations in a Large-Scale Island Landing (2022) pg. 14-16

## *Air Forces*

### **Air Units**

The step up in recent years of incursions into Taiwanese airspace has no doubt allowed PLAAF EW personnel to familiarize themselves with the signatures and signals of ROC air and missile defense systems as well as interceptor aircraft.”<sup>61</sup> China is increasing its training and increasing the complexity of the training (and integration with other branches) while practicing with its flights around Taiwan, this may indicate that “the air force is increasingly capable of more complex operations”.<sup>62</sup> Overall the quality of the PLAAF is likely varied with the best units being equivalent to adversary nations, and other units being less so.<sup>63</sup> Problems remain with maintenance, flying hours, recruiting talented personnel, and the lingering effects from the reorganization of the PLAAF in 2014, though efforts are being made to fix these issues.<sup>64</sup> Jointness is likely still lacking, though more and more training is going into it, it takes much time to build such capability.<sup>65</sup>

The PLAAF and PLAGF as of 2020 were still developing the systems and procedures for CAS at brigade/division level (and not yet at higher echelons of command), a process that has been ongoing since 2008-2009, and its capability to conduct CAS missions is “far from mature”.<sup>66</sup>

The PLAAF likely has some amount of high quality data and possibly some amount of air-to-air training against Mirage 2000’s (which are operated by Taiwan), as well as MASINT they have been able to collect from their cross-strait air intrusions.<sup>67</sup>

### **Airborne Units**

Training is generally battalion level, with a few at brigade level. Airborne training often occurs at night, and units have trained against heavier Blue forces. It is unclear if any joint training has been done with other services to any significant degree.<sup>68</sup> The airborne lack the capability to conduct joint operations, namely no known training in: providing air cover to transport aircraft, practicing with fixed wing close air support for airborne troops, and in practicing with supporting fires from the Army, Navy, or Rocket Force.<sup>69</sup> For a full scale assault the airborne corps “does not appear to train to execute a multi-brigade deployment,”<sup>70</sup> but is doing joint training as of 2020.<sup>71</sup>

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<sup>61</sup> *PLA Aerospace Power: A Primer on Trends in China’s Military Air, Space, and Missile Forces*, 3rd Edition, China Aerospace Studies Institute, August 2022, pg. 17

<sup>62</sup> *Strategic Service*, Janes Defense Weekly, 5 January 2022, Gabriel Dominguez and Andreas Rupprecht, Pg. 20-29 (pg. 26-27)

<sup>63</sup> *Strategic Service*, Janes Defense Weekly, 5 January 2022, Gabriel Dominguez and Andreas Rupprecht, Pg. 20-29 (pg. 27)

<sup>64</sup> *Strategic Service*, Janes Defense Weekly, 5 January 2022, Gabriel Dominguez and Andreas Rupprecht, Pg. 20-29 (pg. 29)

<sup>65</sup> *Strategic Service*, Janes Defense Weekly, 5 January 2022, Gabriel Dominguez and Andreas Rupprecht, Pg. 20-29 (pg. 29)

<sup>66</sup> *The Improvement of the PLA’s Close Air Support Capability*, Derek Solen, 2020, <https://www.airuniversity.af.edu/Portals/10/CASI/documents/Research/CASI%20Articles/2020-12-17%20PLA's%20improving%20Close%20Air%20Support%20capability.pdf?ver=5Jah3h28qsohyD4SkMYz-g%3d%3d>, pg. 7

<sup>67</sup> *More than a Mirage: UAE combat aircraft in China*, 22<sup>nd</sup> July 2024, <https://www.iiss.org/online-analysis/military-balance/2024/07/more-than-a-mirage-uac-combat-aircraft-in-china/>

<sup>68</sup> *Crossing The Strait*, China’s Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 202-203

<sup>69</sup> *Crossing The Strait*, China’s Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 211-212

<sup>70</sup> *Crossing The Strait*, China’s Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 216

<sup>71</sup> <https://media.defense.gov/2021/nov/03/2002885874/-1/-1/0/2021-cmpr-final.pdf> (2021)

## *Naval Forces*

### **Submarine Forces**

“PLAN experts believe that their meteorology and oceanography capabilities significantly lag those of the USN ... especially beyond the First Island Chain.”<sup>72</sup> “Uneven quality and chain-of-command inefficiencies are likely enduring challenges”, with Officers are likely better than the enlisted, but both suffer from submarines being a dead end career.<sup>73</sup> Submariners now train more realistically than previously since the start of major changes to the Chinese submarine force 6 years ago.<sup>74</sup> Chinese submarine commanders may be hampered by a lack of autonomy (lack of trust from land-based command, both on-board political and chain-of-command oversight, and the need to report up the chain-of-command).<sup>75</sup>

Currently “PLAN submarines often deploy with personnel senior to the commanding officer, which subverts shipboard chain of command, stresses the system, and complicates decision-making” though it is unclear if this would also happen (or if there would be enough senior personal to do it) in wartime,<sup>76</sup> and it appears that Chinese authors are aware of the issues with this practice and practice and it is slowly being phased out (or more likely very unevenly being phased out currently).<sup>77</sup> It appears to be more common in long distance voyages.<sup>78</sup> This leads to a higher operational tempo for leaders with its usual deleterious effects (overstretched and not available for other work, lack of leave/familial time creating morale problems).<sup>79</sup>

### **ASW**

Chines ASW is being tested in large exercise every year, but it lacks number and scope of multilateral exercises which help to challenge ASW capabilities to their fullest.<sup>80</sup>

### **Mine Warfare**

Mine Warfare seems to suffer from the same problem of low interest in the topic as there is in the west.<sup>81</sup> Known issues are the need for ships to operate close to their home base,

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<sup>72</sup> *Quick Look Report “Chinese Undersea Warfare: Development, Capabilities, Trends”*, April 2023, China Maritime Studies Institute [http://www.andrewerickson.com/wp-content/uploads/2023/05/Naval-War-College\\_China-Maritime-Studies-Institute\\_CHINESE-UNDERSEA-WARFARE\\_CONFERENCE-SUMMARY\\_20230505.pdf](http://www.andrewerickson.com/wp-content/uploads/2023/05/Naval-War-College_China-Maritime-Studies-Institute_CHINESE-UNDERSEA-WARFARE_CONFERENCE-SUMMARY_20230505.pdf), pg. 1

<sup>73</sup> *Quick Look Report “Chinese Undersea Warfare: Development, Capabilities, Trends”*, April 2023, China Maritime Studies Institute [http://www.andrewerickson.com/wp-content/uploads/2023/05/Naval-War-College\\_China-Maritime-Studies-Institute\\_CHINESE-UNDERSEA-WARFARE\\_CONFERENCE-SUMMARY\\_20230505.pdf](http://www.andrewerickson.com/wp-content/uploads/2023/05/Naval-War-College_China-Maritime-Studies-Institute_CHINESE-UNDERSEA-WARFARE_CONFERENCE-SUMMARY_20230505.pdf), pg. 2

<sup>74</sup> *Quick Look Report “Chinese Undersea Warfare: Development, Capabilities, Trends”*, April 2023, China Maritime Studies Institute [http://www.andrewerickson.com/wp-content/uploads/2023/05/Naval-War-College\\_China-Maritime-Studies-Institute\\_CHINESE-UNDERSEA-WARFARE\\_CONFERENCE-SUMMARY\\_20230505.pdf](http://www.andrewerickson.com/wp-content/uploads/2023/05/Naval-War-College_China-Maritime-Studies-Institute_CHINESE-UNDERSEA-WARFARE_CONFERENCE-SUMMARY_20230505.pdf), pg. 2

<sup>75</sup> Trust Deficit in PLA Navy Submarine Command: Origins and Consequences, Conor Kennedy, Oct 6, 2023, <https://jamestown.org/program/trust-deficit-in-pla-navy-submarine-command-origins-and-consequences/>

<sup>76</sup> *Quick Look Report “Chinese Undersea Warfare: Development, Capabilities, Trends”*, April 2023, China Maritime Studies Institute [http://www.andrewerickson.com/wp-content/uploads/2023/05/Naval-War-College\\_China-Maritime-Studies-Institute\\_CHINESE-UNDERSEA-WARFARE\\_CONFERENCE-SUMMARY\\_20230505.pdf](http://www.andrewerickson.com/wp-content/uploads/2023/05/Naval-War-College_China-Maritime-Studies-Institute_CHINESE-UNDERSEA-WARFARE_CONFERENCE-SUMMARY_20230505.pdf), pg. 3, Trust Deficit in PLA Navy Submarine Command: Origins and Consequences, Conor Kennedy, Oct 6, 2023, <https://jamestown.org/program/trust-deficit-in-pla-navy-submarine-command-origins-and-consequences/>

<sup>77</sup> Trust Deficit in PLA Navy Submarine Command: Origins and Consequences, Conor Kennedy, Oct 6, 2023, <https://jamestown.org/program/trust-deficit-in-pla-navy-submarine-command-origins-and-consequences/>

<sup>78</sup> Trust Deficit in PLA Navy Submarine Command: Origins and Consequences, Conor Kennedy, Oct 6, 2023, <https://jamestown.org/program/trust-deficit-in-pla-navy-submarine-command-origins-and-consequences/>

<sup>79</sup> Trust Deficit in PLA Navy Submarine Command: Origins and Consequences, Conor Kennedy, Oct 6, 2023, <https://jamestown.org/program/trust-deficit-in-pla-navy-submarine-command-origins-and-consequences/>

<sup>80</sup> *Blue Water Buildup*, Aika Torruella, Alessandra Giovanzanti, Georgios Papangelopoulos, and Matteo Scarano, Janes Defense Weekly, 18 May, 2022, pg. 22-29 (pg. 25)

<sup>81</sup> Waidelich, Brian and Pollitt, George, "China Maritime Report No. 29: PLAN Mine Countermeasures: Platforms, Training, and Civil-Military Integration" (2023). CMSI China Maritime Reports. 29. <https://digital-commons.usnwc.edu/cmsi-maritime-reports/29>, pg. 23-24

and a lack of ability to cover all of the first island chain.<sup>82</sup> More elite minesweeper squadrons are likely concentrated in the Eastern Theater Command.<sup>83</sup> Chinese sources “find the state of training to be less than ideal and believe that improvements need to be made.”<sup>84</sup> It is unclear in training if MCM forces have operated with civilian assets in any substantial capacity.<sup>85</sup>

### **Amphibious Units (PLANMC)**

The 1<sup>st</sup> and 2<sup>nd</sup> PLANMC Brigades have been and continue to be well trained in amphibious operations, and the 6<sup>th</sup> appears too also be competent. The quality of other brigades is unknown, and the 4<sup>th</sup> and 5<sup>th</sup> Brigades have not been publicly observed conducting amphibious training.<sup>86</sup> There however no oppositional training against a proper OPFOR for PLANMC Brigades.<sup>87</sup> Chinese sources often note that a lack of capability to conduct joint operations is a problem that is being worked on.<sup>88</sup>

These problems are compounded by the fact that both the PLAGF Amphib Brigades and PLANMC Brigades use 2 year conscripts meaning that long term knowledge is not kept. “[T]he PLA will likely need several more years before it is comfortable executing larger training events with multiple amphibious brigades landing simultaneously. Although recent smaller scale exercises utilized joint capabilities, with PLAN vessels delivering PLAGF landing forces and PLAAF aircraft providing fire support, the limited scale is not representative of the realistic requirements expected during a joint island landing campaign.”<sup>89</sup> In addition PLAGF Amphibious Brigades and PLANMC Brigades may lack the ability to easily call for helicopter support.<sup>90</sup>

### ***Other***

### **ISR Complex**

Long range missiles will likely be detected by OTH radar, then cued by satellites. Chinese Jianbing-8 ocean surveillance satellites operate in triplets to triangulate and have a revisit time of 90 minutes in the Western Pacific. Overall, the ISR system may be more brittle than expected.<sup>91</sup>

## **C2**

### ***C2 Infrastructure***

The CMC, Theater Commands, and Service Headquarters are connected by fiber optic cable.<sup>92</sup>

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<sup>82</sup> Waidelich, Brian and Pollitt, George, "China Maritime Report No. 29: PLAN Mine Countermeasures: Platforms, Training, and Civil-Military Integration" (2023). CMSI China Maritime Reports. 29. <https://digital-commons.usnwc.edu/cmsi-maritime-reports/29>, pg. 5

<sup>83</sup> Waidelich, Brian and Pollitt, George, "China Maritime Report No. 29: PLAN Mine Countermeasures: Platforms, Training, and Civil-Military Integration" (2023). CMSI China Maritime Reports. 29. <https://digital-commons.usnwc.edu/cmsi-maritime-reports/29>, pg. 9

<sup>84</sup> Waidelich, Brian and Pollitt, George, "China Maritime Report No. 29: PLAN Mine Countermeasures: Platforms, Training, and Civil-Military Integration" (2023). CMSI China Maritime Reports. 29. <https://digital-commons.usnwc.edu/cmsi-maritime-reports/29>, pg. 23

<sup>85</sup> Waidelich, Brian and Pollitt, George, "China Maritime Report No. 29: PLAN Mine Countermeasures: Platforms, Training, and Civil-Military Integration" (2023). CMSI China Maritime Reports. 29. <https://digital-commons.usnwc.edu/cmsi-maritime-reports/29>, pg. 18

<sup>86</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 181-182

<sup>87</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 184

<sup>88</sup> See any selection of the Chinese Maritime Studies Institute's China Maritime Report's

<sup>89</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 183

<sup>90</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 178

<sup>91</sup> *Rocket force*, Sam Cranny-Evans, Janes Defence Weekly, 21 September 2022, pg. 16-23 (pg. 18)

<sup>92</sup> The Chinese Invasion Threat, Ian Easton, 2017, pg. 90

## PLAN

### *North Theater Navy*<sup>93</sup>

Headquartered in Qingdao, with one destroyer flotilla in Rizhao, one submarine flotilla in Qingdao, and one destroyer flotilla and submarine flotilla in Dalian<sup>94</sup>- responsible for the Bo Hai, Yellow Sea, and northern portion of the East China Sea. It falls under the PLA Northern Theater Command.

It is divided into 3 submarine flotillas (Dalin, 2 x Quindao (more or less)) and 2 destroyer flotillas (Dalin, Yuchi Bay), the aircraft carrier is based in Yuchi Bay (Missile Boat and Auxiliary flotillas are unaccounted for).<sup>95</sup> The submarine flotilla in Qingdao is split into two bases in Qingdao, with nuclear subs in one base and conventional subs in the other<sup>96</sup>

- Surface Fleet
  - 1 x Carrier
    - Type 01 “Liaoning”
  - 13 x Destroyer
    - 2 x Type 051C Luzhou
    - 2 x Type 052 Luhu
    - 5 x Type 052D Luyang III
    - 2 x Type 052D Luyang III mod
    - 2 x Type 055 Renhai 2
  - 13 x Frigate
    - 4 x Type 053H-3 Jiangwei II
    - 9 x Type 054A Jiangkai II
  - 13 x Corvette
    - 3 x Type 037 Hainan
    - 10 x Type 056A Jiangdao
  - 12 Missile Boats
    - 12 x Type 022 Houbei
  - 8 x Gunboats
    - 8 x Type 062IG Shanghai III
  - 10 x Landing Ships
    - 2 x Type 072A Yuting II
    - 6 x Type 074 Yuhai
    - 2 x Type 074A Yubei
  - 7 x Mine Warfare
    - 4 x Type 081A Wochi mod (MCM)
    - 3 x Type 082B Wozang II + 529 Wonang (Minesweeper)
  - Other

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<sup>93</sup> Modern Chinese Maritime Forces (2nd Ed.), Manfred Meyer, editors Larry Bond and Chris Carlson, Version: 1 January, 2025, [https://www.wargamevault.com/product/443170/Modern-Chinese-Maritime-Forces-Second-Edition?src=hottest\\_filtered](https://www.wargamevault.com/product/443170/Modern-Chinese-Maritime-Forces-Second-Edition?src=hottest_filtered), pg. 10

<sup>94</sup> Report on Military and Security Developments Involving the Peoples Republic of China 2022, pg. 111

<sup>95</sup> *Military and Security Developments Involving the People's Republic of China, A Report to Congress*, 2024, <https://media.defense.gov/2024/Dec/18/2003615520/-1/-1/0/MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA-2024.PDF>, pg. 52

<sup>96</sup>

- 1 x Type 048 Daguan (Troopship)
- 5 x Type 636A Shupang (Hydrographic Survey Ship)
- 2 x Type 815A or G Dongdiao mod 2 (Spy Ship)
- 1 x Type 922IIIA Dalang II (Rescue and Salvage Ship)
- Auxiliaries
  - 3 x Type 903A Fuchi mod (Replenishment Oiler)
  - 1 x Type 901 (Fast Combat Support Ship)
  - 1 x Type 925 Daijiang (Submarine Support Ship)
  - 3 x Type 926 Dalao (Submarine Support Ship)
- Subsurface Fleet
  - 4 x SSN
    - 2 x Type 093 Shang
    - 2 x Type 094 Jin
  - 20 x SS
    - 1 x Type 032 Qing
    - 1 x Type 033 Romeo
    - 4 x Type 035 Ming
    - 8 x Type 039 Song
    - 6 x Type 039A, B, C Yuan (AIP)
- Air Assets<sup>97</sup>
  - 2nd Aviation Division - Y-8 and Y-9 Transport aircraft
  - 5th Aviation Brigade - Probably 1 regiment of JH-7 attack-bombers and a second regiment of J-8 interceptors
- PLANMC Assets<sup>98</sup>
  - 5<sup>th</sup> Marine Brigade, 6<sup>th</sup> Marine Brigade

### ***East Theater Navy<sup>99</sup>***

Headquartered in Ningbo, with sub and surface assets centered on Ningbo - covers the majority of the East China Sea and the Taiwan Strait. It falls under the PLA Eastern Theater Command.

It is divided into 2 submarine flotillas (Ningbo, more or less), 2 destroyer flotillas (Ningbo, more or less), and a Landing Ship flotilla (somewhere in Shanghai?) (Missile Boat and Auxiliary flotillas are unaccounted for).<sup>100</sup>

- Surface fleet
  - Amphibious Warfare
    - 3 x Type 071 Yuzhao (LPD)
    - 2 x Type 075 Yushen (LHD)
    - Landing Ships

<sup>97</sup> PLA Aerospace Power: A Primer on Trends in China's Military Air, Space, and Missile Forces 2nd Edition (2015). pg.34

<sup>98</sup> China Maritime Report No. 15: The New Chinese Marine Corps: A "Strategic Dagger" in a Cross Strait Invasion (2021) pg. 4

<sup>99</sup> Modern Chinese Maritime Forces (2nd Ed.), Manfred Meyer, editors Larry Bond and Chris Carlson, Version: 1 January, 2025, [https://www.wargamevault.com/product/443170/Modern-Chinese-Maritime-Forces-Second-Edition?src=hottest\\_filtered](https://www.wargamevault.com/product/443170/Modern-Chinese-Maritime-Forces-Second-Edition?src=hottest_filtered), pg. 10

<sup>100</sup> *Military and Security Developments Involving the People's Republic of China, A Report to Congress*, 2024, <https://media.defense.gov/2024/Dec/18/2003615520/-1/-1/0/MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA-2024.PDF>, pg. 52

- 2 x Type 072 Yuting I
    - 5 x Type 072III Yuting I
    - 7 x Type 072A Yuting II
    - 4 x Type 073A Yunshu
    - 3 x Type 074 Yuhai
    - 4 x Type 074A Yubei
  - 1 x Type 3224 - 3228 (LCM)
- 13 x Destroyers
  - 4 x Sovremenny (2 x 956E, 2 x 956EM)
  - 4 x Type 052C Luyang II
  - 3 x Type 052D Luyang III
  - 2 x Type 052D Luyang III mod
- 21 x Frigate
  - 3 x Type 053H-1G JianghuV
  - 5 x Type 053H-3 Jiangwei II
  - 2 x Type 054 Jangkai
  - 11 x Type 054A Jangkai II
- 19 x Corvettes
  - 19 x Type 056A Jiangdao
- 27 x Missile Patrol Craft
  - 24 x Type 22 Houbei
  - 3 x Type 037 Hainan
- 23-24 x Mine Warfare
  - 2 x Type 081 Wochi (MCM)
  - 8 x Type 081A Wochi mod (MCM)
  - 4 x Type 082 Wosao (Minesweeper)
  - 4 x Type 082I Wosao mod (Minesweeper)
  - 4 x Type 082B Wozang + 529 Wonang (Minesweeper)
  - 1 x Type 082B Wozang II + 529 Wonang (Minesweeper)
  - 1 x Type 6601 Fushun (Minesweeper) – perhaps training ship?
- Gunboats
  - 15 x Type 062IG Shanghai III
- Auxiliaries
  - 3 x Replenishment Oilers
    - 1 x Type 903 Fuchi
    - 1 x Type 903A Fuchi mod
    - 1 x Type 905 Fuqing
  - 1 x Type 925 Dajiang (Submarine Support Ship)
- Other
  - 1 x Type 920 Anwei (Hospital Ship)
  - 2 x Type 636A Shupang (Hydrographic Survey Ship)
  - 1 x Type 815 Dongdiao (Spy Ship)
  - 1 x Type 815A or G Dongdiao mod (Dongdiao II) - (Spy Ship)
  - 1 x Type 922IIIA Dalang II mod (Rescue and Salvage Ship)
- Subsurface fleet
  - 19 x SSK

- 6 x Project 636/M Kilo
  - 2 x Project 877KKM Kilo
  - 4 x Type 039 Song
  - 7 x Type 039A, B, C Yuan (AIP)
- Air Assets<sup>101</sup>
  - 4th Aviation Brigade (PLAN) - J-10, Su-30 (2019)
  - 6th Aviation Brigade (PLAN) - JH-7 Fighter-Bomber (2019) – Transferred to PLAAF in 2023<sup>102</sup>
- PLANMC Assets<sup>103</sup>
  - 3<sup>rd</sup> Marine Brigade (in Jinjiang, Fujian), 4<sup>th</sup> Marine Brigade (in Jieyang, Guangdong)

### ***South Theater Navy<sup>104</sup>***

Headquartered in Zhanjiang, and comprised of 3 submarine flotillas (Chuanshan Islands, 2 x Sanya), 2 destroyer flotillas (Zhanjiang, Sanya), a Landing Ship flotilla (Zhanjiang), and the carrier is based in Sanya (Missile Boat and Auxiliary flotillas are unaccounted for).<sup>105</sup> STN is responsible for the South China Sea. It falls under the PLA Southern Theater Command.

- Surface Fleet
  - Amphibious Warfare
    - 5 x Type 071 Yuzhao (LPD)
    - 1 x Type 075 Yushen (LHD)
    - Landing Ships
      - 5 x Type 072III Yuting I
      - 6 x Type 072A Yuting II
      - 6 x Type 073A Yunshu
      - 3 x Type 074 Yuhai
      - 4 x Type 074A Yubei
    - 5 x Type 3224 - 3228 (LCM)
    - 3 x Project 12322 Zubr (LCAC)
    - 10 x Type 726/A Yuyi (LCAC)
  - Destroyer
    - 1 x Type 051B Luhai
    - 2 x Type 052B
    - 2 x Type 052C Luyang II
    - 5 x Type 052D Luyang III
    - 5 x Type 052D Luyang III mod
    - 1 x Type 055 Renhai
  - Frigate
    - 10 x Type 054A Jiangkai II

<sup>101</sup> PLA Aerospace Power: A Primer on Trends in China's Military Air, Space, and Missile Forces 2nd Edition (2015). pg.34

<sup>102</sup> PLA Naval Aviation Reorganization 2023, Rod Lee, <https://www.airuniversity.af.edu/Portals/10/CASI/documents/Research/PLAN/2023-07-31%20PLAN%20Aviation%20Reorg%202023%20Clean.pdf?ver=N848BtqfMRRjojcS2ThCtw%3D%3D>, pg. 1

<sup>103</sup> China Maritime Report No. 15: The New Chinese Marine Corps: A "Strategic Dagger" in a Cross Strait Invasion (2021) pg. 4

<sup>104</sup> Report on Military and Security Developments Involving the Peoples Republic of China 2021, pg. 54

<sup>105</sup> Military and Security Developments Involving the People's Republic of China, A Report to Congress, 2024, <https://media.defense.gov/2024/Dec/18/2003615520/-1/-1/0/MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA-2024.PDF>, pg. 52



- Corvette
  - 21 x Type 056A Jiangdao
- Missile Boats
  - 28 x Type 022 Houbei
- Gunboat
  - 13 x Type 062IG Shanghai III
- Mine Warfare
  - 2 x Type 081 Wochi (MCM)
  - 4 x Type 081A Wochi mod (MCM)
  - 4 x Type 082I Wosao mod (Minesweeper)
  - 4 x Type 082B Wozang II + 529 Wonang (Minesweeper)
- Auxiliaries
  - 1 x Project 1596 Fusu (Replenishment Oiler)
  - 1 x Type 903 Fuchi (Replenishment Oiler)
  - 2 x Type 903A Fuchi mod (Replenishment Oiler)
  - 2 x Type 904 Dayun (General Stores Issue Ship)
  - 1 x Type 904A Danyao (General Stores Issue Ship)
  - Type 904B Danyao mod 2 (General Stores Issue Ship)
  - 1 x Type 925 Dajiang 1 (Submarine Support Ship)
- Other
  - 3 x Type 636A Shupang (Hydrographic Survey Ship)
  - 2 x Type 815A or G Dongdiao mod (Spy Ship)
  - 3 x Type 816 Dongjian (T-AGOS equivalent)
  - 2 x Type 919 Anshen (Hospital Ship)
- Subsurface Fleet
  - SSN
    - 4 x Type 093 Shang
    - 3 x Type 094 Jin
  - SSK
    - 4 x Project 636/M Kilo
    - 7 x Type 035 Ming
    - 4 x Type 039 Song
- Air Assets<sup>106</sup>
  - 1 x ? Air Brigade - J-11 and J-7 fighters (2019)
  - 1 x ? Air Brigade - J-11 fighters (2019)
  - 1 x ? Regiment - H-6 bombers – Transferred to PLAAF in 2023<sup>107</sup>
- PLANMC Assets<sup>108</sup>
  - 1<sup>st</sup> Marine Brigade, 2<sup>nd</sup> Marine Brigade

#### Hong Kong Flotilla (under STN)

- Corvette
  - 2 x Type 056A Jiangdao

<sup>106</sup> PLA Aerospace Power: A Primer on Trends in China's Military Air, Space, and Missile Forces 2nd Edition (2015). pg.34

<sup>107</sup> PLA Naval Aviation Reorganization 2023, Rod Lee, <https://www.airuniversity.af.edu/Portals/10/CASI/documents/Research/PLAN/2023-07-31%20PLAN%20Aviation%20Reorg%202023%20Clean.pdf?ver=N848BtqfMRRjocS2ThCtw%3D%3D>, pg. 1

<sup>108</sup> China Maritime Report No. 15: The New Chinese Marine Corps: A "Strategic Dagger" in a Cross Strait Invasion (2021) pg. 4, location page 6.

- Landing Craft
  - 3 x Type 074 Yuhai

Assigned to Dahua

- Type 910 Shupang (Weapons Trials Ship)

### *Airpower*

#### **Overall<sup>109</sup>**

- Fighter/Ground Attack: 50 J-11B/BS Flanker L; 60 J-15 Flanker
  - 1 brigade with J-11B/BS Flanker L
  - 2 brigade with J-15 Flanker
- ELINT/ISR/ASW
  - 1 regiment with Y-8JB/X; Y-9JZ; Y-9 ASW
    - ELINT: 4 Y-8JB High New 2; 3 Y-8X; 6 Y-9JZ
- AEW&C
  - Total of 6 KJ-200 Moth; 14+ KJ-500; 4 Y-8J Mask split between 3 regiments
- Transport
  - 1 regiment with Y-7H; Y-8C; CRJ-200/700
  - Total: *Medium Lift* 6 x Y-8C; *Light Lift*: 20 x Y-5; 2 x Y-7G; 6 x Y-7H
  -
- TRAINING
  - 1 regiment with CJ-6A, 1 regiment with HY-7, 2 regiment with JL-8, 1 regiment with JL-9G, 1 regiment with JL-9, 1 regiment with JL-10, 1 regiment with Z-9C. Total Aircraft: 38 CJ-6; 12 HY-7; 16 JL-8\*; 28 JL-9\*; 12 JL-9G\*; 12 JL-10\*
- HELICOPTER
  - 1 regiment with Ka-27PS; Ka-28; Ka-31, 1 regiment with AS365N; Z-9C/D; Z-8J/JH, 1 regiment with Y-7G; Z-8; Z-8J; Z-8S; Z-9C/D

#### **ASW Helicopters**

PLANAF operates from shore 14 Ka-28 with Eastern Theater Command, and 22 Z-9C's with Northern and Southern theater commands, concentrated near areas where China has territorial disputes with neighbors.<sup>110</sup> Newer ASW helicopters Z-18F (flyable from aircraft carriers and likely LHD) and Z-20F are being produced which have datalinks and much better sensors than older helicopters.<sup>111</sup>

IISS lists for ASW helicopters in the PLAN: 14 Ka-28 Helix A; 14 Z-9C; 5 Z-18F.<sup>112</sup>

<sup>109</sup> IISS *The Military Balance 2024*, pg. 258-259

<sup>110</sup> *Blue Water Buildup*, Aika Torruella, Alessandra Giovanzanti, Georgios Papangelopoulos, and Matteo Scarano, Janes Defense Weekly, 18 May, 2022, pg. 22-29 (pg. 26)

<sup>111</sup> *Blue Water Buildup*, Aika Torruella, Alessandra Giovanzanti, Georgios Papangelopoulos, and Matteo Scarano, Janes Defense Weekly, 18 May, 2022, pg. 22-29 (pg. 27)

<sup>112</sup> IISS *The Military Balance 2024*, pg. 258-259

### **MPA Aircraft<sup>113</sup>**

- 737 – 2 (PLAAF Aircraft)
- Sh-5 – 3 (limited ASW capability)
- Y-9X - 24<sup>114</sup> (no ASW capability)
- Y-8Q (dedicated ASW aircraft) – 17-20 aircraft (2022), probably moving towards 48 aircraft

IISS lists 2 x regiments of Y-9 for ASW (20 aircraft total), and a mixed Y-8JB/X; Y-9JZ; Y-9 for ELINT/ISR/ASW.<sup>115</sup>

### ***Marine Brigades<sup>116</sup>***

Units are subordinated to theater navy's (as listed above)

- Southern Theater Navy
  - 1<sup>st</sup> Marine Brigade – Zhanjiang, Guangdong
  - 2<sup>nd</sup> Marine Brigade – Zhanjiang, Guangdong
  - Special-Operations Brigade – Sanya, Hainan
- Eastern Theater Navy
  - 3<sup>rd</sup> Marine Brigade – Jinjiang, Fujian
  - 4<sup>th</sup> Marine Brigade – Jieyang, Guangdong
- Northern Theater Navy
  - 5<sup>th</sup> Marine Brigade – Qingdao, Shandong
  - 6<sup>th</sup> Marine Brigade – Qingdao; Yantai, Shandong
  - Naval Shipborne Aviation Brigade – Zhucheng, Shandong
    - Known to have utility helicopters, but may be equipped with attack helicopters

### **PLAMC Brigade ORBAT<sup>117</sup>**

- 1st + 2nd Battalion – Amphibious mechanized infantry
  - 4 x mechanized infantry companies (14 vehicles per coy.)
  - Firepower company
  - Recon platoon
  - Air defense element
  - Artillery element
  - Engineer element
  - Repair team
- 3rd Battalion – Light mechanized infantry
- 4th Battalion – Air assault infantry
- Reconnaissance Battalion
- Artillery Battalion

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<sup>113</sup> *Blue Water Buildup*, Aika Torruella, Alessandra Giovanzanti, Georgios Papangelopoulos, and Matteo Scarano, Janes Defense Weekly, 18 May, 2022, pg. 22-29 (pg. 28), some numbers drawn from <https://www.flightglobal.com/download?ac=90688> (2023)

<sup>114</sup> Flight Global 2024, <https://www.flightglobal.com/download?ac=98881>, pg. 16

<sup>115</sup> *IISS The Military Balance 2024*, pg. 258

<sup>116</sup> *The New Chinese Marine Corps: A "Strategic Dagger" in a Cross-Strait Invasion*, Chapter 5, Conor M. Kennedy, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 88, AND China Maritime Report No. 15: The New Chinese Marine Corps: A "Strategic Dagger" in a Cross Strait Invasion (2021) pg. 4, 6-7

<sup>117</sup> China Maritime Report No. 15: The New Chinese Marine Corps: A "Strategic Dagger" in a Cross Strait Invasion (2021) pg. 5-6

- Air defense Battalion
- Operational support Battalion
- Service support Battalion

Note that the 1<sup>st</sup> and 2<sup>nd</sup> Brigades appear to be operating different equipment than the other 4 brigades, but this game does not model that.<sup>118</sup> Some brigades may not have fully self-propelled fire support.<sup>119</sup> Other equipment differences may also be present,<sup>120</sup> and units (3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>) are likely currently under-equipped with sufficient amphibious vehicles.<sup>121</sup>

#### **PLAMC SOF Brigade ORBAT<sup>122</sup>**

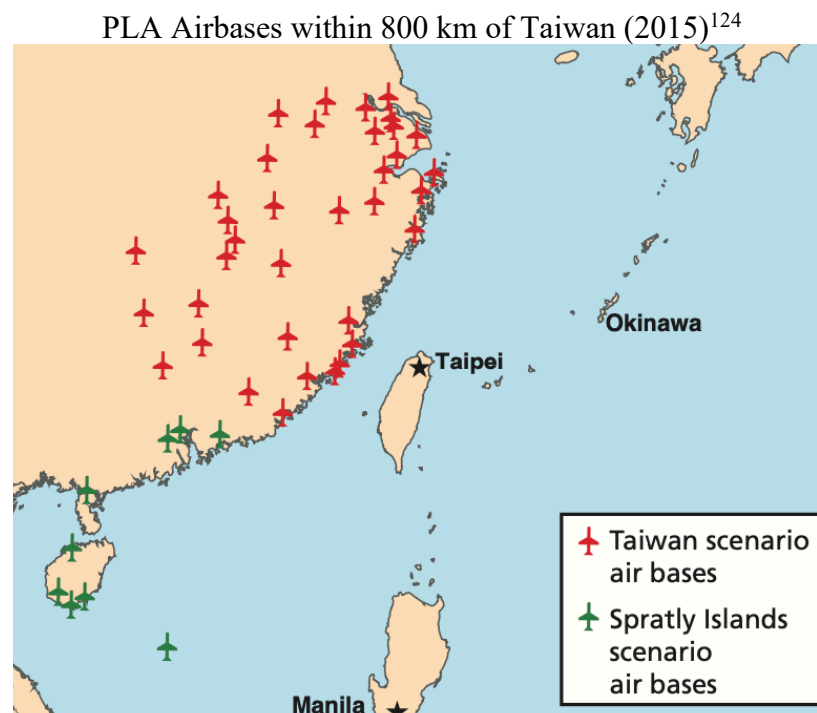
Unknown number of Bn's. 3,000 personnel.

#### **PLAMC Aviation Brigade ORBAT<sup>123</sup>**

- At least two flight squadrons (Z-8 and Z-9).
- Possibly attack helicopters?
- Aircraft maintenance group

### **PLAAF**

#### **Bases**



<sup>118</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 168-171.

<sup>119</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 172.

<sup>120</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 177

<sup>121</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 184

<sup>122</sup> China Maritime Report No. 15: The New Chinese Marine Corps: A "Strategic Dagger" in a Cross Strait Invasion (2021) pg. 6

<sup>123</sup> China Maritime Report No. 15: The New Chinese Marine Corps: A "Strategic Dagger" in a Cross Strait Invasion (2021) pg. 6-7

<sup>124</sup> *The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996-2017*, RAND, published 2015, Heginbotham et. al., pg. 140, for a full map pg. 138.

Note that this combines both PLAAF and PLAN airbases, and does not include civilian airbases that might be used. PLAAF units have improved airbase infrastructure and support and have increased the amount of unfamiliar airfield training allowing them to operate at non-home airfields easier.<sup>125</sup>

	Total Air Bases	# w/ Runways longer than 2,500m	# w/ Hangers	# w/ Hardened Shelters	Number w/ Underground Facilities
2015	39	32	11	5	7
Average 7 year $\Delta$	+/-0	+/-0	+2	+1	+0
Projected 2024	39	32	13	6	7

China has 40 military airbases within unrefueled fighter range of Taiwan, able to hold 1000 aircraft.<sup>126</sup>

### Total Aircraft Overview<sup>127</sup>

Includes non-frontline aircraft, training aircraft, etc.

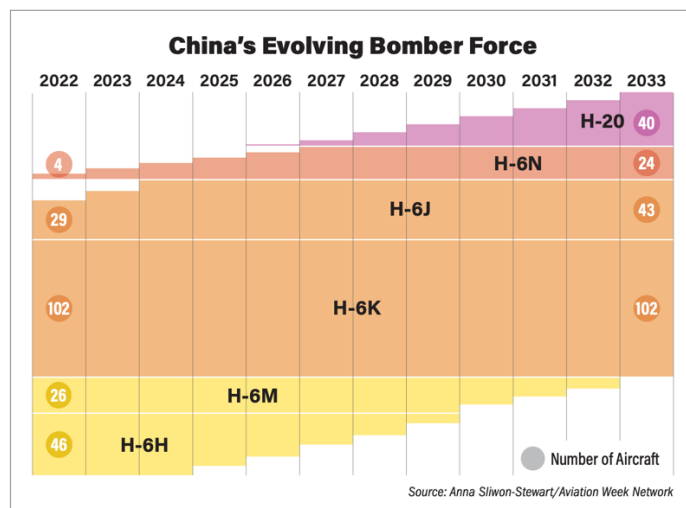
- Fighters
  - 3<sup>rd</sup> Gen (3+ of 15 J-7 brigades are training brigades)
    - J-7 Fishcan – 50
    - J-7E Fishcan – 119
    - J-7G Fishcan – 120
    - J-8F/H Finback – 50
  - 4<sup>th</sup> Gen
    - J-11 – 95
    - Su-27UBK Flanker – 32
- Fighters/Ground Attack (Multirole)
  - 4<sup>th</sup> Gen (Some number of J-10 are training brigades)
    - J-10A Firebird A – 236
    - J-10B Firebird – 55
    - J-10C Firebird C – 220
    - J-10S Firebird – 77
    - J-11B/BS Flanker L – 150
    - J-16 Flanker N – 280
    - Su-30MK2 Flanker G – 24
    - Su-30MKK Flanker G – 73
    - Su-35 Flanker M – 24
  - 5<sup>th</sup> Gen
    - J-20A – 200+
- Tac Bomber
  - JH-7A Flounder - 200

<sup>125</sup> *Strategic Service*, Janes Defense Weekly, 5 January 2022, Gabriel Dominguez and Andreas Rupprecht, Pg. 20-29 (pg. 26)

<sup>126</sup> The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017, RAND, published 2015, Heginbotham et. al., pg. 72, 75

<sup>127</sup> Where not otherwise noted information comes from *IISS Military Balance 2024*

- Bombers<sup>128</sup>
  - By Regiment
    - 4 x H-6K Regiments— 22<sup>nd</sup>, 24<sup>th</sup>, 28<sup>th</sup> Air Regiments, plus elements of 107<sup>th</sup> and 108<sup>th</sup>
      - Upgraded with turbofans for longer range compared to older versions.
      - Can carry 6 x LACM (DH-10) per plane, and fire them at Guam<sup>129</sup>
    - 1 x H-6H Regiment – 29<sup>th</sup> Air Regiment, plus elements of 107<sup>th</sup>
      - Can carry two DH-10 ALCMs, and fire them at Guam<sup>130</sup>
    - 2 x H-6M Regiments – 30<sup>th</sup> Air Regiment, plus elements of 107<sup>th</sup> and 108<sup>th</sup>
    - 1 x H-6N Regiment – 108<sup>th</sup> Air Brigade
      - H-6K variant, can carry ALBM externally (including 1 x Nuclear ALBM at a time<sup>131</sup>, and can be refueled in air<sup>132</sup>, this ALBM may be able to carry a ALBM with a hypersonic vehicle on it<sup>133</sup>)
    - 1 x H-6U Regiment (Tankers) - 23<sup>rd</sup> Air Regiment
  - By Number<sup>134</sup>



- No further production of airframes is expected.
  - Note that though the first H-20's will be received in the mid-late 2020's, they will take several years to achieve operational capability.
- Fighter Trainers<sup>135</sup> – 1,200

<sup>128</sup> PLA Air Force Bomber Force Organization, China Aerospace Studies Institute (2022), pg. 8 and 10-14. Assuming completely equal breakdown of Regiments when flying multiple types: H-6K - 3.8, H-6H - 1.3, H-6M - 1.8, H-6N - 1

<sup>129</sup> The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017, RAND, published 2015, Heginbotham et. al., pg. 50

<sup>130</sup> The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017, RAND, published 2015, Heginbotham et. al., pg. 50

<sup>131</sup> Enabling a More Externally Focused and Operational PLA (2022) Chapter 7, specifically pg.137,

<https://press.armywarcollege.edu/cgi/viewcontent.cgi?article=1947&context=monographs>

<sup>132</sup> *PLA Aerospace Power: A Primer on Trends in China's Military Air, Space, and Missile Forces 3rd Edition*, China Aerospace Studies Institute (2022), pg. 20

<sup>133</sup> *Strategic Service*, Janes Defense Weekly, 5 January 2022, Gabriel Dominguez and Andreas Rupprecht, Pg. 20-29 (pg. 27)

<sup>134</sup> *A Guide to China's Bomber Fleet*, Bradley Perrett, Aviation Week and Space Technology, Jan 16-29, 2023, pg. 38-40

<sup>135</sup> U.S. Department of Defense, Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2020, August 21, 2020, p. 166.

- Transport<sup>136</sup> – 400
  - YY-20's can take 1 Type-99A MBT<sup>137</sup>
- Special Mission Aircraft<sup>138</sup> – 150
  - AEW<sup>139</sup>
    - KJ-2000 – 4
    - KJ-200 – 11
    - KJ-500 – 14
  - Tankers
    - IL-78 – 3
    - Y-20U – 1
      - Fuel capacity of 110 tonnes<sup>140</sup>
    - H-6U – 18-24<sup>141</sup>

#### **SAM Launcher Inventory (2015)<sup>142</sup>**

Launcher	HQ-2 (SA-2)	S-300 PMU (SA-10C)	S-300 PMU-1 (SA-20A)	S-300 PMU-2 (SA-20B)	HQ-12 (KSA-1)	HQ-9	S-400 (SA-21)
Range	35 km	100 km	150 km	200 km	50 km	200 km	400 km
#	200+	32	64	64	48	64	16
Batteries*	33–50	5–8	10–16	10–16	8–12	10–16	3–4

\*Batteries are typically comprised of 4-6 launchers, hence the range.

#### **Airborne Brigades**

3 light motorized, 2 mechanized, and 1 air assault. 1 special operations brigade (would be used to support the other airborne units). 1 transport brigade. All deployed in Eastern or Southern theaters.<sup>143</sup>

#### **Breakdown<sup>144</sup>**

Light Motorized: 127<sup>th</sup>, 128<sup>th</sup>, 131<sup>st</sup>

Mech: 133<sup>rd</sup>, 134<sup>th</sup>.

Air Assault: 130<sup>th</sup>

#### **Employment**

- China could either deliver 1 mechanized brigade (-), or 2 light brigades (-).<sup>145</sup>

<sup>136</sup> U.S. Department of Defense, Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2020, August 21, 2020, p. 166.

<sup>137</sup> China's Developing Power Projection, Christian Le Miere, Janes Defense and Intelligence Review, July 2023, Pg. 35

<sup>138</sup> U.S. Department of Defense, Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2020, August 21, 2020, p. 166.

<sup>139</sup> <https://www.flightglobal.com/download?ac=90688> (2023) pg. 15-16

<sup>140</sup> China's Developing Power Projection, Christian Le Miere, Janes Defense and Intelligence Review, July 2023, Pg. 34

<sup>141</sup> 223<sup>rd</sup> Air Regiment, as per PLA Air Force Bomber Force Organization, China Aerospace Studies Institute (2022), pg. 8 and 10-14.

Assuming completely equal breakdown of Regiments when flying multiple types: H-6K - 3.8, H-6H - 1.3, H-6M - 1.8, H-6N - 1. *PLA Aerospace Power: A Primer on Trends in China's Military Air, Space, and Missile Forces 2nd Edition* (2015). pg.18 states 1 regiment = 18-24 aircraft., Confusingly *PLA Aerospace Power: A Primer on Trends in China's Military Air, Space, and Missile Forces 3rd Edition* (2022) on pg. 22 states that "Regiments and aviation brigades are typically composed of between 20 and 40 aircraft." Thus, I am assuming that Regiments are on the smaller side towards 20 and Brigades on the higher side towards 40.

<sup>142</sup> *The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017*, RAND, published 2015, Heginbotham et. al., pg. 101

<sup>143</sup> Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2021, p. 161

<sup>144</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 200-202

<sup>145</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 209

### *Brigade Composition*

- 4 x Combined Arms Battalion (either mechanized battalion, motorized battalion, or assault battalion. Each one of these is made up of 3 x Infantry Coy that are either mech, motorized, or assault + a weapons coy, and a headquarters element)
- Artillery Battalion (122 coy, mortar coy, MLRS coy, Anti Air Missile coy, AAA coy, AT coy)
- Recon and pathfinder battalion (3 x infantry coy)
- Operations support battalion
- Service support battalion
- Possibly a transportation battalion<sup>146</sup>

Light Motorized use a mix of light and motorized Bn. <sup>147</sup>

Air Assault has an integrated Helicopter Regiment (~12 Z-9WZ utility, ~12 Z-8KA transport, ~17 Z-10 Attack). 1<sup>st</sup> Bn is full sized, but the other 3 Bn's of the unit are half-battalions to allow them to be airmobile by the Helicopter regiment. <sup>148</sup>

Mech units operate a wide variety of vehicles. Importantly the 134<sup>th</sup> operates air-droppable vehicles. <sup>149</sup>

### **Known Air Units**

- Northern Theater Command
  - PLAAF
    - Northern Theater Navy Air Defense Brigade<sup>150</sup>
    - 4<sup>th</sup> Radar Brigade<sup>151</sup>
  - PLAN
    - 2<sup>nd</sup> Aviation Division (Special Mission Aircraft) <sup>152</sup>
    - 11<sup>th</sup> Aviation Brigade
  - Unsure
    - 5<sup>th</sup> Aviation Brigade<sup>153</sup>
- Eastern Theater Command
  - PLAAF
    - 4<sup>th</sup> Aviation Brigade<sup>154</sup>
    - 6<sup>th</sup> Aviation Brigade<sup>155</sup>
    - Eastern Theater Navy Bomber Regiment<sup>156</sup>

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<sup>146</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 198-200, originally from Office of the Secretary of Defense, Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2021 (Washington, D.C.: Department of Defense, November 2021), 58.

<sup>147</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 200

<sup>148</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 201

<sup>149</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 201-202

<sup>150</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>151</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>152</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>153</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>154</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>155</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>156</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1



- Eastern Theater Navy Air Defense Brigade<sup>157</sup>
    - 2<sup>nd</sup> Radar Brigade<sup>158</sup>
  - PLAN
    - 1<sup>st</sup> Aviation Division (Special Mission Aircraft)<sup>159</sup>
- Southern Theater Command
  - PLAAF
    - 9<sup>th</sup> Aviation Brigade<sup>160</sup>
    - Southern Theater Navy Bomber Regiment<sup>161</sup>
    - Southern Theater Navy Air Defense Brigade<sup>162</sup>
    - 3<sup>rd</sup> Radar Brigade<sup>163</sup>
  - PLAN
    - 3<sup>rd</sup> Aviation Division (Special Mission Aircraft)<sup>164</sup>
    - 8<sup>th</sup> Aviation Brigade<sup>165</sup>
    - 10<sup>th</sup> Aviation Brigade<sup>166</sup>
    - Southern Theater Navy UAV Regiment<sup>167</sup>

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<sup>157</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>158</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>159</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>160</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>161</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>162</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>163</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>164</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

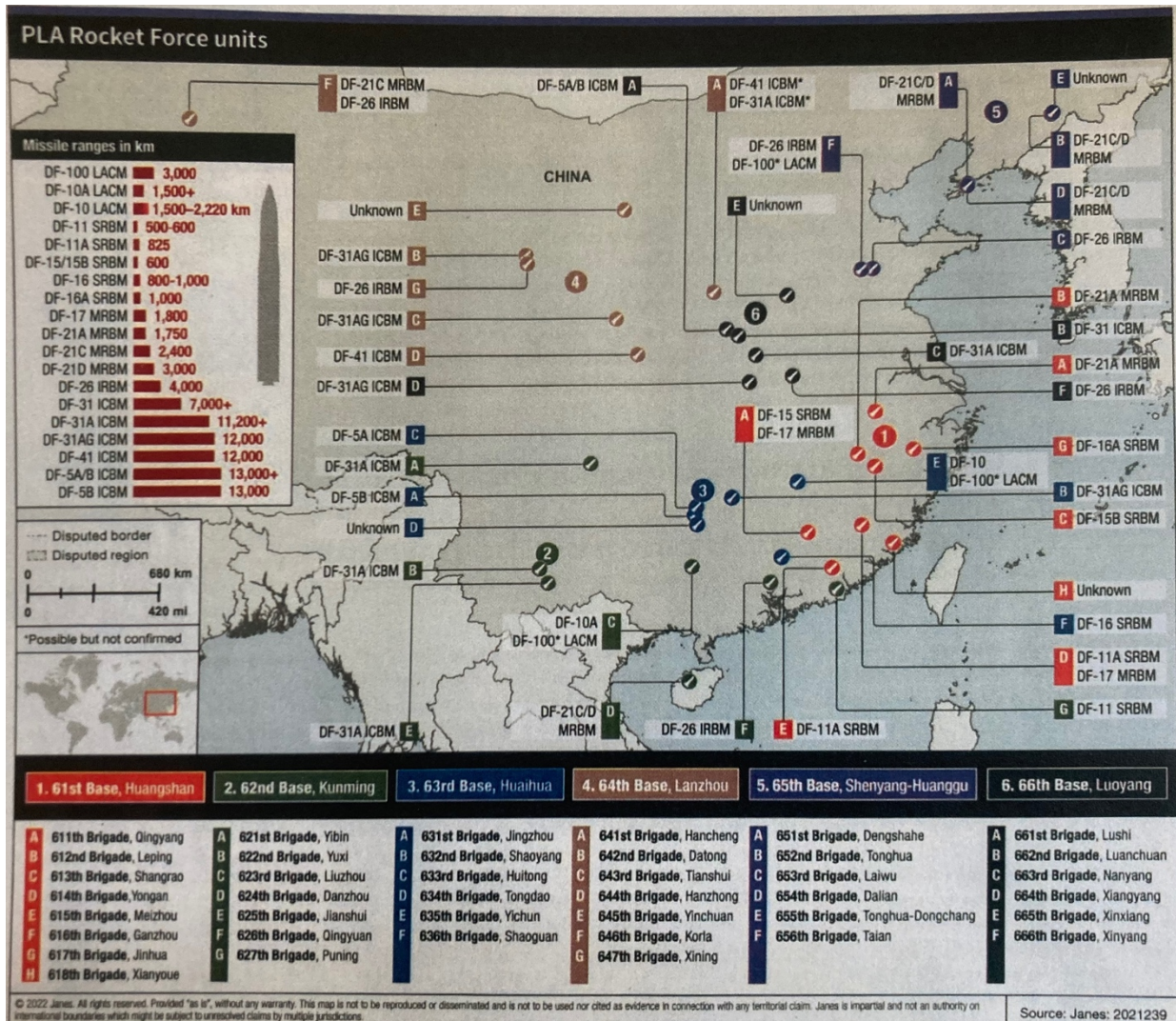
<sup>165</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>166</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

<sup>167</sup> *PLA Naval Aviation Reorganization 2023*, Rod Lee, , pg. 1

## PLARF

### PLA Rocket Force Units<sup>168</sup>



As only one missile brigade of conventional use is located in the far west of China and is a DF-21/26 brigade that could be moved. I assume that all missiles would be available for use in a Taiwan scenario.

## Organization

9 bases – 6 operational and 3 support (including oversight of the central nuclear stockpile. Each base is equivalent to a corps formation. These bases have up to 7 missile brigades and ~7 supporting regiments.<sup>169</sup>

<sup>168</sup> *Rocket Force*, Sam Cranny-Evans, Janes Defence Weekly, 21 Septmber 2022, pg. 16-23 (pg. 18)

<sup>169</sup> *Rocket Force*, Sam Cranny-Evans, Janes Defence Weekly, 21 Septmber 2022, pg. 16-23 (pg. 19)

1 Missile Brigade = 6 x Launch Bn. each of 2 x Coy, plus supporting assets.<sup>170</sup> Each launcher is assumed to have 4-6 reloads<sup>171</sup>

It is unclear the authority for weapons. Nuclear weapons fall under the control of the Central Military Commission (CMC), but conventional ones may be under theater commands, the base, or the CMC (or a combination of the three). Weapons that reach beyond the first island chain likely fall under the control of the CMC.<sup>172</sup>

## Conventional Weapons

(Dual Use indicates the weapon can have nuclear or conventional warheads)

For some idea of what a pair of 2,000 lb. missiles do when they blow up see the footnote for an overhead drone shot.<sup>173</sup>

System	Range (mi)	Type	Missiles <sup>174</sup>	Launchers	Payload (lbs.)	CEP (m)*	Notes
CJ-10/HN-2/DH-10/DF-10 <sup>175</sup> Now A variants <sup>176</sup>	1,369	Conventional, AShM	500 <sup>177</sup>	54-72 <sup>178</sup>	1,100	15, 5 (A)	Tomahawk equivalent, air launched conventional and AShM available. Has terrain following radar and can likely conduct a time on target attack. Old versions are retired and now the A variant is in use
DF-11A <sup>179</sup>	373	Dual Use, Bunker Buster	216-432	54-72, 54 in future <sup>180</sup>	1,100	20-30 <sup>181</sup>	Some number of DF-11AZT with a earth-penetrating warhead are in service, but unknown numbers.

<sup>170</sup> *Rocket Force*, Sam Cranny-Evans, Janes Defence Weekly, 21 September 2022, pg. 16-23 (pg. 19)

<sup>171</sup> *Carrier Killer, China's Anti-Ship Ballistic Missiles and Theater of Operations in the early 21<sup>st</sup> Century* (2022) pg. 50

<sup>172</sup> *Rocket Force*, Sam Cranny-Evans, Janes Defence Weekly, 21 September 2022, pg. 16-23 (pg. 19), *System Overload: Can China's Military Be Distracted in a War over Taiwan*, Joel Wuthnow, China Strategic Perspectives 15, Center for the Study of Chinese Military Affairs, Institute for National Strategic Studies, National Defense University, pg. 19

<sup>173</sup> <https://twitter.com/RALee85/status/1560043907165163527>

<sup>174</sup> If not otherwise footnoted, based on estimates from # of launchers x 4-6 missiles per launcher.

<sup>175</sup> [RANGE, LAUNCHERS] *Regaining the High Ground at Sea: Transforming the U.S. Navy's Carrier Air Wing for Great Power Competition* - CSBA 2017. Range pg. 17 [LAUNCHERS DUPLICATE] *Rocket force*, Sam Cranny-Evans, Janes Defence Weekly, 21 September 2022, pg. 16-23 (pg. 22) [CEP - CJ-10] *Carrier Killer, China's Anti-Ship Ballistic Missiles and Theater of Operations in the early 21st Century* (2022), Gerry Doyle and Blake Herzinger, pg. 50, [CEP - CJ-10A] *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 55 [ALL ELSE] *Understanding the People's Liberation Army Rocket Force*, Maj. Christopher J. Mihal, 2021 [TERRAIN FOLLOWING RADAR+TIME ON TARGET ATTACK] *Rocket force*, Sam Cranny-Evans, Janes Defence Weekly, 21 September 2022, pg. 16-23 (pg. 22)

<sup>176</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.12

<sup>177</sup> The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996-2017, RAND, published 2015, Heginbotham et. al., pg. 53, (450+), *Air Defense Options for Taiwan, An Assessment of Relative Costs and Operational Benefits*, Lostumbo et. al., RAND, 2016, pg. 6 (500+), *Rocket force*, Sam Cranny-Evans, Janes Defence Weekly, 21 September 2022, pg. 16-23 (pg. 22) (500 missiles), Estimates based off of # of launchers (216-432)

<sup>178</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.12

<sup>179</sup> [PAYLOAD] *Regaining the High Ground at Sea: Transforming the U.S. Navy's Carrier Air Wing for Great Power Competition* - CSBA 2017, [ALL ELSE] *Understanding the People's Liberation Army Rocket Force*, Maj. Christopher J. Mihal, 2021

<sup>180</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.8

<sup>181</sup> <https://missilethreat.csis.org/missile/dong-feng-11/> accessed Feb 27, 2023,

DF-15B <sup>182</sup>	560 <sup>183</sup>	Dual Use	216-432	54-72, 54 in future <sup>184</sup>		30 or 5-10	Can conduct terminal maneuvers
DF-15C	450 <sup>185</sup>	Dual Use, Bunker Buster					
DF-16 (A, B, G) <sup>186</sup>	621	Dual Use, B is cluster munitions. <sup>187</sup>	216-432 <sup>188</sup>	54-72 <sup>189</sup>	2,200	5	2 of the 3 types of warheads (likely B, G) are maneuverable. <sup>190</sup>
DF-17 <sup>191</sup>	1,400	Dual Use, ASHM	108-216	27-36 <sup>192</sup>	1000kg - convert	5	Hypersonic, ASHM in development, at least 16 in service
DF-21C <sup>193</sup>	932+ <sup>194</sup>	Dual Use	192-288	48 <sup>195</sup>	1,320	40	Likely either retired in in service in small numbers in D units. <sup>196</sup>

<sup>182</sup> [RANGE] <https://missilethreat.csis.org/missile/df-15-css-6/> accessed Feb 26, 2023, [CEP] The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017, RAND, published 2015, Heginbotham et. al., pg. 47 (states 5-10m.), <https://missilethreat.csis.org/missile/df-15-css-6/> accessed Feb 26, 2023 (states 30m)

<sup>183</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.9

<sup>184</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.9

<sup>185</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.9

<sup>186</sup> [PAYLOAD and LAUNCHERS] DF-16 on Missile Threat <https://missilethreat.csis.org/missile/dong-feng-16-css-11/> accessed 2/26/23, [CEP] *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 55 [ALL ELSE] Regaining the High Ground at Sea: Transforming the U.S. Navy's Carrier Air Wing for Great Power Competition - CSBA 2017

<sup>187</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.10

<sup>188</sup> See Table:

Source	Date	# Missiles
Regaining the High Ground at Sea: Transforming the U.S. Navy's Carrier Air Wing for Great Power Competition - CSBA 2017	2017	30
<a href="https://missiledefenseadvocacy.org/missile-threat-and-proliferation/todays-missile-threat/china/dong-feng-16/">https://missiledefenseadvocacy.org/missile-threat-and-proliferation/todays-missile-threat/china/dong-feng-16/</a>	2017	50
Understanding the People's Liberation Army Rocket Force: Strategy, Armament, and Disposition, Maj. Christopher J. Mihal, pg. 21	2021	24 (12 per brigade)
International Institute for Strategic Studies "Chapter Six: Asia," in <i>The Military Balance 2021</i> (International Institute for Strategic Studies, 2021).	2021	36
Carrier Killer, China's Anti-Ship Ballistic Missiles and Theater of Operations in the early 21 <sup>st</sup> Century (2022) pg. 49	2022, but for 2020	2 brigades (24)
Estimation based on # of Launchers in <i>People's Liberation Army Rocket Force Order of Battle 2023</i> (# of Launchers x 4-6 reloads per launcher)	2023	216-432

<sup>189</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.10

<sup>190</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.10

<sup>191</sup> [RANGE] Introducing the DF-17: China's Newly Tested Ballistic Missile Armed With a Hypersonic Glide Vehicle 2017, *A Guide to China's Bomber Fleet*, Bradley Perrett, Aviation Week and Space Technology, Jan 16-29, 2023, pg. 39 lists 1,800-2,500 km, [CEP, WARHEAD] *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 55 [ALL ELSE] Understanding the People's Liberation Army Rocket Force, Maj. Christopher J. Mihal, 2021

<sup>192</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.11

<sup>193</sup> Regaining the High Ground at Sea: Transforming the U.S. Navy's Carrier Air Wing for Great Power Competition - CSBA 2017, [CEP] *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 55

<sup>194</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.15

<sup>195</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.16

<sup>196</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.15

DF-21D <sup>197</sup>	932+ <sup>198</sup>	Dual Use, AShM			1,320	20	Carrier Killer w/MaRV
DF-26 <sup>199</sup>	2,486	Dual Use, AShM	1,008- 1,512	252 <sup>200</sup>	1800 kg - convert	40	"Guam Killer"
DF-100 <sup>201</sup> (CJ-100)	1,242	?	96-144	24	?770 or 1120?	5	GLCM

§ Getting a hard estimate of this is very difficult, but 300 is the most authoritative source. Other sources say 450 minimum<sup>202</sup>

\* Note that CEP are difficult to estimate so these numbers are from sources, but should be considered very approximate.

† These numbers are probably slightly low as there are total 60 launchers and 200+ missiles.<sup>203</sup>

∅ These numbers are based off the # of brigades fielding these weapons<sup>204</sup>

Note that these numbers represent a consensus view that is not held by all, and much depends on how many reloads you count for each TEL.<sup>205</sup>

### Coastal Defense Missiles

YJ-12 and YJ-62 missiles are in service with coastal defense units on ground-based launchers.

YJ-12 AShM (with land attack ability) (250–400 km range, supersonic sea skimming), but I have no information on how many units, how many were produced, and where units are located (other than some in the Spratly Islands).

YJ-62 (150-250 nautical mile range, subsonic sea skimming) is also in service but again I have no information on how many units, how many were produced, and where units are located.

<sup>197</sup> Regaining the High Ground at Sea: Transforming the U.S. Navy's Carrier Air Wing for Great Power Competition - CSBA 20172

<sup>198</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.15

<sup>199</sup> Regaining the High Ground at Sea: Transforming the U.S. Navy's Carrier Air Wing for Great Power Competition - CSBA 2017, [CEP, WARHEAD] *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 55

<sup>200</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.17

<sup>201</sup> *People's Liberation Army Rocket Force Order of Battle 2023*, July 2023, Decker Evelth, [https://nonproliferation.org/wp-content/uploads/2023/07/web\\_peoples\\_liberation\\_army\\_rocket\\_force\\_order\\_of\\_battle\\_07102023.pdf](https://nonproliferation.org/wp-content/uploads/2023/07/web_peoples_liberation_army_rocket_force_order_of_battle_07102023.pdf), pg.13, warhead from low trust source here: [https://vpk.name/en/813243\\_the-plas-df-100-supersonic-cruise-missile.html](https://vpk.name/en/813243_the-plas-df-100-supersonic-cruise-missile.html), [CEP] *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 55

<sup>202</sup> The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017, RAND, published 2015, Heginbotham et. al., pg. 53, (450+), *Air Defense Options for Taiwan, An Assessment of Relative Costs and Operational Benefits*, Lostumbo et. al., RAND, 2016, pg. 6 (500+), *Rocket force*, Sam Cranny-Evans, Janes Defence Weekly, 21 Septmber 2022, pg. 16-23 (pg. 22) (500 missiles)

<sup>203</sup> Carrier Killer, China's Anti-Ship Ballistic Missiles and Theater of Operations in the early 21<sup>st</sup> Century (2022) pg. 50

<sup>204</sup> 2 Brigades field these weapons (Carrier Killer, China's Anti-Ship Ballistic Missiles and Theater of Operations in the early 21<sup>st</sup> Century (2022) pg. 49): 1 operating only B's, one operating A, B, and C (I am guessing that the old, non upgraded ones are held in reserve somewhere). As such, assuming an equal breakdown of missiles in the 2<sup>nd</sup> brigade to the given number of missiles in *Carrier Killer* (80-120 missiles), I take the middle bound 100, and do some basic math. Note that there are several brigades that we do not know what they are equipped with could be operating the DF-15 or other missiles.

<sup>205</sup> The best example of this is *The PLA Rocket Force's Conventional Missiles*, Lawrence Trevethan, Proceedings, April 2023, Pg. 10-11.

## **PLAGF/PLAA**

### ***General Structure***

PLAGF units would be drawn from 71<sup>st</sup>, 72<sup>nd</sup>, and 73<sup>rd</sup> Group Armies (Eastern Theater Command), along with units from 74<sup>th</sup> and 75<sup>th</sup> Group Armies (Southern Theater Command),<sup>206</sup> and additional forces from Central or Northern Theater Commands. Other Army Aviation and SOF brigades would deploy from out of theater to support a Taiwan operation (2/3 of available total, meaning 10)<sup>207</sup>

Each Group Army (Corps equivalent) is standardized and contains:<sup>208</sup>

- 6 x Combined Arms Brigades (sometimes called a Synthetic Brigade)
  - Composed of Heavy, Medium, Light, and Mountain Brigades depending on where they are expecting to operate. Note that high-mobility, mountain, air assault, and motorized are all classified as “Light” by the PLAGF,<sup>209</sup> and Amphibious units as “Heavy”<sup>210</sup>
- 6 x Support Brigades:
  - 1 x Artillery Brigade
  - 1 x Air Defense Brigade
  - 1 x SOF Brigade\*
  - 1 x Army Aviation Brigade
  - 1 x Engineer Brigade
  - 1 x Chemical Defense Brigade
- 1 Service Support Brigade

\*Note that these SOF forces are more like rangers or long range reconnaissance units than Tier-1 SOF,<sup>211</sup> and seem to be attached in Company level groups to brigades,<sup>212</sup> or used for landing.

### ***Combined Arms (Synthetic) Brigade Structures***

#### **Heavy CAB<sup>213</sup>**

- Mech HQ
- 4 x (Heavy) Armored Combined Arms Bn

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<sup>206</sup> *System Overload: Can China's Military Be Distracted in a War over Taiwan*, Joel Wuthnow, 2020, China Strategic Perspectives 15, Center for the Study of Chinese Military Affairs, Institute for National Strategic Studies, National Defense University, pg. 17.,

<sup>207</sup> “a total of ten each army aviation and SOF brigades, or two-thirds of available units, would be a reasonable estimate for a phased deployment before and throughout the duration of the campaign.” *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024 <https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmssi-studies>, pg. 71/83 (footnote 13)

<sup>208</sup> *Heavy Hitters*, Janes Defense Weekly, 1 December 2021, Samuel Cranny-Evans, pg 20-28 (pg. 22)

<sup>209</sup> *Heavy Hitters*, Janes Defense Weekly, 1 December 2021, Samuel Cranny-Evans, pg. 20-28 (pg. 25), *Military and Security Developments Involving the People's Republic of China, A Report to Congress*, 2024, <https://media.defense.gov/2024/Dec/18/2003615520/-1/-1/0/MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA-2024.PDF>, pg.45

<sup>210</sup> *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmssi-studies>, pg. 69

<sup>211</sup> *ATP 7-100.3, Chinese Tactics*, August 2021, pg. 2-13, 6-7

<sup>212</sup> *ATP 7-100.3, Chinese Tactics*, August 2021, pg. 4-13

<sup>213</sup> *Heavy Hitters*, Janes Defense Weekly, 1 December 2021, Samuel Cranny-Evans, pg. 20-28 (pg. 22), Arty Bn (pg. 26-27), Recce Bn (pg. 27). Operational Support and Service Support Bn's (pg 28). This overall structure is consistent with *ATP 7-100.3, Chinese Tactics*, August 2021, [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/ARN34236-ATP\\_7-100.3-001-WEB-3.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN34236-ATP_7-100.3-001-WEB-3.pdf), pg. 40, section 2-8 (2-22)

- A Heavy Combined Arms Bn. is comprised of: HQ, 2 x Armor Coy. (10 or 14 tanks x Coy.), 3 x Mech Inf Coy (10 or 14 IFV x Coy.), 1 x Firepower Coy. (6-9 SP 120mm Mortars + MANPADS), 1 x Service Support Coy.<sup>214</sup>
- 1 x Recon Bn (2 x Recce troops of armored vehicles + HQ and UAV's)<sup>215</sup>
- 1 x Arty Bn (3 x coy of 8 x 122mm guns [24 total] + 3 x batteries of 3 x 122 MRL (9 total))
- 12 x 300mm MLR?<sup>216</sup>, + counterbattery radar and 6? x ATGM vehicles)
- 1 x AD Bn (6 x Coy, 1 of SAMs, 5 of AAA and MANPADS)<sup>217</sup>
- 1 x Operational Support Bn (EW + Engineer support + Camouflage, maybe ARV's and bridging)
- 1 x Service Support Bn (logistics and medical).

Total is 80 (10 vehicles to a company) or 112\* (12 tanks to a company) tanks, and 80/120 or 112/168\* IFV's, and 560 or 840\* dismounts

\* Indicates most likely wartime strength,<sup>218</sup> to which Balasko agrees looking at ACAB's (14 vehicles to a company)<sup>219</sup> assuming Amphib and regular heavy are organized the same which seems to be the case.

### **(Heavy) Amphibious Combined Arms Brigade<sup>220</sup>**

- HQ
- 4 x Combined Arms Battalions (~80 vehicles and 500-600 soldiers)
  - 2 x Amphibious Assault Gun Coy. (14 vehicles per Coy, 105mm guns)<sup>221</sup>
  - 2 x Amphib Mech Inf Coy. (14 vehicles per Coy)
  - 1 x Firepower Coy. (mortars and MANPADs)
  - 1 x Service Support Coy. (w/ recce and engineer plt.)
  - 15-20 vehicles between the firepower and Service Support Coy.'s
- 1 x Recce Battalion
- 1 x Artillery Battalion with amphibious 122mm howitzers, tracked 122mm rocket launchers, and ATGM systems.

<sup>214</sup> *Heavy Hitters*, Janes Defense Weekly, 1 December 2021, Samuel Cranny-Evans, pg. 20-28 (pg. 23). Chinese sources are unclear whether this is 10 or 14 vehicles, but 14 seems more likely (pg. 25) though it may be that 10 is peacetime and 14 is wartime numbers for most/all units, pg. 26 indicates that 3 x Inf coy per Bn is more common

<sup>215</sup> Note that while the Recce Bn seems light, this is because it integrates with other units. Units from the group army level EW units, SOF, Aviation, and non-group army assets like satellites. See *Heavy Hitters*, Janes Defense Weekly, 1 December 2021, Samuel Cranny-Evans, pg. 20-28 (pg. 28).

<sup>216</sup> The 300mm MLR units are in *ATP 7-100.3, Chinese Tactics*, August 2021, [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/ARN34236-ATP\\_7-100.3-001-WEB-3.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN34236-ATP_7-100.3-001-WEB-3.pdf), pg. 40, section 2-10 (2-25), but not listed in *Heavy Hitters*, Janes Defense Weekly, 1 December 2021, Samuel Cranny-Evans, pg. 20-28.

<sup>217</sup> The AD Bn. is (likely) only capable of visual-range engagements (e.g., "point defense of vital nodes within the HCAB during operations". Likely SAM system (in most cases) HQ-7B. AAA in most cases is SP or towed (PGZ-09 and Type 90 35mm for example). A Coy. is likely 6 x systems + radar. The Bn overall is thought to have 18-24 FN-6 MANPADS (IR seekers).

<sup>218</sup> *Heavy Hitters*, Janes Defense Weekly, 1 December 2021, Samuel Cranny-Evans, pg. 20-28

<sup>219</sup> *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024 <https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 68.

<sup>220</sup> China Maritime Report No. 20: The PLA Army Amphibious Force (2022). Pg. 5. Additional details on some weapons, numbers of vehicles, etc. can be found in *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 167. AND *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024 <https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 68.

<sup>221</sup> This particular detail comes from *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 167.



- 1 x 370mm PCH 191 MRL Bn<sup>222</sup>
- 1 x ADA Battalion (tracked anti-aircraft gun systems, short-range SAM systems, and MANPADs).
- 1 x Operational Support Battalion (C2 vehicles, EW systems, engineering equipment, chemical defense systems, and security elements),
- 1 x Service Support Battalion (supply, medical, and repair and maintenance units)

#### **Medium CAB<sup>223</sup>**

- HQ
- 4 x Mixed Bn
- 1 x Tank Bn
- 1 x Recce Bn
- 1 x 122mm Artillery Bn
- ½ x 122 MRL Bn.
- ½ AT Bn.

#### **Light CAB<sup>224</sup>**

- HQ
- 3 x Inf Bn
- 1 x Recce Bn
- 1 x 122mm Artillery Bn
- ½ x 122 MRL Bn.
- ½ AT Bn.

#### **(Light) Mountain CAB<sup>225</sup>**

Same as Heavy Combined Arms Brigade, but IFV's replaced with Humvee equivalents and the tanks with light tanks with 105mm guns?

#### **Army Aviation Brigade<sup>226</sup>**

Units have a 16 attack helicopters + 8 recce/light attack + 32-48 utility helicopters

#### **Artillery Brigade<sup>227</sup>**

- 2 x SP 122/152/155mm howitzer Bn.
- 1 x 122mm MRL Bn
- 1 x 300 mm Rocket Bn

<sup>222</sup> *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 69

<sup>223</sup> *ATP 7-100.3, Chinese Tactics*, August 2021, [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/ARN34236-ATP\\_7-100.3-001-WEB-3.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN34236-ATP_7-100.3-001-WEB-3.pdf), section 2-14 (2-22-22-24 for an over 2-33 for maneuver brigades), and some details from *Heavy Hitters*, Janes Defense Weekly, 1 December 2021, Samuel Cranny-Evans, pg. 20-28 (pg. 25)

<sup>224</sup> *ATP 7-100.3, Chinese Tactics*, August 2021, [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/ARN34236-ATP\\_7-100.3-001-WEB-3.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN34236-ATP_7-100.3-001-WEB-3.pdf), section 2-14 (2-22-22-24 for an over 2-34 for maneuver brigades), and some details from *Heavy Hitters*, Janes Defense Weekly, 1 December 2021, Samuel Cranny-Evans, pg. 20-28 (pg. 25)

<sup>225</sup> *Heavy Hitters*, Janes Defense Weekly, 1 December 2021, Samuel Cranny-Evans, pg. 20-28.

<sup>226</sup> *ATP 7-100.3, Chinese Tactics*, August 2021, [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/ARN34236-ATP\\_7-100.3-001-WEB-3.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN34236-ATP_7-100.3-001-WEB-3.pdf), section 2-12,213 (2-29)

<sup>227</sup> *ATP 7-100.3, Chinese Tactics*, August 2021, [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/ARN34236-ATP\\_7-100.3-001-WEB-3.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN34236-ATP_7-100.3-001-WEB-3.pdf), section 2-10 (2-25)



- PHL-03, 70 to 160 km range depending on munition, can fire on the Penghu Islands and west coast beaches of Taiwan from Taichung north.<sup>228</sup>

## SOF Brigade

?

## (Light) Air Assault Brigade

?

### *Group Armies*

- Eastern Theater Command
  - 71<sup>st</sup>
    - CABs
      - 2nd Heavy Combined-Arms Brigade
      - 35<sup>th</sup> Heavy Combined Arms Brigade<sup>229</sup>
      - 160th Heavy Combined-Arms Brigade
      - 235th Heavy Combined-Arms Brigade<sup>230</sup>
      - 178th Medium Combined-Arms Brigade
      - 179th Light Combined-Arms Brigade
    - Support Brigades
      - 71st Army Aviation Brigade
      - 71st Artillery Brigade
      - 71<sup>st</sup> Air Defense Brigade<sup>231</sup>
      - 71st Special Operations Brigade (“Sharks”)
      - 71st Service Support Brigade
  - 72<sup>nd</sup>
    - CABs
      - 10th Heavy Combined-Arms Brigade
      - 5th Amphibious Combined-Arms Brigade - Hangzhou, Zhejiang<sup>232</sup>
      - 124th Amphibious Combined-Arms Brigade - Hangzhou, Zhejiang<sup>233</sup>
      - 85th Medium Combined-Arms Brigade
      - 34th Medium Combined-Arms Brigade
      - 90th Light Combined-Arms Brigade

<sup>228</sup> *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 69

<sup>229</sup> *Striking Distance*, Kapil Kajal, Janes Defence Weekly, 7 June 2023, pg. 22

<sup>230</sup> <https://twitter.com/jesusfroman/status/1733788076286017608> (accessed Dec 11, 2023)

<sup>231</sup> *Striking Distance*, Kapil Kajal, Janes Defence Weekly, 7 June 2023, pg. 22

<sup>232</sup> Location from *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 67

<sup>233</sup> Location from *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 67

- Support Brigades
    - 72nd Army Aviation Brigade
    - 72nd Artillery Brigade
    - 72nd Air Defense Brigade
    - 72nd Special Operations Brigade (Thunderbolts)
    - 72nd Service Support Brigade
  - 73<sup>rd</sup>
    - CABs
      - 86th Heavy Combined-Arms Brigade
      - 14th Amphibious Combined-Arms Brigade - Zhangzhou, Fujian<sup>234</sup>
      - 91st Amphibious Combined-Arms Brigade - Zhangzhou, Fujian<sup>235</sup>
      - 145<sup>th</sup> Medium Combined Arms Brigade<sup>236</sup>
        - Operates at least 54 ZBL-09
      - 92<sup>nd</sup> Light Combined-Arms Brigade
      - 3rd Light Combined-Arms Brigade
    - Support Brigades
      - 73rd Army Aviation Brigade
      - 73<sup>rd</sup> Artillery Brigade<sup>237</sup>
      - 73nd Air Defense Brigade
      - 73rd Special Operations Brigade (Dragons of the East Sea)
      - 73rd Service Support Brigade
  - Southern Theater Command
    - 74<sup>th</sup>
      - CABs
        - 1st Amphibious Combined Arms Brigade - Boluo, Guangdong<sup>238</sup>
        - 125th Amphibious Combined Arms Brigade - Boluo, Guangdong<sup>239</sup>
        - 132rd Light Combined Arms Brigade
        - 163rd Light Combined Arms Brigade
        - 154th Medium Combined Arms Brigade
        - 16th Heavy Combined Arms Brigade
      - Support Brigades
        - 74th Special Operations Brigade (Sword of the South)

<sup>234</sup> Location from *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024 <https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 67

<sup>235</sup> Location from *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024 <https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 67

<sup>236</sup> *Striking Distance*, Kapil Kajal, Janes Defence Weekly, 7 June 2023, pg. 22

<sup>237</sup> *Striking Distance*, Kapil Kajal, Janes Defence Weekly, 7 June 2023, pg. 22

<sup>238</sup> Location from *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024 <https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 67

<sup>239</sup> Location from *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024 <https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 67

- 74th Army Aviation Brigade
    - 74th Artillery Brigade
    - 74th Air Defense Brigade
    - 74th Engineer and Chemical Defense Brigade
    - 74th Sustainment Brigade
  - 75<sup>th</sup>
    - CABs
      - 32nd Mountain Combined Arms Brigade
      - 37th Light Combined Arms Brigade
      - 42nd Light Combined Arms Brigade
      - 122nd Medium Combined Arms Brigade
      - 31st Heavy Combined Arms Brigade
      - 123rd Heavy Combined Arms Brigade
      - 121st Air Assault Brigade
    - Support Brigades
      - 75th Special Operation Brigade (?Jungle Tigers, Ferocious Tigers?)
      - 75th Artillery Brigade
      - 75th Air Defense Brigade
      - 75th Engineer and Chemical Defense Brigade
      - 75th Sustainment Brigade
- Central Theater Command
  - 83<sup>rd</sup>
    - CABs
      - 11th Heavy Combined Arms Brigade
      - 58th Medium Combined Arms Brigade
      - 60th Medium Combined Arms Brigade
      - 113th Medium Combined Arms Brigade
      - 131st Heavy Combined Arms Brigade
      - 193rd Medium Combined Arms Brigade
    - 161<sup>st</sup> Air Assault Brigade
      - I am assuming that this unit would be pulled for the initial assault due to being one of two dedicated PLAGF air assault units
    - Support Brigades
      - 83<sup>rd</sup> Special Operation Brigade
      - 83<sup>rd</sup> Artillery Brigade
      - 83<sup>rd</sup> Air Defense Brigade
      - 83<sup>rd</sup> Engineer and Chemical Defense Brigade
      - 83<sup>rd</sup> Sustainment Brigade

The new standardized structure increase interoperability and makes it easier to deploy forces from one Group Army to another.<sup>240</sup>

### ***Long Range Artillery***

The army has 50+ PHL-19 (also called the PHL-16, PHL-191, and AR-3), a 370mm MRL.<sup>241</sup> These are known to be in service with the 73<sup>rd</sup> Group Army.<sup>242</sup> “Fired from the mainland coast, these rockets can cover all of the urban areas of northern Taiwan and the western plain down to Tainan.”<sup>243</sup> It can fire 10 x 300mm rockets (range 130km), 8 x 370mm rockets (range 280 km), or 2 x 750mm missiles (Fire Dragon 280A missiles, range 290 km), it can also employ TL-7B anti-ship missiles and 750mm Fire Dragon 480 tactical ballistic missiles (range 360km).<sup>244</sup> In addition extended range 155mm tube artillery shells, and 122mm MRL’s can also hit the western plains of Taiwan.<sup>245</sup>

### **Special Operations Forces**<sup>246</sup>

Units marked with \* are geographically close to the Taiwan strait or would likely be engaged in a Taiwan scenario.<sup>247</sup> It is difficult to assess the individual capability of each unit, but most units are likely to be more like U.S. Rangers than they are Tier 1 units.<sup>248</sup>

#### **PLAA**

There is one SOF brigade per PLAGF group army.

*Eastern Theater Command* – Sharks\*, Thunderbolts\*, Dragons of the East Sea\*

*Southern Theater Command* – Sword of the South\*, Unidentified Brigade\*, (also a Special Forces Battalion\* and Lion Company\*).

*Western Theater Command* – Sirius, Cheetahs, Snowy Owls, Sharp Blade of the Kunlun, Snow Leopards of the Plateau.

*Northern Theater Command* – Tigers of the Northeast, Falcons\*

*Central Theater Command* – Sacred Sword of the East\*, Whistling Arrows\*, Ferocious Tigers\*

**PLANMC** – Sea Dragons\*

**PLAAF** – Thunder Gods\*

**PLARF** – Sharp Blade

**PAP** – 2 mobile contingents (for counterterrorism), most applicably to Taiwan the Snow Leopards

### **Other Forces**

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<sup>240</sup> *System Overload: Can China’s Military Be Distracted in a War over Taiwan*, 2020, Joel Wuthnow, China Strategic Perspectives 15, Center for the Study of Chinese Military Affairs, Institute for National Strategic Studies, National Defense University, pg. 17.

<sup>241</sup> IISS, *The Military Balance 2023*, pg. 239

<sup>242</sup> *Striking Distance*, Kapil Kajal, Janes Defence Weekly, 7 June 2023, pg. 22

<sup>243</sup> *Air Defense Options for Taiwan, An Assessment of Relative Costs and Operational Benefits*, Lostumbo et. al., RAND, 2016, pg. 13, footnote 14

<sup>244</sup> *Striking Distance*, Kapil Kajal, Janes Defence Weekly, 7 June 2023, pg. 22

<sup>245</sup> *Air Defense Options for Taiwan, An Assessment of Relative Costs and Operational Benefits*, Lostumbo et. al., RAND, 2016, pg. 119-120

<sup>246</sup> China Maritime Report No. 18: Chinese Special Operations in a Large-Scale Island Landing (2022) pg. 7

<sup>247</sup> Based upon locations in China Maritime Report No. 18: Chinese Special Operations in a Large-Scale Island Landing (2022) pg. 7 and discussion on pg. 6, and partly on descriptions from <https://twitter.com/nuwangzi/status/1656982424788639746> (2023)

<sup>248</sup> China Maritime Report No. 18: Chinese Special Operations in a Large-Scale Island Landing (2022) pg. 6

As of April 2024 the Strategic Support force was eliminated, though the constituent Forces likely retain their original capabilities, structures, and missions. The following forces now exist as separate entities:<sup>249</sup>

- CMC
  - Military Aerospace Force, 军事航天部队 (formerly the Space Systems Department)
    - Duties are “ground-based space surveillance; satellite telemetry, tracking, and control; space launches; manned spaceflight; space-based intelligence, surveillance, and reconnaissance; and ground and space-based kinetic anti-satellite capabilities. This branch also likely inherited the survey, mapping, and navigation stations of the former General Staff Department”<sup>250</sup>
    - 20<sup>th</sup>, 23<sup>rd</sup>, 25<sup>th</sup>, 226<sup>th</sup>, 27<sup>th</sup>, 35<sup>th</sup>, 36<sup>th</sup>, and 37<sup>th</sup> Bases
  - Cyberspace Force, 网络空间部队 (formerly the Network Systems Department)
    - Missions are: “cyber reconnaissance, cyber espionage, offensive cyber operations and operational preparation of the battlespace, and strategic electronic warfare (including non-kinetic anti-satellite measures)”<sup>251</sup>
    - Currently has a psychological warfare mission (311 Base), but this is an outlier mission and capability and may be restructure to somewhere else at some point.<sup>252</sup>
    - South, North, West, East, and Central theater bases.
  - Information Support Force, 信息支援部队
    - “This force likely focuses exclusively on ‘informatization’ and ‘information support’”(i.e. communications facilitation) rather than the more offensive and intelligence-related capabilities associated with information warfare. Its mission likely includes the maintenance of military networks, strategic communications and backbone infrastructure, management of communication satellites, cyber defense, cybersecurity, and information security for military communications, and strategic spectrum allocation and management.”<sup>253</sup>
  - Joint Logistics Support Force, 联勤保障部队
- Near-Space Command<sup>254</sup>
  - Responsible for hypersonic weapons, balloons, solar-powered long-endurance drones, etc.
  - I can only find one reference to this from the SCMP, and little further corroborating evidence from The Space Review piece that discussed it. Nor does it appear in any of the discussion around restructuring the Strategic Support Force. Thus I remain skeptical of its importance (and possibly its existence)

<sup>249</sup> <https://jamestown.org/program/a-disturbance-in-the-force-the-reorganization-of-peoples-liberation-army-command-and-elimination-of-chinas-strategic-support-force/>

<sup>250</sup> <https://jamestown.org/program/planned-obsolescence-the-strategic-support-force-in-memori-2015-2024/>

<sup>251</sup> <https://jamestown.org/program/planned-obsolescence-the-strategic-support-force-in-memori-2015-2024/>

<sup>252</sup> <https://jamestown.org/program/planned-obsolescence-the-strategic-support-force-in-memori-2015-2024/>

<sup>253</sup> <https://jamestown.org/program/planned-obsolescence-the-strategic-support-force-in-memori-2015-2024/>

<sup>254</sup> Originally from <https://www.scmp.com/news/china/science/article/3241059/fifth-force-china-adding-hypersonic-near-space-command-its-military-precise-and-merciless-attacks>, and no further evidence can be found since then <https://www.thespacereview.com/article/4731/1> (2024)

until I find more, it could also be subordinated to the Military Aerospace Force.  
(Note: last time I looked for information on this topic was May 18<sup>th</sup>, 2024)

## **Mine Warfare and Countermeasures**

### ***Mining***

Total Chinese mines in inventory are somewhere between 50,000-100,000+ of basically every conceivable type.<sup>255</sup>

Delivery mechanisms:

- Air
- Surface Ships
- Submarine
- Coast Guard
- Maritime Militia

### ***Clearance***

The PLAN and PLAAF hope to clear 70% of waterside beach obstacles before attack, leaving the last 30% (those closest to the shore/in the surf/on the beach) to the attacking troops<sup>256</sup>

### ***Ships***<sup>257</sup>

Class	Type	Function	#	Length (m)	Notes
Wochi	Type 081	MCM	4	66	Equipped for acoustic, magnetic, and mechanical sweeps. Type 081 entered service in 2007; 081A in 2012.
	Type 081A	MCM	10	70	
Wozang	Type 082II	MHS	10+	55-58	Can remotely operate up to 3 Type 529 unmanned minesweeping craft.
Wosao	Type 082	MSC	4	45	Equipped with mechanical, magnetic, acoustic, and infrasonic sweeps. 500 nm range.
	Type 082I	MSC	12	48	
Wonang (USV)	Type 529	MSI	15+	30	Unmanned vessels remote controlled by Type 082II minehunting ships. Commissioned in 2005; 6+ added since 2010.

MCM = mine countermeasures ships, MHS = minehunting ships, MSC = coastal minesweepers, MSI = inshore minesweepers

<sup>255</sup> *Mine Warfare in a Cross-Strait Invasion*, Chapter 11, Thomas Shugart, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 216

<sup>256</sup> 共軍合成營登陸作戰破障能力研析以 73 集團軍為例 (Analysis of the Obstacle-Breaking Capability of the PLA's Combined Battalion in Landing Operations: Taking the 73rd Army as an Example), in 陸軍工兵半年刊 (Semiannual Journal Of Army Engineers), Issue 161, Year 111 (2022). [https://www.mnd.gov.tw/NewUpload/202210/004--%E5%85%B1%E8%BB%8D%E5%90%88%E6%88%90%E7%87%9F%E7%99%BB%E9%99%B8%E4%BD%9C%E6%88%B0%E7%A0%B4%E9%9A%9C%E8%83%BD%E5%8A%9B%E7%A0%94%E6%9E%90-%E4%BB%A573%E9%9B%86%E5%9C%98%E8%BB%8D%E7%82%BA%E4%BE%8B-----71-90\\_551095.pdf](https://www.mnd.gov.tw/NewUpload/202210/004--%E5%85%B1%E8%BB%8D%E5%90%88%E6%88%90%E7%87%9F%E7%99%BB%E9%99%B8%E4%BD%9C%E6%88%B0%E7%A0%B4%E9%9A%9C%E8%83%BD%E5%8A%9B%E7%A0%94%E6%9E%90-%E4%BB%A573%E9%9B%86%E5%9C%98%E8%BB%8D%E7%82%BA%E4%BE%8B-----71-90_551095.pdf), Google Translated., pg. 78

<sup>257</sup> Waidelich, Brian and Pollitt, George, "China Maritime Report No. 29: PLAN Mine Countermeasures: Platforms, Training, and Civil-Military Integration" (2023). CMSI China Maritime Reports. 29. <https://digital-commons.usnwc.edu/cmsi-maritime-reports/29>, pg. 5

At least 3 types of ROV's are operated,<sup>258</sup> and minesweeper squadrons also have teams of divers trained for mine clearance.<sup>259</sup> There is little organic MCM capability (e.g. the equipping of destroyers/frigates to allow for mine avoidance/clearing), and despite demand it does not seem to be being developed.<sup>260</sup>

73<sup>rd</sup> Group Army trained with boats equipped with explosive charge throwers to clear obstacles close to shore have been tried or are in use. The boat is unmanned (the boat is based on old, manned boat that has been converted) and remotely controlled, and is equipped with a sonar detection device to detect mines.<sup>261</sup>



Shipborne obstacle clearance rockets are also in use.<sup>262</sup> Engineering assets of battalions and brigades have some (likely very limited) mine-clearing ability for naval mines, but likely only hastily laid ones very close to shore.<sup>263</sup>

<sup>258</sup> Waidehlich, Brian and Pollitt, George, "China Maritime Report No. 29: PLAN Mine Countermeasures: Platforms, Training, and Civil-Military Integration" (2023). CMSI China Maritime Reports. 29. <https://digital-commons.usnwc.edu/cmsi-maritime-reports/29>, pg. 6-8,

<sup>259</sup> Waidehlich, Brian and Pollitt, George, "China Maritime Report No. 29: PLAN Mine Countermeasures: Platforms, Training, and Civil-Military Integration" (2023). CMSI China Maritime Reports. 29. <https://digital-commons.usnwc.edu/cmsi-maritime-reports/29>, pg. 9

<sup>260</sup> Waidehlich, Brian and Pollitt, George, "China Maritime Report No. 29: PLAN Mine Countermeasures: Platforms, Training, and Civil-Military Integration" (2023). CMSI China Maritime Reports. 29. <https://digital-commons.usnwc.edu/cmsi-maritime-reports/29>, pg. 12-13

<sup>261</sup> 共軍合成營登陸作戰破障能力研析以 73 集團軍為例 (Analysis of the obstacle-breaking capability of the PLA's combined battalion in landing operations: Taking the 73rd Army as an example), in 陸軍工兵半年刊 (Semiannual Journal Of Army Engineers), Issue 161, Year 111 (2022). Google Translated., pg. 74-75

<sup>262</sup> 共軍合成營登陸作戰破障能力研析以 73 集團軍為例 (Analysis of the obstacle-breaking capability of the PLA's combined battalion in landing operations: Taking the 73rd Army as an example), in 陸軍工兵半年刊 (Semiannual Journal Of Army Engineers), Issue 161, Year 111 (2022). [https://www.mnd.gov.tw/NewUpload/202210/004--%E5%85%B1%E8%BB%8D%E5%90%88%E6%88%90%E7%87%9F%E7%99%BB%E9%99%B8%E4%BD%9C%E6%88%B0%E7%A0%B4%E9%9A%9C%E8%83%BD%E5%8A%9B%E7%A0%94%E6%9E%90-%E4%BB%A573%E9%9B%86%E5%9C%98%E8%BB%8D%E7%82%BA%E4%BE%8B-----71-90\\_551095.pdf](https://www.mnd.gov.tw/NewUpload/202210/004--%E5%85%B1%E8%BB%8D%E5%90%88%E6%88%90%E7%87%9F%E7%99%BB%E9%99%B8%E4%BD%9C%E6%88%B0%E7%A0%B4%E9%9A%9C%E8%83%BD%E5%8A%9B%E7%A0%94%E6%9E%90-%E4%BB%A573%E9%9B%86%E5%9C%98%E8%BB%8D%E7%82%BA%E4%BE%8B-----71-90_551095.pdf), Google Translated., pg. 74-75

<sup>263</sup> 共軍合成營登陸作戰破障能力研析以 73 集團軍為例 (Analysis of the obstacle-breaking capability of the PLA's combined battalion in landing operations: Taking the 73rd Army as an example), in 陸軍工兵半年刊 (Semiannual Journal Of Army Engineers), Issue 161, Year 111 (2022). [https://www.mnd.gov.tw/NewUpload/202210/004--%E5%85%B1%E8%BB%8D%E5%90%88%E6%88%90%E7%87%9F%E7%99%BB%E9%99%B8%E4%BD%9C%E6%88%B0%E7%A0%B4%E9%9A%9C%E8%83%BD%E5%8A%9B%E7%A0%94%E6%9E%90-%E4%BB%A573%E9%9B%86%E5%9C%98%E8%BB%8D%E7%82%BA%E4%BE%8B-----71-90\\_551095.pdf](https://www.mnd.gov.tw/NewUpload/202210/004--%E5%85%B1%E8%BB%8D%E5%90%88%E6%88%90%E7%87%9F%E7%99%BB%E9%99%B8%E4%BD%9C%E6%88%B0%E7%A0%B4%E9%9A%9C%E8%83%BD%E5%8A%9B%E7%A0%94%E6%9E%90-%E4%BB%A573%E9%9B%86%E5%9C%98%E8%BB%8D%E7%82%BA%E4%BE%8B-----71-90_551095.pdf), Google Translated., pg. 77

## Clearance

Each ship can clear between .8-2 mines per day, clearing a lane for military use could be done one to two weeks if the enemy were not to reseed the minefield.<sup>264</sup> Lower clearance rates are more likely due to the higher degree of technical sophistication of US mines compared to historical examples.<sup>265</sup> Attrition of minesweepers is difficult to estimate, but one estimate was the loss of 2 in 15 chance per day.<sup>266</sup> Clearing a Q-Route (a lane though which the chance of hitting a mine is 10% or less) requires removing some 10% of mines.<sup>267</sup> Periodic reseeding by a single aircraft carrying 80 mines can prevent the Chinese from ever clearing a route.

## Civilian Support

There have been calls for using civilian ships for the support of MCM operations, though there is little publicly available writing on how this would work (unknown what classified sources say).<sup>268</sup> The mobilization of civilian helicopters has also been argued by at least one source.<sup>269</sup> Fishing ships can conduct MCM operations (“such as dragging nets to scoop up mines on the bottom, towing wire sweeps, or operating small boats remotely to detonate mines”) and can support and deliver other MCM elements like ROV’s and divers.<sup>270</sup>

As always, ships can be used as Guinea Pigs. “Guinea Pigs are typically large, but low-value, hulls of opportunity that happen to be available near the mined area and that can be driven through minefields to detonate mines”. Guinea Pigs generally detonate 1 mine, but if they have added buoyancy may detonate 2 or more.<sup>271</sup>

## People’s Armed Police

NOTE: The Coast Guard falls under the People’s Armed Police.

This section only include mobile units, provincial and local units are partially not included. “[A]ll provinces, autonomous regions, and provincial-level cities retain mobile detachments as well as “duty detachments” [zhìqín zhīduì, 执勤支队], which protect government compounds and perform other routine duties.”<sup>272</sup> Most provinces have 1 x Mobile Detachment, but the following have more:<sup>273</sup>

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<sup>264</sup> Cancian, Matthew (2022) “An Offensive Minelaying Campaign Against China,” Naval War College Review: Vol. 75: No. 1, Article 6. <https://digital-commons.usnwc.edu/nwc-review/vol75/iss1/6>, pg. 2

<sup>265</sup> Cancian, Matthew (2022) “An Offensive Minelaying Campaign Against China,” Naval War College Review: Vol. 75: No. 1, Article 6. <https://digital-commons.usnwc.edu/nwc-review/vol75/iss1/6>, pg. 12

<sup>266</sup> Cancian, Matthew (2022) “An Offensive Minelaying Campaign Against China,” Naval War College Review: Vol. 75: No. 1, Article 6. <https://digital-commons.usnwc.edu/nwc-review/vol75/iss1/6>, pg. 12

<sup>267</sup> Cancian, Matthew (2022) “An Offensive Minelaying Campaign Against China,” Naval War College Review: Vol. 75: No. 1, Article 6. <https://digital-commons.usnwc.edu/nwc-review/vol75/iss1/6>, pg. 13

<sup>268</sup> Waidehlich, Brian and Pollitt, George, “China Maritime Report No. 29: PLAN Mine Countermeasures: Platforms, Training, and Civil-Military Integration” (2023). CMSI China Maritime Reports. 29. <https://digital-commons.usnwc.edu/cmsi-maritime-reports/29>, pg. 13-14

<sup>269</sup> Waidehlich, Brian and Pollitt, George, “China Maritime Report No. 29: PLAN Mine Countermeasures: Platforms, Training, and Civil-Military Integration” (2023). CMSI China Maritime Reports. 29. <https://digital-commons.usnwc.edu/cmsi-maritime-reports/29>, pg. 14-15

<sup>270</sup> Waidehlich, Brian and Pollitt, George, “China Maritime Report No. 29: PLAN Mine Countermeasures: Platforms, Training, and Civil-Military Integration” (2023). CMSI China Maritime Reports. 29. <https://digital-commons.usnwc.edu/cmsi-maritime-reports/29>, pg. 15-16

<sup>271</sup> Waidehlich, Brian and Pollitt, George, “China Maritime Report No. 29: PLAN Mine Countermeasures: Platforms, Training, and Civil-Military Integration” (2023). CMSI China Maritime Reports. 29. <https://digital-commons.usnwc.edu/cmsi-maritime-reports/29>, pg. 16

<sup>272</sup> *China’s Other Army: The People’s Armed Police in an Era of Reform*, China Strategic Perspectives 14, Joel Wuthnow, April 2019, <https://inss.ndu.edu/Portals/82/China%20SP%2014%20Final%20for%20Web.pdf?ver=2019-04-16-121756-937>, pg.14

<sup>273</sup> *China’s Other Army: The People’s Armed Police in an Era of Reform*, China Strategic Perspectives 14, Joel Wuthnow, April 2019, <https://inss.ndu.edu/Portals/82/China%20SP%2014%20Final%20for%20Web.pdf?ver=2019-04-16-121756-937>, pg.12-13



<i>Provincial Contingent</i>	<i># of Mobile Detachments</i>	<i>Locations</i>
Xinjiang	7	Urumqi (1st, 2nd, 3rd), Yining (4th), Kashgar (5th, 6th), Hotan (7th).
Beijing	4	Beijing
Sichuan	4	Chengdu (1st, 4th), Garze Tibetan Autonomous Prefecture (2nd, 3rd)
Yunnan	3	Kunming (1st), Yulong Naxi Autonomous County (2nd), Honghe Meng Autonomous County (3rd)
Tibet	3	Lhasa (1st, 2nd), Chamdo (3rd)
Qinghai	2	Xining (1st), Huangnan Tibetan Autonomous Prefecture (2nd)
Shanghai	2	Shanghai

The Mountain Eagle Commando Unit (SOF) is also present in Xinjiang<sup>274</sup>

2 x national-level “mobile contingents” (机动总队) (1<sup>st</sup> and 2<sup>nd</sup> Mobile Contingent). These both provide flexible options for the CMC in the event of national disturbances/terrorism. 1<sup>st</sup> Mobile Contingent is likely intended to reinforce Beijing in the event of a threat to the Regime.<sup>275</sup> 2<sup>nd</sup> Mobile Contingent likely intended to support rear area security in a war over Taiwan.<sup>276</sup>

#### Mobile Contingent Detachments and Bases<sup>277</sup>

<i>Units</i>	<i>1<sup>st</sup> Mobile Contingent</i>	<i>2<sup>nd</sup> Mobile Contingent</i>	<i>Notes</i>
Headquarters	Shijiazhuang, Hebi	Fuzhou, Fujian	Each mobile detachment is (roughly) comprised of: <sup>278</sup> <ul style="list-style-type: none"> <li>- Headquarters</li> <li>- 5 x Motorized Companies</li> <li>- 1 x Mechanized Company (Type 08 APC's<sup>279</sup>)</li> <li>- 1 x POL Company</li> <li>- 1 x Supply Company</li> </ul>
1 <sup>st</sup> Mobile Det.	Panjin, Liaoning	Wuyi, Jiangsu	
2 <sup>nd</sup> Mobile Det.	Shenyang, Liaoning	Wuyi, Jiangsu	
3 <sup>rd</sup> Mobile Det.	Gutongliao, Inner Mongolia	Wuyi, Jiangsu	
4 <sup>th</sup> Mobile Det.	Tianjin	Putian, Fujian	
5 <sup>th</sup> Mobile Det.	Dingzhou, Hebei	Putian, Fujian	
6 <sup>th</sup> Mobile Det.	Baoding, Hebei	Guangzhou	
7 <sup>th</sup> Mobile Det.	Puzhong, Shanxi	Foshan, Guangdong	
8 <sup>th</sup> Mobile Det.	Zhengzhou, Henan	Mengzi, Yunnan	
9 <sup>th</sup> Mobile Det.	Pingliang, Gansu	Nanchong, Sichuan	
1 <sup>st</sup> SOF Det.	Beijing (Falcons)	Guangzhou (Snow Leopards)	PAP SOF units “focus more on security, counterterrorism, and

<sup>274</sup> DOD 2023 Report on the Military and Security Developments Involving the People's Republic of China, <https://media.defense.gov/2023/Oct/19/2003323409/-1/-1/1/2023-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>, pg. 83

<sup>275</sup> *China's Other Army: The People's Armed Police in an Era of Reform*, China Strategic Perspectives 14, Joel Wuthnow, April 2019, <https://inss.ndu.edu/Portals/82/China%20SP%2014%20Final%20for%20Web.pdf?ver=2019-04-16-121756-937>, pg.22

<sup>276</sup> *China's Other Army: The People's Armed Police in an Era of Reform*, China Strategic Perspectives 14, Joel Wuthnow, April 2019, <https://inss.ndu.edu/Portals/82/China%20SP%2014%20Final%20for%20Web.pdf?ver=2019-04-16-121756-937>, pg.13

<sup>277</sup> *China's Other Army: The People's Armed Police in an Era of Reform*, China Strategic Perspectives 14, Joel Wuthnow, April 2019, <https://inss.ndu.edu/Portals/82/China%20SP%2014%20Final%20for%20Web.pdf?ver=2019-04-16-121756-937>, pg.14

<sup>278</sup> ATP 7-100.3, *Chinese Tactics*, August 2021, [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/ARN34236-ATP\\_7-100.3-001-WEB-3.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN34236-ATP_7-100.3-001-WEB-3.pdf), section 9-31, Figure 9-4

<sup>279</sup> ATP 7-100.3, *Chinese Tactics*, August 2021, [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/ARN34236-ATP\\_7-100.3-001-WEB-3.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN34236-ATP_7-100.3-001-WEB-3.pdf), Appendix A, A-22

2 <sup>nd</sup> SOF Det.	Tianjin	Huzhou, Zhejiang	hostage rescue missions, and they are more comparable to elite U.S. domestic law enforcement units.” <sup>280</sup> The Falcons and Snow Leopards are true SOF, the other detachments are not.
3 <sup>rd</sup> SOF Det.	Shijiazhuang, Hebi	N/A	
1 <sup>st</sup> Transportation Det.	Beijing	Hefei, Anhui	
2 <sup>nd</sup> Transportation Det.	Xi'an, Shaanxi	Mianyang, Sichuan	
3 <sup>rd</sup> Transportation Det.	N/A	Linzhi, Tibet	
Engineering/Chemical Defense Det.	Huludao, Liaoning	Fuzhou, Fujian	
Helicopter Det.	Puzhong, Shanxi	Chengdu, Sichuan	Mix of commercial helicopters, HC-120 is most common. <sup>281</sup>

PAP units have also been observed working with small drones and FPV drones increasingly<sup>282</sup>

## **Reserves**<sup>283</sup>

In 2024 the revised reserve system began working taking in it's first patch of reservists. Reservists are for all services and forces and are both combat and non-combat roles. This change to the reservist system should help reduce issues if mobilization is required in a protracted war (both as they can be mobilized and as they can cover the manpower gap between regular forces and the training of new conscripts) and help improve the readiness of units during dips due to the nature of the twice a year conscription cycle.

## **Known Reserve Bases**<sup>284</sup>

Theater / Military District	Service	Known Reserve Base / Unit	Known Garrisons
Eastern Theater	PLAA	1 <sup>st</sup> Reserve Base	Hangzhou, Zhejian
	PLAAF	Reserve Base	Zhenjiang, Jiangsu
Southern Theater	PLAA	2 <sup>nd</sup> Reserve Base	Jinhua, Zhejiang
	PLAAF	Reserve Base	Ji'an, Jiangxi

<sup>280</sup> ATP 7-100.3, *Chinese Tactics*, August 2021, [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/ARN34236-ATP\\_7-100.3-001-WEB-3.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN34236-ATP_7-100.3-001-WEB-3.pdf), Appendix G, G-2

<sup>281</sup> ATP 7-100.3, *Chinese Tactics*, August 2021, [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/ARN34236-ATP\\_7-100.3-001-WEB-3.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/ARN34236-ATP_7-100.3-001-WEB-3.pdf), Appendix D, D-9

<sup>282</sup> For examples see:

- <https://x.com/jesusfroman/status/1824882397277553075>
- <https://x.com/jesusfroman/status/1816376067289968736>
- <https://x.com/jesusfroman/status/1798981274008526967>
- <https://x.com/jesusfroman/status/1791001532902613145>
- <https://x.com/jesusfroman/status/1789558323999555958>

<sup>283</sup> *China's Next Step in Modernizing the People's Liberation Army: A New Reserve Service System*, Joshua M. Arostegui, Dec. 5, 2024, <https://ssi.armywarcollege.edu/SSI-Media/Recent-Publications/Article/3986350/chinas-next-step-in-modernizing-the-peoples-liberation-army-a-new-reserve-servi/>

<sup>284</sup> *China's Next Step in Modernizing the People's Liberation Army: A New Reserve Service System*, Joshua M. Arostegui, Dec. 5, 2024, <https://ssi.armywarcollege.edu/SSI-Media/Recent-Publications/Article/3986350/chinas-next-step-in-modernizing-the-peoples-liberation-army-a-new-reserve-servi/>

Western Theater	PLAA	3 <sup>rd</sup> Reserve Base	Yichun, Jiangxi
	PLAAF	Reserve Base	
	PLA Joint Logistics Support Force	3 <sup>rd</sup> Reserve Joint Logistics Support Brigade	Yangzhou, Jiangsu
Northern Theater	PLAA	4 <sup>th</sup> Reserve Base	Suzhou, Jiangsu
	PLAN	Reserve Base	Wuxi, Jiangsu
Central Theater	PLAA	5 <sup>th</sup> Reserve Base	
	PLAAF	Reserve Base	Baiyun, Guangzhou
		Airborne Corps Reserve Base	Duyuncun, Guangxi
	PLAN	Marine Corps Reserve Base	Qianxinan, Guizhou
Xinjiang Military District	PLAA	6 <sup>th</sup> Reserve Base	Anshun, Guizhou
Tibet Military District	PLAA	7 <sup>th</sup> Reserve Base	Guiyang, Guizhou

“In addition to the new reserve base system, the services maintain small numbers of reserve support units. For example, the PLAA appears to maintain reserve aviation support units, while other PLAN, PLAAF, PLA Rocket Force, and even PLA Information Support Force ... reserve support elements still seem to exist. Whether those PLA reserve support units have the same missions as reserve units prior to 2021 remains unclear. For example, of the five known PLAN reserve units ... two of them included ship formations: a reconnaissance ship squadron and a minesweeper squadron. According to Tat, those two squadrons and three mobile radar and observation battalions could operate independently or alongside active-duty forces. References to those five units appear to have ceased, but unspecified PLA Navy reserve dadui (battalion to regiment size units) still show up in PLA media.”<sup>285</sup>

## **Coast Guard and Maritime Militia**

Note that the Coast Guard fall under the Peoples Armed Police.

Coast Guard Ships<sup>286</sup> – 223

Breakdown:<sup>287</sup>

- 130 large patrol ships
  - Many of the fleet’s large patrol ships are well-armed and capable of conducting operations in distant waters
- 70+ fast patrol combatants
- 400+ coastal patrol craft
- Approximately 1,000 inshore and riverine vessels

<sup>285</sup> *China’s Next Step in Modernizing the People’s Liberation Army: A New Reserve Service System*, Joshua M. Arostegui, Dec. 5, 2024, <https://ssi.armywarcollege.edu/SSI-Media/Recent-Publications/Article/3986350/chinas-next-step-in-modernizing-the-peoples-liberation-army-a-new-reserve-servi/>

<sup>286</sup> U.S. Department of Defense, Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2021, p. 162.

<sup>287</sup> Caitlin Campbell, *China’s Military: The People’s Liberation Army*, CRS, R46808, June 4, 2021, p. 33. This breakdown is different from IISS Military Balance 2022, pg. 238 which states 91 patrol craft and 524 overall.

## Organization<sup>288</sup>

- China Sea Command
  - 6<sup>th</sup> Detachment (direct reporting)
    - Shandong Qingdao
    - Liaoning detachment
    - Tianjin detachment
    - Hebei detachment
    - Shandong detachment
- East China Sea Command
  - 1<sup>st</sup> Detachment (direct reporting)
    - Shanghai Pudong
  - 2<sup>nd</sup> Detachment (direct reporting)
    - Zhejiang Ningbo
    - Jiangsu detachment
    - Shanghai detachment
    - Zhejiang detachment
    - Fujian detachment
- South China Sea Command
  - 3<sup>rd</sup> Detachment (direct reporting)
    - Guangzhou
  - 4<sup>th</sup> Detachment (direct reporting)
    - Hainan Wenchang
  - 5<sup>th</sup> Detachment (direct reporting)
    - Hainan Sanya
    - Guangdong detachment
    - Guanxi detachment
    - Hainan detachment

## Maritime Militia

- Unknown number of fishing and small ships
- Larger ships - 5,000 ships organized into 89 militia transportation units, 53 waterway engineering units, and 143 units with other specializations<sup>289</sup>

## Civilian Car Ferries<sup>290</sup>

- RoRo ferries ~750,000 displacement tons
  - w/ Hong Kong's ferries added +370,000 RoRo displacement tons
- Vehicle carriers ~425,000 tons

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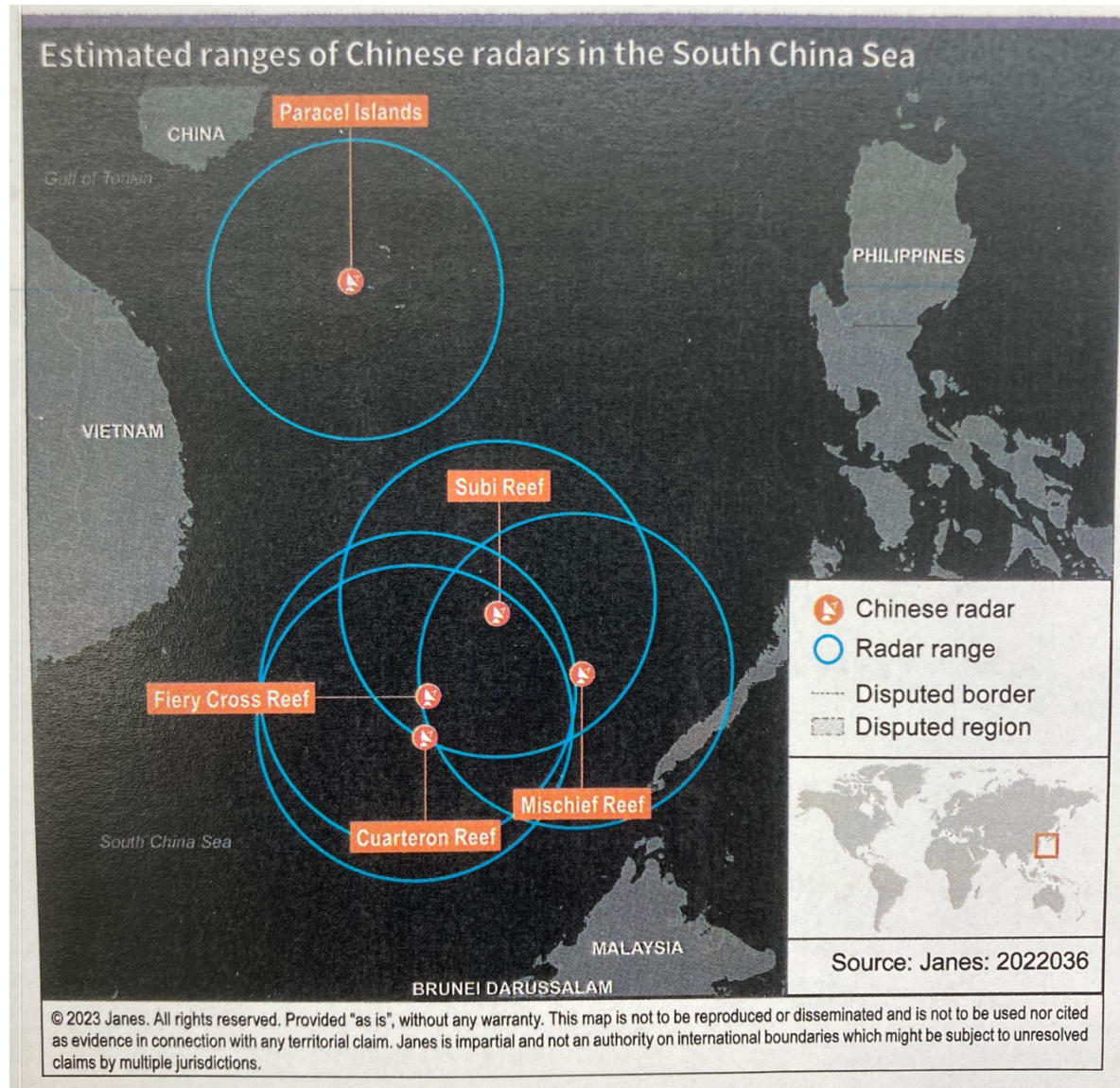
<sup>288</sup> Modern Chinese Maritime Forces (2nd Ed.), Manfred Meyer, editors Larry Bond and Chris Carlson, Version: 1 January, 2025, [https://www.wargamevault.com/product/443170/Modern-Chinese-Maritime-Forces-Second-Edition?src=hottest\\_filtered](https://www.wargamevault.com/product/443170/Modern-Chinese-Maritime-Forces-Second-Edition?src=hottest_filtered), pg. 6-7

<sup>289</sup> China Maritime Report No. 21: Civilian Shipping and Maritime Militia: The Logistics Backbone of a Taiwan Invasion, Lonnie D. Henley, May 2022. Pg. 4

<sup>290</sup> <https://warontherocks.com/2021/08/mind-the-gap-how-chinas-civilian-shipping-could-enable-a-taiwan-invasion/>

## SCS Bases

All are equipped with anti-ship and anti-aircraft missile systems and offensive and defensive EW equipment.<sup>291</sup> Information is passed back to the mainland via satcom and undersea cables.<sup>292</sup>



Map from Janes<sup>293</sup>

*The following are southern SCS bases.*

Average range of long range radars is 400km+, regular 30km.<sup>294</sup> The radars include both air and surface radars, the air ones with counter-stealth capabilities.<sup>295</sup>

<sup>291</sup> Report on Military and Security Developments Involving the Peoples Republic of China 2020. Pg. 101

<sup>292</sup> *Chinese Surveillance Capabilities in the South China Sea*, Oishee Majumdar and Mohammed Naqi Wasif, Janes Defense Weekly, 8 November 2023, pg. 25

<sup>293</sup> *Chinese Surveillance Capabilities in the South China Sea*, Oishee Majumdar and Mohammed Naqi Wasif, Janes Defense Weekly, 8 November 2023, pg. 25

<sup>294</sup> *Keeping Watch*, Oishee Majumdar and Mohammed Naqi Wasif Janes Defence Weekly, 8 November 2023, pg. 22-23

<sup>295</sup> *Keeping Watch*, Oishee Majumdar and Mohammed Naqi Wasif Janes Defence Weekly, 8 November 2023, pg. 22-23

## Fiery Cross Reef

Infrastructure: “Research station”<sup>296</sup>, aviation facilities (fixed wing and helipad), large port facilities,<sup>297</sup> 23 radomes (4 long range), 13 satcom radomes, and an over-the-horizon radar<sup>298</sup>, fixed weapons positions, barracks, administration buildings, and communications facilities.<sup>299</sup>

Known Deployments: PLA deployed KJ-200 anti-submarine warfare and KJ-500 airborne early warning aircraft to Fiery Cross Reef.<sup>300</sup>

Airfield Capacity: 8,800 ft runway (can land transport aircraft), 24 aircraft<sup>301</sup>

## Cuarteron Reef

Infrastructure: administrative buildings, weapons stations (fixed guns),<sup>302</sup> helipad, small harbor,<sup>303</sup> 5 radomes (1 long range) and an over-the-horizon radar.<sup>304</sup>

## Subi Reef

Infrastructure: “Research station”<sup>305</sup>, aviation facilities (fixed wing and helipad), large port facilities,<sup>306</sup> 17 radomes (6 long range), 7 satcom radoms, including a possible over-the-horizon radar(s),<sup>307</sup> fixed weapons positions, barracks, administration buildings, and communications facilities.<sup>308</sup>

Airfield Capacity: 8,800 ft runway (can land transport aircraft), 24 aircraft<sup>309</sup>

## Gaven Reef

Infrastructure: administrative buildings, weapons stations (fixed guns)<sup>310</sup>, helipad, small harbor, and radar installations<sup>311</sup>

## Hughes Reef

Infrastructure: administrative buildings, weapons stations (fixed guns)<sup>312</sup>, helipad, small harbor,<sup>313</sup> and 3 radomes (1 long range).<sup>314</sup>

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<sup>296</sup> Report on Military and Security Developments Involving the Peoples Republic of China 2020. Pg. 19

<sup>297</sup> Karen Leigh, Peter Martin and Adrian Leung, “Troubled Waters: Where the U.S. and China Could Clash in the South China Sea,” Bloomberg, December 17, 2020.

<sup>298</sup> *Keeping Watch*, Oishee Majumdar and Mohammed Naqi Wasif Janes Defence Weekly, 8 November 2023, pg. 22-23, OTH radar pg. 24, satcom pg. 25

<sup>299</sup> Report on Military and Security Developments Involving the Peoples Republic of China 2020. Pg. 101-102

<sup>300</sup> Report on Military and Security Developments Involving the Peoples Republic of China 2021. Pg. 104

<sup>301</sup> JIDR 05/19 AND Report on Military and Security Developments Involving the Peoples Republic of China 2020. Pg. 79

<sup>302</sup> Report on Military and Security Developments Involving the Peoples Republic of China 2020. Pg. 101-102

<sup>303</sup> Karen Leigh, Peter Martin and Adrian Leung, “Troubled Waters: Where the U.S. and China Could Clash in the South China Sea,” Bloomberg, December 17, 2020.

<sup>304</sup> *Keeping Watch*, Oishee Majumdar and Mohammed Naqi Wasif Janes Defence Weekly, 8 November 2023, pg. 22-23, OTH radar pg. 24

<sup>305</sup> Report on Military and Security Developments Involving the Peoples Republic of China 2020. Pg. 19

<sup>306</sup> Karen Leigh, Peter Martin and Adrian Leung, “Troubled Waters: Where the U.S. and China Could Clash in the South China Sea,” Bloomberg, December 17, 2020.

<sup>307</sup> *Keeping Watch*, Oishee Majumdar and Mohammed Naqi Wasif Janes Defence Weekly, 8 November 2023, pg. 22-23, OTH radar pg. 24, satcom pg. 25

<sup>308</sup> Report on Military and Security Developments Involving the Peoples Republic of China 2020. Pg. 101-102

<sup>309</sup> JIDR 05/19 AND Report on Military and Security Developments Involving the Peoples Republic of China 2020. Pg. 79

<sup>310</sup> Report on Military and Security Developments Involving the Peoples Republic of China 2020. Pg. 101-102

<sup>311</sup> Karen Leigh, Peter Martin and Adrian Leung, “Troubled Waters: Where the U.S. and China Could Clash in the South China Sea,” Bloomberg, December 17, 2020.

<sup>312</sup> Report on Military and Security Developments Involving the Peoples Republic of China 2020. Pg. 101-102

<sup>313</sup> Karen Leigh, Peter Martin and Adrian Leung, “Troubled Waters: Where the U.S. and China Could Clash in the South China Sea,” Bloomberg, December 17, 2020.

<sup>314</sup> *Keeping Watch*, Oishee Majumdar and Mohammed Naqi Wasif Janes Defence Weekly, 8 November 2023, pg. 22-23



### **Johnson Reef**

Infrastructure: administrative buildings, weapons stations (fixed guns)<sup>315</sup>, helipad, small harbor, and radar installations<sup>316</sup>

### **Mischief Reef**

Infrastructure: Aviation facilities (fixed wing and helipad), large port facilities,<sup>317</sup> 15 radomes (4 long range)<sup>318</sup>, fixed weapons positions, barracks, administration buildings, and communications facilities.<sup>319</sup>

Airfield Capacity: 8,800 ft runway (can land transport aircraft), 24 aircraft<sup>320</sup>

### *The following are northern SCS bases (Paracel Islands)*

Total 14 radomes (3 long range) in the Eastern Paracel Islands, 5 radomes (3 long range) in the Western Paracel Islands. Average range of long range radars is 200km+, 30km for others.<sup>321</sup> The radars include both air and surface radars, the air ones with counter-stealth capabilities.<sup>322</sup>

### **Duncan Island**

Infrastructure: helipad, large port, radar installation<sup>323</sup>

### **Money Island**

Infrastructure: helipad, small port, radar installation<sup>324</sup>

### **Tree Island**

Infrastructure: helipad, large port, radar installation<sup>325</sup>

### **Triton Island**

Infrastructure: helipad, small port, radar installation<sup>326</sup>

### **Lincoln Island**

Infrastructure: small port, radar installation<sup>327</sup>

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<sup>315</sup> Report on Military and Security Developments Involving the Peoples Republic of China 2020. Pg. 101-102

<sup>316</sup> Karen Leigh, Peter Martin and Adrian Leung, "Troubled Waters: Where the U.S. and China Could Clash in the South China Sea," Bloomberg, December 17, 2020.

<sup>317</sup> Karen Leigh, Peter Martin and Adrian Leung, "Troubled Waters: Where the U.S. and China Could Clash in the South China Sea," Bloomberg, December 17, 2020.

<sup>318</sup> *Keeping Watch*, Oishee Majumdar and Mohammed Naqi Wasif Janes Defence Weekly, 8 November 2023, pg. 22-23

<sup>319</sup> Report on Military and Security Developments Involving the Peoples Republic of China 2020. Pg. 101-102

<sup>320</sup> JIDR 05/19 AND Report on Military and Security Developments Involving the Peoples Republic of China 2020. Pg. 79

<sup>321</sup> *Keeping Watch*, Oishee Majumdar and Mohammed Naqi Wasif Janes Defence Weekly, 8 November 2023, pg. 23

<sup>322</sup> *Keeping Watch*, Oishee Majumdar and Mohammed Naqi Wasif Janes Defence Weekly, 8 November 2023, pg. 22-23

<sup>323</sup> Karen Leigh, Peter Martin and Adrian Leung, "Troubled Waters: Where the U.S. and China Could Clash in the South China Sea," Bloomberg, December 17, 2020.

<sup>324</sup> Karen Leigh, Peter Martin and Adrian Leung, "Troubled Waters: Where the U.S. and China Could Clash in the South China Sea," Bloomberg, December 17, 2020.

<sup>325</sup> Karen Leigh, Peter Martin and Adrian Leung, "Troubled Waters: Where the U.S. and China Could Clash in the South China Sea," Bloomberg, December 17, 2020.

<sup>326</sup> Karen Leigh, Peter Martin and Adrian Leung, "Troubled Waters: Where the U.S. and China Could Clash in the South China Sea," Bloomberg, December 17, 2020.

<sup>327</sup> Karen Leigh, Peter Martin and Adrian Leung, "Troubled Waters: Where the U.S. and China Could Clash in the South China Sea," Bloomberg, December 17, 2020.

## **Woody Island**

Infrastructure: airfield (long enough to land long range bombers on)<sup>328</sup>, helipad, large port, radar installation<sup>329</sup>

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<sup>328</sup> Report on Military and Security Developments Involving the People's Republic of China 2020. Pg. 94

<sup>329</sup> Karen Leigh, Peter Martin and Adrian Leung, "Troubled Waters: Where the U.S. and China Could Clash in the South China Sea," Bloomberg, December 17, 2020.



# Taiwan

## Force Quality

### *The Army*

It appears that operational strength of front-line units is much less than on paper, and they would be severely understaffed (between 10%<sup>330</sup> to 40%<sup>331</sup> undermanned<sup>332</sup>), with the military only 80% manned in 2023, and 78.6% manned in 2024.<sup>333</sup> Frontline units are 20% below their manning as of 2024.<sup>334</sup> Additionally, some combat units may be below that manning level.<sup>335</sup> Additionally equipment suffers from low readiness rates.<sup>336</sup> Furthermore, the army has a “military training culture that limits live-fire training activities”.<sup>337</sup> There may be problems with training across the board in practical skills such as casualty care, or heavy weapons training.<sup>338</sup> This may be improving post-Ukraine as Taiwan recognizes the threat of a major war, as in late October 2023 began conducting live fire brigade level exercises after having not done so for 6 years.<sup>339</sup> Taiwanese troops (unknown number) are from 2023? training at Camp Grayling (the National All-Domain Warfighting Center) in the US, which the Chinese have attempted to spy on at least once.<sup>340</sup>

### Army Conscripts/Reservists

Conscripts are given lackluster 4-month training, with few soldiering skills taught. No “basics [on] the People’s Liberation Army ... invasion scenarios ... [or] Map reading and navigation with a compass”, no basic medical skills, [and] insufficient firearms training<sup>341</sup> no inclusion in exercises,<sup>342</sup> insufficient physical training<sup>343</sup> and training is overall “outdated, boring and impractical”, with little on urban warfare or drones, and a lack of equipment for training, or use of extremely outdated equipment for training, as well as a failure to have enough small arms ammunition to practice with, and a failure to train conscripts on heavy weapons.<sup>344</sup> Conscripts tend to have a poor view of their training and readiness of fellow

<sup>330</sup> <https://www.defensenews.com/global/asia-pacific/2021/03/01/whats-preventing-taiwan-from-preparing-for-potential-war/>

<sup>331</sup> <https://foreignpolicy.com/2020/02/15/china-threat-invasion-conscription-taiwans-military-is-a-hollow-shell/> (2020), <https://www.bbc.co.uk/news/world-asia-67282107> (2023), <https://www.defensenews.com/global/asia-pacific/2021/03/01/whats-preventing-taiwan-from-preparing-for-potential-war/> (2021)

<sup>332</sup> Brown, David G. (June 2020). "Reconceiving Taiwan's Reserve Forces" (PDF). Defense Security Review. 9 (1): 1–8 <https://web.archive.org/web/20200722045214/https://indsr.org.tw/Download/%E7%AC%AC9%E5%8D%B7%E7%AC%AC1%E6%9C%9F.pdf>, pg. 2

<sup>333</sup> [https://www.scmp.com/news/china/military/article/3277557/taiwans-shrinking-active-duty-troop-numbers-worry-pla-threats-intensify?module=top\\_story&pgtype=section](https://www.scmp.com/news/china/military/article/3277557/taiwans-shrinking-active-duty-troop-numbers-worry-pla-threats-intensify?module=top_story&pgtype=section),

<sup>334</sup> *Volunteer soldier number lowest since 2018: report*, Wu Che-yu and Jake Chung, Sep 23, 2024,

<https://www.taipeitimes.com/News/taiwan/archives/2024/09/23/2003824215>

<sup>335</sup> *Armed forces at 80% strength, report says*, Aaron Tu and Jonathan Chin, May 29, 2024,

<https://www.taipeitimes.com/News/taiwan/archives/2024/05/29/2003818561>

<sup>336</sup> <https://www.defensenews.com/global/asia-pacific/2021/03/01/whats-preventing-taiwan-from-preparing-for-potential-war/>

<sup>337</sup> *Crossing The Strait*, China’s Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 336, <https://scholars-stage.org/why-i-fear-for-taiwan/>, posted 2020, referencing events in 2019.

<sup>338</sup> <https://scholars-stage.org/why-i-fear-for-taiwan/>, posted 2020, referencing events in 2019.

<sup>339</sup> Taiwan Army begins brigade-level exercises after six-year hiatus, 10/22/2023, <https://focustaiwan.tw/politics/202310220005>

<sup>340</sup> *FBI charges 5 Chinese students for spying on US military exercises that included Taiwan*, Duncan DeAeth, October 4, 2024, <https://www.taiwannews.com.tw/news/5946904>

<sup>341</sup> <https://www.vice.com/en/article/m7gp7v/taiwan-defense-china-invasion-conscripts> (2022), also on firearms training <https://www.bbc.co.uk/news/world-asia-67282107> (2023)

<sup>342</sup> Quote from <https://foreignpolicy.com/2020/02/15/china-threat-invasion-conscription-taiwans-military-is-a-hollow-shell/> (2020) further corroborated by <https://scholars-stage.org/why-i-fear-for-taiwan/>, posted 2020, referencing events in 2019.

<sup>343</sup> <https://www.bbc.co.uk/news/world-asia-67282107> (2023)

<sup>344</sup> <https://edition.cnn.com/2023/01/20/asia/taiwan-mandatory-military-service-conscription-intl-hnk-dst/index.html>

conscripts.<sup>345</sup> Superiors “view these young men with utter indifference and have zero interest in training them, in part because they will be there for such a short time.”<sup>346</sup>

These can be summarized by the table below,<sup>347</sup> though it remains to be seen how effective the new training to be implemented in 2024 will be in meeting its goals.

<i>Issue</i>	<i>Source</i>	<i>New Training</i>	<i>Source</i>
4-month conscript service		1-year conscript service started January 25 <sup>th</sup> 2024	348
No info on PLA or invasion scenarios	349		
No land navigation	350		
No medical skills	351	Medical and civil defense skills	352
Insufficient firearms training	353	Limited additional shooting training for very select reservists	354
Lack of inclusion in exercises	355	One 24 hr. exercise per quarter	356
Insufficient physical training	357	More physical training	358
Outdated training	359		
Insufficient small arms ammo for training	360	160 rounds	361
Conscripts not trained on heavy weapons	362		

<sup>345</sup> <https://asia.nikkei.com/Opinion/Taiwan-s-military-service-extension-is-just-a-first-step> (2023), <https://edition.cnn.com/2023/01/20/asia/taiwan-mandatory-military-service-conscription-intl-hnk-dst/index.html> (2023), <https://twitter.com/PaulHuangReport/status/151747313222709761> (2022), *A Question Of Time: Enhancing Taiwan's Conventional Deterrence Posture*, Michael A. Hunzeker and Alexander Lanoszka, 2018, <https://csps.gmu.edu/wp-content/uploads/2018/11/A-Question-of-Time.pdf>, pg. 110

<sup>346</sup> <https://www.bbc.co.uk/news/world-asia-67282107> (2023), also noted as a problem towards the end of a conscripts time in *A Question Of Time: Enhancing Taiwan's Conventional Deterrence Posture*, Michael A. Hunzeker and Alexander Lanoszka, 2018, <https://csps.gmu.edu/wp-content/uploads/2018/11/A-Question-of-Time.pdf>, pg. 110

<sup>347</sup> For more details see the MND document on new training and service time:

[https://www.mnd.gov.tw/NewUpload/202303/Force%20Structure%20Adjustment%20of%20All-out%20Defense\\_404109.pdf](https://www.mnd.gov.tw/NewUpload/202303/Force%20Structure%20Adjustment%20of%20All-out%20Defense_404109.pdf)

<sup>348</sup> *Conscripts starting 1-year military service report to boot camps*, 01/25/2024, <https://focustaiwan.tw/politics/202401250022>

<sup>349</sup> <https://www.vice.com/en/article/m7gp7v/taiwan-defense-china-invasion-conscripts> (2022), also on firearms training

<https://www.bbc.co.uk/news/world-asia-67282107> (2023)

<sup>350</sup> <https://www.vice.com/en/article/m7gp7v/taiwan-defense-china-invasion-conscripts> (2022), also on firearms training

<https://www.bbc.co.uk/news/world-asia-67282107> (2023)

<sup>351</sup> <https://www.vice.com/en/article/m7gp7v/taiwan-defense-china-invasion-conscripts> (2022), also on firearms training

<https://www.bbc.co.uk/news/world-asia-67282107> (2023)

<sup>352</sup> <https://www.taiwannews.com.tw/en/news/5038090> (2023)

<sup>353</sup> <https://www.vice.com/en/article/m7gp7v/taiwan-defense-china-invasion-conscripts> (2022), also on firearms training

<https://www.bbc.co.uk/news/world-asia-67282107> (2023)

<sup>354</sup> <https://focustaiwan.tw/politics/202406100007> (2024)

<sup>355</sup> Quote from <https://foreignpolicy.com/2020/02/15/china-threat-invasion-conscription-taiwans-military-is-a-hollow-shell/> (2020) further corroborated by <https://scholars-stage.org/why-i-fear-for-taiwan/>, posted 2020, referencing events in 2019.

<sup>356</sup> <https://www.taiwannews.com.tw/en/news/5038090> (2023)

<sup>357</sup> <https://www.bbc.co.uk/news/world-asia-67282107> (2023)

<sup>358</sup> <https://www.taiwannews.com.tw/en/news/5038090> (2023)

<sup>359</sup> <https://edition.cnn.com/2023/01/20/asia/taiwan-mandatory-military-service-conscription-intl-hnk-dst/index.html>

<sup>360</sup> <https://edition.cnn.com/2023/01/20/asia/taiwan-mandatory-military-service-conscription-intl-hnk-dst/index.html>

<sup>361</sup> <https://www.taiwannews.com.tw/en/news/5038090> (2023)

<sup>362</sup> <https://edition.cnn.com/2023/01/20/asia/taiwan-mandatory-military-service-conscription-intl-hnk-dst/index.html>

This means those going into the C level units (reservists) seem to lack proper supply, training, and command and control,<sup>363</sup> and are generally regarded as of poor quality.<sup>364,365</sup> In addition only male reservists are required to show up for mandatory reservist training.<sup>366</sup> For reservists 5-7 days every two years was the old standard, but from 2024 onward 14 days every year is the current training standard, and 3 reserve training centers (up from 1 or 2?) provide training, and reserve brigades have gone from 24 regular staff to 150 (plus 15 instructors).<sup>367</sup> This means having Brigade and Battalion commanders and (some) staff experienced with each other before expansion of the unit in wartime, which could otherwise pose problems as seen with newer Ukrainian units.<sup>368</sup> In addition, as of 2024 the government aims “to establish five new training brigades and three reservist training centers to increase training capacity to 29,000 troops.”<sup>369</sup> Reservist training also focuses on mobilization speed, physicals, and basic marksmanship only, lacking more advanced skills which has led to concern.<sup>370</sup> A 2024 report from the All-Out Defense Mobilization Agency showed that from 2020-2024, only 35% of eligible reservist had received refresher training.<sup>371</sup>

It is unknown how many of these problems identified above could be overcome by morale (if applicable) and serious effort with the shadow of an invasion overhead, particularly as it appears that due to the poor training morale could be low in reserve forces.<sup>372</sup> While the Russia-Ukraine war shows that even troops with limited training but high morale, mission command, and the right weapons might still have effects on the battlefield,<sup>373</sup> it’s unclear how much this would be applicable to Taiwan and it’s reservists. In the wake of the invasion of Ukraine, the Taiwanese government has begun to make changes, in December 2022 announcing

<sup>363</sup> <https://twitter.com/PaulHuangReport/status/1517473063926870016> (April 2022)

<sup>364</sup> Reconceiving Taiwan’s Reserve Forces, David G. Brown, 2020

<sup>365</sup> <https://foreignpolicy.com/2020/02/15/china-threat-invasion-conscription-taiwans-military-is-a-hollow-shell/> (2020)

<sup>366</sup> <https://focustaiwan.tw/politics/202301170011> (2023)

<sup>367</sup> <https://www.defensenews.com/global/asia-pacific/2021/11/16/taiwan-to-continue-strengthening-asymmetric-capabilities-reserve-force/> AND

<https://web.archive.org/web/20230519113733/https://www.taiwandaily.net/18%e7%b8%a3%e5%b8%82%e5%be%8c%e5%82%99%e6%97%85-%e6%98%8e%e5%b9%b4%e5%ba%95%e5%89%8d%e5%85%a8%e6%95%b8%e7%b7%a8%e6%88%90/>

<sup>368</sup> *Stormbreak: Fighting Through Russian Defences in Ukraine’s 2023 Offensive*, Jack Watling and Nick Reynolds, September 2023, [https://static.rusi.org/Stormbreak-Special-Report-web-final\\_0.pdf](https://static.rusi.org/Stormbreak-Special-Report-web-final_0.pdf), pg. 21-22

<sup>369</sup> *Military education reform needed*, Fang Wei-li and Jonathan Chin, Nov 03, 2024, <https://www.taipeitimes.com/News/taiwan/archives/2024/11/03/2003826307>

<sup>370</sup> *Military education reform needed*, Fang Wei-li and Jonathan Chin, Nov 03, 2024, <https://www.taipeitimes.com/News/taiwan/archives/2024/11/03/2003826307>

<sup>371</sup> *Military education reform needed*, Fang Wei-li and Jonathan Chin, Nov 03, 2024, <https://www.taipeitimes.com/News/taiwan/archives/2024/11/03/2003826307>

<sup>372</sup> This is a common theme in the interviews with reservists over the quality of the training they receive. See any of the above sources on conscripts for their sentiments. Note however it may be difficult to pull a full view from a handful of interviews, and that such perceptions could change in wartime.

<sup>373</sup> <https://www.militarytimes.com/opinion/commentary/2022/07/05/how-volunteers-can-defeat-great-powers/> (2022) - John Spencer has published a number of other pieces on this topic that report to the same effect. Brian Petit provides perhaps a more nuanced theoretical model of what contributed to Ukrainian success at a higher level in regards to embolization (<https://warontherocks.com/2024/02/why-ukraine-is-not-a-universal-resistance-model/> (2024). Looking at Petit’s model and apply it to Taiwan results in the following table:

<i>Model Element</i>	<i>Element’s Components</i>	<i>Does Taiwan Have it?</i>
Mobilization	Serious threat to nation and people	Dependent on Chinese actions, likely somewhat yes to yes.
	Inability to leave the country	Yes.
National Resistance Laws and Militia Management	Legal framework for nontraditional forces.	Partly (in the form of C reserve units)
	Experience with Militia integration and command in wartime	No
Movement	Strategic Depth	In square kilometers no, however the rough terrain of Taiwan may provide some amount of strategic depth.
	Ability to move forces rapidly cross long distances via existing infrastructure	Dependent on Chinese actions.

Petit’s model is not an end-all-be-all but it is useful for a first attempt at assessing how much of Ukraine success with non-traditional troops can be applied to Taiwan.

a plan to increase military service from 4 months to 1 year,<sup>374</sup> and a month later (January 2023) announcing that it would begin to allow women in reservist training.<sup>375</sup> Announcements included that “all conscripts will shoot at least 800 rounds during their service, and they will be trained with new weapons such as anti-tank missiles and drones. Bayonet training will be modified to include other forms of close combat training, it added, and conscripts may also participate in joint military drills with professional soldiers. Meanwhile, basic training will rise from five to eight weeks.”<sup>376</sup> A dual-track reservist training program from early 2023 has been open to volunteers, currently sized at ~700 reservists.<sup>377</sup>

However, there have been problems with the first batch of conscripts with units lacking sufficient “communication equipment, armored vehicles and fire trucks ... required for their units to pass the necessary exams to complete compulsory training... [t]here were also not enough military officers to run the training sessions.”<sup>378</sup>

Under the Gu’an Operational Plan (the Taiwanese playbook for preparations against the Chinese), reservists should be recalled and trained prior to the outbreak of conflict,<sup>379</sup> but it is unclear how long this would take and how much benefit it would bring. This is also absent larger structural problems with the reserve force: it “has only 60 percent of the NCOs it needs, and just 40 percent of the officers it requires.”<sup>380</sup> At least some number of reservists are unclear on what they are to do if they were called up.<sup>381</sup>

### *The Air Force*

It appears that the ROCAF is a trained, competent force trained to Western standards.<sup>382</sup> For example, F-16 pilots are trained to US standards and train with the US, mostly through the 21<sup>st</sup> Fighter Squadron at Luke AFB.<sup>383</sup> However, the increase in the number of scrambles from China crossing the median line post 2020 is wearing on the ROCAF,<sup>384</sup> though by early 2023, scrambles are no longer being done for every incursion due to the cost.<sup>385</sup> Additionally files from the 2023 Pentagon document leaks indicate that barely half of Taiwan’s aircraft were fully mission capable.<sup>386</sup>

### *The Navy*

Half of the navy is 1 to 10 months behind in maintenance as of July 2024, but the navy insists that this does not present a problem.<sup>387</sup>

### *Foreign Trainers*

<sup>374</sup> <https://www.channelnewsasia.com/asia/taiwan-extend-compulsory-military-service-china-threat-3169056> (2022)

<sup>375</sup> <https://www.channelnewsasia.com/asia/taiwan-women-military-service-reservist-training-china-3211411>

<sup>376</sup> <https://edition.cnn.com/2023/01/20/asia/taiwan-mandatory-military-service-conscription-intl-hnk-dst/index.html>

<sup>377</sup> <https://focustaiwan.tw/politics/202301170011> (2023)

<sup>378</sup> *Taiwanese military sending more gear to units amid complaint*, 08/27/2024, <https://focustaiwan.tw/politics/202408270019>

<sup>379</sup> *Modern Taiwanese Air Power*, Roy Choo and Per Ho, 2021. Pg. 41

<sup>380</sup> <https://rollcall.com/2022/09/28/taiwans-military-needs-overhaul-amid-china-threat-critics-say/> (2022)

<sup>381</sup> <https://scholars-stage.org/why-i-fear-for-taiwan/>, posted 2020, referencing events in 2019.

<sup>382</sup> This is a general impression from *Modern Taiwanese Air Power*, Roy Choo and Per Ho, 2021, and from one séance in <https://scholars-stage.org/why-i-fear-for-taiwan/>, posted 2020, referencing events in 2019. Lacking any other evidence I default to what is said, but note the overall weakness of the sources here.

<sup>383</sup> *Modern Taiwanese Air Power*, Roy Choo and Per Ho, 2021. Pg. 51

<sup>384</sup> *Modern Taiwanese Air Power*, Roy Choo and Per Ho, 2021. Pg. 44

<sup>385</sup> Taiwan’s asymmetric defense strategy loses focus, Christian Le Miere, *Jane’s Defense and Intelligence Review*, February 2023, p. 20-25 (pg. 21)

<sup>386</sup> <https://www.washingtonpost.com/national-security/2023/04/15/taiwan-china-invasion-leaked-documents/> (2023)

<sup>387</sup> <https://focustaiwan.tw/politics/202407300008>, July 30, 2024

US SOF and Marines have trained Taiwanese troops from roughly 2020, and the US National Guard from at least 2023.<sup>388</sup> US Trainers are embedded with Taiwanese SOF and marines.<sup>389</sup> The ROCAF trains with the US through the 21<sup>st</sup> Fighter Squadron at Luke AFB.<sup>390</sup> In late 2023 Taiwan was about to send two battalions to the US for training.<sup>391</sup>

In addition to the above-mentioned three special service teams in China, the military also has two Class A special service teams, including the "Liangshan Force", the "High Altitude Special Service Squadron" (ASSC) affiliated with the Army, and the "Black Force", affiliated with the Navy and Army. The "Special Service Squadron" (CMCSSC) of the Amphibious Reconnaissance and Search Group of the team.<sup>392</sup>

### *Drones*

In response to the war in Ukraine Taiwan has begun to acquire drones, both commercial and custom for a wide variety of tasks. In 2024 986 drones were purchased, and by 2026-2027 3,231 military drones of five types of planed to be procured.<sup>393</sup>

## **Command and Control**

### *Structure*

Taiwan is shifting from a multi-branch system to one with integrated combat theater commands (also called theatres of operation) which integrate all branches together.<sup>394</sup>

Command <sup>395</sup>	Formerly	Responsibility
1 <sup>st</sup> Combat Theater Command <sup>396</sup>	Penghu Defense Command	Outlying Islands
2 <sup>nd</sup> Combat Theater Command		Huadong (East of Taiwan)
3 <sup>rd</sup> Combat Theater Command	6 <sup>th</sup> Field Army	North of Taiwan
4 <sup>th</sup> Combat Theater Command	8 <sup>th</sup> Field Army	South of Taiwan
5 <sup>th</sup> Combat Theater Command	10 <sup>th</sup> Field Army	Central Taiwan

The Navy seems to operate in the following structure:<sup>397</sup>

- Naval Command Headquarters
  - Naval Fleets Command (艦隊指揮部)
  - Littoral (or Costal) Combatant Command (濱海作戰指揮部) – coming 2026

<sup>388</sup> <https://asia.nikkei.com/Politics/International-relations/Taiwan-tensions/U.S.-expands-training-of-Taiwanese-military-with-National-Guard> (2023)

<sup>389</sup> <https://www.bbc.co.uk/news/world-asia-67282107> (2023)

<sup>390</sup> Modern Taiwanese Air Power, Roy Choo and Per Ho, 2021. Pg. 51

<sup>391</sup> <https://www.bbc.co.uk/news/world-asia-67282107>

<sup>392</sup> 漢光演習首度同台！軍、警、海巡特勤隊共同投入衛戍區反特攻作戰, Su Zhonghong 2020-07-09

<https://www.storm.mg/amparticle/2837566>

<sup>393</sup> <https://www.taiwannews.com.tw/news/5891077> and <https://def.ltn.com.tw/article/breakingnews/4706786>

<sup>394</sup> <https://www.defensenews.com/global/asia-pacific/2021/05/17/taiwan-unveils-army-restructure-aimed-at-decentralizing-military/>

<sup>395</sup> <https://www.defensenews.com/global/asia-pacific/2021/05/17/taiwan-unveils-army-restructure-aimed-at-decentralizing-military/>

<sup>396</sup> <https://www.janes.com/defence-news/news-detail/taiwan-reorganising-its-army-corps-and-defence-commands-into-theatres-of-operation>

<sup>397</sup> <https://www.navalnews.com/naval-news/2024/04/taiwan-to-establish-littoral-combat-command-in-2026/>,

<https://focustaiwan.tw/politics/202404140006>, <https://www.cna.com.tw/news/aipl/202404140054.aspx> (see translated elements here:

<https://www.taiwannews.com.tw/news/5632559>)

## *C2 Linkages*

### **National**

“The government and armed forces share 80 percent of the round-island backbone network, consisting of ‘antennas on pylons,’ which can be easily targeted by missiles fired from drones and would be rendered ‘sitting ducks’ during war, Lee said.”<sup>398</sup> Additionally “each police department in Taiwan's 367 townships and villages, cities, and districts is equipped with a mobile trunking radio network system, which can be used as an important backup communications system in the event of war”<sup>399</sup>

### **Interservice<sup>400</sup>**

- 1<sup>st</sup> Gen Multifunctional Information Distribution System Low Volume Terminal (MIDS LVT)
  - These are mounted on HUMVEEs and a 2<sup>nd</sup> generation was finished in 2022, but has not yet been procured.<sup>401</sup>
  - 309 MIDS JTRS V5 were requested from the US and may have been shipped in 2024.<sup>402</sup>
  - 2<sup>nd</sup> Gen Link-16 (Po Sheng system). High Capacity LOS radio system (UHF/L-Band).
    - “A congressional report from 2014 notes that the program did not go as far as advised and may have been comprised by Chinese espionage)

### **Within Formations<sup>403</sup>**

- Improved Mobile Subscriber Equipment (IMSE) – UHF, VHF, and SHF.
  - Divisional level can connect 120 voice and 124 digital users
  - Brigade/Battalion level – 40 voice, 63 digital.
  - Questionable ability to function in non-permissive EW environment.
- IMSE will be replaced by Field Information Communication System (FICS), in Taiwanese service will be Syun Lien.

As of 2023 the army was in the process of establishing “a command, control, communications, computer, intelligence, surveillance, and reconnaissance (C4ISR) system for all ground forces, so as to quickly integrate multiple intelligence sources from the services, and construct a digital C2 platform to generate common operational pictures (COP) for forces from TO to platoon levels in order to upgrade the performance of overall joint operations of the Armed Forces.”<sup>404</sup>

### **Specific Linkages<sup>405</sup>**

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<sup>398</sup> *More mobile communication systems a must for resiliency in war: Expert*, 11/04/2024, <https://focustaiwan.tw/sci-tech/202411040029>

<sup>399</sup> *More mobile communication systems a must for resiliency in war: Expert*, 11/04/2024, <https://focustaiwan.tw/sci-tech/202411040029>

<sup>400</sup> *Taiwan's Overall Defense Concept*, Sam Cranny-Evans, Janes Defence Weekly, June 16, 2021, pg. 26

<sup>401</sup> *More mobile communication systems a must for resiliency in war: Expert*, 11/04/2024, <https://focustaiwan.tw/sci-tech/202411040029>

<sup>402</sup> <https://www.taiwannews.com.tw/news/5998957>

<sup>403</sup> *Taiwan's Overall Defense Concept*, Sam Cranny-Evans, Janes Defence Weekly, June 16, 2021, pg. 26

<sup>404</sup> *ROC National Defense Report 2023*, Translated by Sam LaGrone <https://s3.documentcloud.org/documents/23973306/taiwan-national.pdf>, pg. 74

<sup>405</sup> <https://jisis.washington.edu/news/building-resilience-in-taiwans-internet-infrastructure-from-geopolitical-threats/>

From 2023 there is a microwave internet link between the mainland and Dongyin Island (the Taiwan transmitter is Yangmingshan, a mountain near Taipei City). The backup system provides a bandwidth of 2.2 gigabits per second taking 15-20 minutes to send a text message, (8 or 9 gigabits is what the island needs).

### *Facilities*

- Heng Shan Military Command Center (Tri-Service Command Center)<sup>406</sup> and Yuanshan Command Center (National Political and Military Command Center)<sup>407</sup>
  - Defended by the 229<sup>th</sup> MP Bn of the 202<sup>nd</sup> MP Command<sup>408</sup>
  - Heng Shan Military Command Center
    - Underground facility in Dazhi, Zhongshan District, Taipei
    - Built 1960-1982
    - Linked other command posts bases (both mainland and outer islands), also linked to PACCOM in Hawaii<sup>409</sup>
    - The Heng Shan Military Command Center is able to hold thousands of military personnel<sup>410</sup> and the National Political and Military Command Center less
    - Personnel<sup>411</sup>
      - President of the Republic of China
        - Chief of Staff
  - National Political and Military Command Center
    - “The base also provides space for major governmental agencies to operate in times of a war, including offices for the president and the Cabinet.”<sup>412</sup>
    - Authorities and Personnel<sup>413</sup>
      - Senior Officials
      - "War Resources Coordination Center"
      - Minister of National Defense
      - Deputy Minister of Military Affairs also moved to the National Political and Military Command Center during wartime.
    - Facilities
      - Space for 210 people
      - Links to the outside world
  - The backup is an alternative command post in Hsuehshan Tunnel, of which installation started in 2022.<sup>414</sup>
- Air Operations Center “Toad Mountain”<sup>415</sup>

<sup>406</sup> <https://project2049.net/2014/10/07/taiwan-asias-secret-air-power/> (2017)

<sup>407</sup> <https://zh.wikipedia.org/wiki/%E5%9C%8B%E5%AE%B6%E6%94%BF%E8%BB%8D%E6%8C%87%E6%8F%AE%E4%B8%AD%E5%BF%83> (accessed July 8<sup>th</sup>, 2024)

<sup>408</sup> <https://zh.wikipedia.org/wiki/%E5%9C%8B%E8%BB%8D%E8%81%AF%E5%90%88%E4%BD%9C%E6%88%B0%E6%8C%87%E6%8F%AE%E4%B8%AD%E5%BF%83> (accessed July 8<sup>th</sup>, 2024)

<sup>409</sup> <https://project2049.net/2014/10/07/taiwan-asias-secret-air-power/> (2017)

<sup>410</sup> <https://project2049.net/2014/10/07/taiwan-asias-secret-air-power/> (2017)

<sup>411</sup> <https://zh.wikipedia.org/wiki/%E5%9C%8B%E8%BB%8D%E8%81%AF%E5%90%88%E4%BD%9C%E6%88%B0%E6%8C%87%E6%8F%AE%E4%B8%AD%E5%BF%83> (accessed July 8<sup>th</sup>, 2024)

<sup>412</sup> <https://www.taipeitimes.com/News/local/archives/1999/09/08/0000001278> (2017)

<sup>413</sup> <https://zh.wikipedia.org/wiki/%E5%9C%8B%E5%AE%B6%E6%94%BF%E8%BB%8D%E6%8C%87%E6%8F%AE%E4%B8%AD%E5%BF%83> (accessed July 8<sup>th</sup>, 2024)

<sup>414</sup> <https://www.scmp.com/news/china/military/article/3173135/taiwan-looks-tunnel-bunker-emergency-military-command-centre>

<sup>415</sup> <https://project2049.net/2014/10/07/taiwan-asias-secret-air-power/> (2017)

- South of Taipei near National Taiwan University
- Joint air operations center for the Taiwanese military.
- 1st backup is Chiashan Air Base
  - “command post of the country's last remaining counter-attack forces in the event of a war”<sup>416</sup>
  - Built (1985-1992) into a mountain (see RoCAF Survivability section)
- Second backup is Shihzishan or “Stone Mountain” complex at Chihhang Air Base.
  - Built into a mountain (see RoCAF Survivability section)
- Each of the theater command centers is buried for wartime.<sup>417</sup> It seems likely that many other military headquarters<sup>418</sup> and also civilian ministries have bunkers and/or are hardened.<sup>419</sup>

### **Army (RoCA)**<sup>420</sup>

For further information on how the number of helicopters in the rotary wing aviation units were derived, see the ORBAT to Units document. Abrams training will begin from 2025, with 38 M1A2T tanks delivered in 2024, 42 in 2025, and 28 in 2026, which will be commisioned into 6<sup>th</sup> Army.<sup>421</sup>

Note this uses the term “field army” but “corps” is also a correct translation.

- 3rd Combat Theater Command [North] (6<sup>th</sup> Field Army) - Zhongli, Taoyuan
  - 269<sup>th</sup> Mechanized Infantry Brigade – Yangmei, Taoyuan
    - 3 x Mech Inf Bn (CM21/M13), 1 x Tank Bn (CM11), 1 x Arty Bn (M114 155mm Towed)
    - Beginning to be equipped with Clouded Leopards and drones<sup>422</sup>
    - Will receive first batch of M1A2T, likely 1 x Coy in size (e.g. 1 equipped Bn)<sup>423</sup>
  - 542<sup>nd</sup> Armored Brigade – Hokou, Hsinchu
    - 3 x Tank Bn (CM11 ?w/ ERA?), 1 x Mech Inf Bn (CM21/M113 + V150), 1 x Arty Bn (M109 155mm SP)
  - 584<sup>th</sup> Armored Brigade – Hokou, Hsinchu
    - 2 x Tank Bn (CM111), 2 x Mech Inf Bn (CM21/M113), 1 x Arty Bn (M109 155mm SP)
    - Will receive first batch of M1A2T, likely 2 x Coy in size (e.g. 1 equipped Bn)<sup>424</sup>
  - 21<sup>st</sup> Artillery Command – Pingzhen, Taoyuan
    - 621<sup>st</sup> Group

<sup>416</sup> <https://www.taipeitimes.com/News/local/archives/1999/09/08/0000001278> (2017)

<sup>417</sup> *The Chinese Invasion Threat* (2017), Ian Easton, pg. 118-119, 208

<sup>418</sup> *The Chinese Invasion Threat* (2017), Ian Easton, pg. 91-92

<sup>419</sup> *The Chinese Invasion Threat* (2017), Ian Easton, pg. 91

<sup>420</sup> *The Chinese Invasion Threat* (2017), Ian Easton, Appendix III

<sup>421</sup> *Army to receive training for M1A2T tanks in early 2025: Source*, 09/22/2024, <https://focustaiwan.tw/politics/202409220012>

<sup>422</sup> Taiwan Army begins brigade-level exercises after six-year hiatus, 10/22/2023, <https://focustaiwan.tw/politics/202310220005>

<sup>423</sup> <https://milmag.pl/en/taiwan-first-deliveries-of-m1a2t-and-himars-soon/>, they are receiving 38 which is enough to equip 3 companies. Assuming a US-style organization of Bn's (1 armor, 2 mech), then 1 Bn will become a M1A2 equipped Bn.

<sup>424</sup> <https://milmag.pl/en/taiwan-first-deliveries-of-m1a2t-and-himars-soon/>, they are receiving 38 which is enough to equip 3 companies. Assuming a US-style organization of Bn's (2 armor, 1 mech), then 1 Bn will become a M1A2 equipped Bn.



- 622<sup>nd</sup> Group
- 33<sup>rd</sup> Chemical Group – Zhongli, Taoyuan
  - 1 x Recce/Decontamination Bn, 1 x Smoke Bn.
- 53<sup>rd</sup> Engineering Group – Bade, Taoyuan
  - 3 x Combat Engineer Bn, 1 x Bridge Bn
  - ? of 14 Volcano Minelaying systems. Mech Bn's may attached to engineer units to form mobile teams that “are responsible for quickly deploying barriers and mines in strategic locations, such as roads and bridges, and during emergencies.”<sup>425</sup>
- 73<sup>rd</sup> Signals Group – Zhongli, Taoyuan
- 153<sup>rd</sup> Infantry Brigade – A Level Reserve<sup>426</sup> – Yilan County
  - 5 x Infantry Bn, 1 x Artillery Bn
- 206<sup>th</sup> Infantry Brigade – A Level Reserve<sup>427</sup> - Guanxi, Hsinchu County
  - 5 x Infantry Bn, 1 x Artillery Bn
- 109<sup>th</sup> Infantry Brigade – A Level Reserve<sup>428</sup>
  - 5 x Infantry Bn, 1 x Artillery Bn
- 249<sup>th</sup> Infantry Brigade – A Level Reserve<sup>429</sup>
  - 5 x Infantry Bn, 1 x Artillery Bn
- 601<sup>st</sup> Aviation Brigade (under 3<sup>rd</sup> CTC in wartime) – Longtan, Taoyuan
  - 18 x OH-58, 29 x AH-64, 15 x UH-60
- Guandu Defense Command – Tamsui, New Taipei City
  - 4 x Mech Inf. Bn (CM21/M113, M42 Duster, V150, CM32 + 1 Tank Coy per Bn of CM11, 1 x Artillery “Bn” functionally ceremonial artillery Coy, no medical Coy.
- Lanyang Defense Command - Sanxing, Yilan County
  - 1 x Tank Bn (M60A3), 2 x Mech Inf Bn (CM21/M113, possibly CM32)
- 5<sup>th</sup> Combat Theater Command [West] (10<sup>th</sup> Field Army)
  - 586<sup>th</sup> Armored Brigade – Houli, Taichung
    - 2 x Tank Bn (M60A3), 2 x Mech Bn (CM21/M113, CM32), 1 x Arty Bn (M109 155mm SPH)
  - 234<sup>th</sup> Mechanized Infantry Brigade (2024) – Dali, Taichung
    - 3 x Mech Bn (CM21/M113, CM32), 1 x Tank Bn (M60A3), 1 x Arty Bn (M114 155mm towed)
  - 58<sup>th</sup> Artillery Group – Shengang, Taichung
    - 1 x Target Acquisition Coy. 1 x ADA Bn (Avengers)
  - 626<sup>th</sup> Artillery Group – Likely Shengang, Taichung
    - The HIMARS will be deployed within this unit (or at the very least 10<sup>th</sup> Field Army) it seems<sup>430</sup>
  - 52<sup>nd</sup> Engineering Group – Taiyang, Taichung
    - 2 x Combat Engineer Bn, 1 x Bridge Bn.

<sup>425</sup> Taiwan to receive all Volcano mine systems by 2026, Sep. 22, 2024, <https://www.taiwannews.com.tw/news/5940023>

<sup>426</sup> <https://news.ltn.com.tw/news/politics/paper/1561526>

<sup>427</sup> <https://news.ltn.com.tw/news/politics/paper/1561526>

<sup>428</sup> <https://news.ltn.com.tw/news/politics/paper/1561526>

<sup>429</sup> <https://news.ltn.com.tw/news/politics/paper/1561526>

<sup>430</sup> ROC National Defense Report 2023, Translated by Sam LaGrone <https://s3.documentcloud.org/documents/23973306/taiwan-national.pdf>, pg. 71

- ? of 14 Volcano Minelaying systems. Mech Bn's may attached to engineer units to form mobile teams that "are responsible for quickly deploying barriers and mines in strategic locations, such as roads and bridges, and during emergencies."<sup>431</sup>
- 36<sup>th</sup> Chemical Group – Daya, Taichung
  - 1 x Recce/Decontamination Bn, 1 x Smoke Bn.
- 74<sup>th</sup> Signals Group – Xinshe, Taichung
  - 1 x Network and Transmission Coy, 1 x Area Communication Bn, 1 x Communication Support Bn.
- 302<sup>nd</sup> Infantry Brigade – A Level Reserve<sup>432</sup> – Wuri, Taichung
  - 5 x Infantry Bn, 1 x Artillery Bn
- 104<sup>th</sup> Infantry Brigade – A Level Reserve<sup>433</sup> - Wuri, Taichung
  - 5 x Infantry Bn, 1 x Artillery Bn
- 257<sup>th</sup> Infantry Brigade – A Level Reserve<sup>434</sup> - Dalin, Chiayi
  - 5 x Infantry Bn, 1 x Artillery Bn
- 101<sup>st</sup> Infantry Brigade – A Level Reserve<sup>435</sup>
  - 5 x Infantry Bn, 1 x Artillery Bn
- 602<sup>nd</sup> Aviation Brigade (under 5<sup>th</sup> CTC in wartime) – Xinshe, Taichung
  - 19 x OH-58, 44 x AH-1, 15 x UH-60
- 4<sup>th</sup> Combat Theater Command [South] (8th Field Army)
  - 333<sup>rd</sup> Mechanized Infantry Brigade – Wanluan, Pingtung
    - 3 x Mech Bn (CM32, V105, CM21/M113), 1 x Tank Bn (CM11), 1 Arty Bn (M144 155mm Towed)
  - 564<sup>th</sup> Armored Brigade – Alian, Kaohsiung
    - 2 x Tank Bn (Cm11), 2 x Mech Bn (CM21/M113), Arty bn (M109 155mm SP)
  - 43<sup>rd</sup> Artillery Command – Dashu, Kaohsiung
    - 1 x Target Acquisition coy. 1 x ADA Bn (Chaparral)
  - 624<sup>th</sup> Group – Likely Dashu, Kaohsiung
    - 3 x Arty Bn (M110 203mm SP, M144 155mm towed, M109 155mm SP, M59 155mm Long Tom, M115 203mm towed), 1 x MLR Coy.
  - 54<sup>th</sup> Engineering Group – Yanchao, Kaohsiung
    - 2 x Combat Engineer Bn, 1 x Bridge Bn.
    - ? of 14 Volcano Minelaying systems. Mech Bn's may attached to engineer units to form mobile teams that "are responsible for quickly deploying barriers and mines in strategic locations, such as roads and bridges, and during emergencies."<sup>436</sup>
  - 39<sup>th</sup> Chemical Group – Qishan, Kaohsiung
    - 1 x Recce/Decontamination Bn, 1 x Smoke Bn.
  - 203<sup>rd</sup> Infantry Brigade – A Level Reserve<sup>437</sup> - Guantian, Tainan
    - 5 x Infantry Bn, 1 x Artillery Bn

<sup>431</sup> *Taiwan to receive all Volcano mine systems by 2026*, Sep. 22, 2024, <https://www.taiwannews.com.tw/news/5940023>

<sup>432</sup> <https://news.ltn.com.tw/news/politics/paper/1561526>

<sup>433</sup> <https://news.ltn.com.tw/news/politics/paper/1561526>

<sup>434</sup> <https://news.ltn.com.tw/news/politics/paper/1561526>

<sup>435</sup> <https://news.ltn.com.tw/news/politics/paper/1561526>

<sup>436</sup> *Taiwan to receive all Volcano mine systems by 2026*, Sep. 22, 2024, <https://www.taiwannews.com.tw/news/5940023>

<sup>437</sup> <https://news.ltn.com.tw/news/politics/paper/1561526>

- 137<sup>th</sup> Infantry Brigade – A Level Reserve<sup>438</sup>
  - 5 x Infantry Bn, 1 x Artillery Bn
- 117<sup>th</sup> Infantry Brigade – A Level Reserve<sup>439</sup>
  - 5 x Infantry Bn, 1 x Artillery Bn
- 603<sup>rd</sup> Aviation Brigade/Army Aviation Training Command<sup>440</sup> (Under 4<sup>th</sup> CTC in wartime) – Guiren, Tainan
  - 23 x OH-58, 29 x TH-67
- 2<sup>nd</sup> Combat Theater Command [East]
  - Huatung Defense Command - Hualien
    - Hualien Defense Team – Hualien
      - 1 x Tank Bn (M60A3 + 1 Mech Inf Coy with CM21/M113, 2 x Mech Inf Bn (CM21/M113), 1 x Mixed Artillery Bn.
    - Taitung Defense Team – Taitung
      - 2 x Mech Inf Bn (CM21/M113), 1 x Mixed Artillery Bn., no Medical Coy., no AT Coy.
- 1st Combat Theater Command? (Island Defense Units)
  - A small number of US SOF are deployed on outlying islands<sup>441</sup>
  - Penghu Defense Command
    - 1 x Mech Inf Bn (CM21/M113 + 1 M60A3 ?Coy?), 1 x Armored Cav Bn. 1 x Mixed Arty Bn (M114 155mm towed, M101 105mm towed).
  - Kinmen Defense Command
    - Mixed ADA Coy, Mixed Field Arty Bn (M1 204mm towed, M115 203mm towed, 155mm Long Tom towed, M101 105mm towed, 120mm mortars), no Medical Coy., no AT Coy.
  - Kinmen Defense Team
    - 1 x Tank Bn (M60A3 w/ 1 Mech Inf Coy of CM21/M113), 1 x Mech Inf Bn (CM21/M113)
  - Lieyu Defense Team
    - 1 x Mech Infantry Coy., 1 x Mixed Artillery Coy.
  - Matsu Defense Command
    - HQ Coy, Signal/MI Coy, Combat Engineer Coy, ADA Coy., Rocket Platoon (probably Thunderbold-2000?)
    - Nangan Defense Team
      - 1 x Mech Infantry Coy., 1 x Mixed Arty Coy., 1 x Infantry Coy.
    - Beigan Defense Team
      - 1 x Mech Infantry Coy., 1 x Mixed Arty Coy., 1 x Infantry Coy.
    - Juguan Defense Team
      - 1 x Mech Infantry Coy., 1 x Mixed Arty Coy., 1 x Infantry Coy.
    - Dongyin Defense Command
      - 1 x Mixed ADA Coy (possibly under the Arty Bn), 1 x Inf Bn (1 coy. is Mech with CM21/M113), 1 x Mixed Arty Bn (81mm

<sup>438</sup> <https://mna.gpwb.gov.tw/en/news/detail/?UserKey=4966b9a7-d3ec-4099-9b68-aa7e3eacb0de>

<sup>439</sup> <https://news.ltn.com.tw/news/politics/paper/1561526>

<sup>440</sup> <https://www.scramble.nl/planning/orbats/taiwan/taiwan-army> (accessed April 8th, 2024)

<sup>441</sup> <https://www.telegraph.co.uk/world-news/2024/03/21/us-armed-presence-on-taiwan-islands-accidentally-revealed/>

mortar, M101 105mm towed, 102 mm mortar, M115 203mm towed, 20mm anti-air cannon)

- Other Units
  - Army Aviation and Special Forces Command
    - Liangshan Special Service Team (also translated as the High Altitude Special Service Squadron/Airborne Special Service Company)
      - Tier 1 Special Forces Unit – Neipu, Pintung?
    - Army 101<sup>st</sup> Amphibious Reconnaissance Bn – HQ Liaolu Bay, Kinmen, detachments across outlying islands (1 coy on Kinmen, Penghu, Nangan, and Dongyin)
      - 4 x Coy.
    - 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> Special Operations Battalion
      - Comprised of 1 x Battalion headquarters company, 3 x special operations company x 3
    - Aviation Transport Battalion – Guiren, Tainan
      - 8 x CH-47SD
    - Tactical Reconnaissance Group - Taitung
      - 32 Chung Shyang II UAV
    - Army Special Operations Command
    - 601<sup>st</sup> and 602<sup>nd</sup> Aviation Brigades and Army Aviation Training Command are under Army Aviation and Special Forces Command in peacetime, but transfer in wartime. In wartime the Training Command becomes the 603<sup>rd</sup> Aviation Brigade<sup>442</sup>
    - Special Warfare Training Center
      - Has a Speical 43rd Company for anti-terrorism<sup>443</sup>
  - Army Reserves<sup>444</sup> - In order of ease of activation
    - A-Level Reserve Units - Infantry brigades heavily manned by permanent troops, able to be quickly supplemented by small numbers of reservists.<sup>445</sup>
      - 1 battalion per brigade is reservist?<sup>446</sup>
      - Know Allocations:
        - 7 old brigades (Pre 2020)
          - 3<sup>rd</sup> Theater
            - 153<sup>rd</sup> Inf, 206<sup>th</sup> Inf
          - 5<sup>th</sup> Theater
            - 302<sup>nd</sup> Inf, 104<sup>th</sup> Inf, 257<sup>th</sup> Inf
          - 4<sup>th</sup> Theater
            - 203<sup>rd</sup> Inf.
          - ? Theater (4<sup>th</sup>?)

<sup>442</sup> <https://web.archive.org/web/20210302002028/http://www.youth.com.tw/db/epaper/es001001/m981029-j.htm>

<sup>443</sup>

<https://zh.wikipedia.org/wiki/%E4%B8%AD%E8%8F%AF%E6%B0%91%E5%9C%8B%E9%99%B8%E8%BB%8D%E8%88%AA%E7%A9%BA%E7%89%B9%E6%88%B0%E6%8C%87%E6%8F%AE%E9%83%A8>, accessed December 19<sup>th</sup>, 2024

<sup>444</sup> [https://www.rand.org/content/dam/rand/pubs/research\\_reports/RR1700/RR1757/RAND\\_RR1757.pdf](https://www.rand.org/content/dam/rand/pubs/research_reports/RR1700/RR1757/RAND_RR1757.pdf) (2017)

<sup>445</sup> <https://news.ltn.com.tw/news/politics/breakingnews/3390751>

<sup>446</sup> Brown, David G. (June 2020). "Reconceiving Taiwan's Reserve Forces" (PDF). Defense Security Review. 9 (1): 1–8

<https://web.archive.org/web/20200722045214/https://indsr.org.tw/Download/%E7%AC%AC%E5%8D%B7%E7%AC%AC%E6%9C%9F.pdf>, pg. 4

- Marine Corps New Training Brigade – likely based at the Marine Corps Recruit Training Center in Neipu Township, Pingtung County.
- 5 new brigades<sup>447</sup> (Added after 2020)
  - 2 x North (3<sup>rd</sup> Theater)
    - 109<sup>th</sup> in Taoyuan Yangmei, 249<sup>th</sup> in Miaoli Toufen
  - 2 x South (4<sup>th</sup> Theater)
    - 117<sup>th</sup> in Kaohsiung Fengshan, 137<sup>th</sup> in Tainan Dauchi
  - 1 x Central (5<sup>th</sup> Theater)
    - 101<sup>st</sup> in Dalin, Chiayi
- I suspect that the 109<sup>th</sup>, 117<sup>th</sup> which were former reserve training centers were D-Level Reserves that have become A level reserves<sup>448</sup>
  - B-Level Reserve Units – 2? Brigades are made of active duty personal in the MND's professional military education system.
    - I cant quite tell what the CONOP's for these is. It appears that they would be disaggregated brigades or that they are a brigade in name only (for admin purpose) and would be attached as needed.<sup>449</sup>
- Under Armed Forces Reserve Command
  - C-Level Reserve Units - Infantry brigades are local reserve units.
    - Unit Organization
      - When mobilized comprised of 3 to 5 battalions of infantry and one of field artillery.<sup>450</sup>
      - When not mobilized cadre of 150 people<sup>451</sup>
    - Overall Organization (18 brigades)<sup>452</sup>
      - Finished transition from 24 solider to 150 solider organization.
        - Yilan Reserve Brigade
        - New Taipei City Reserve Brigade
        - Hsinchu Reserve Brigade
        - 1<sup>st</sup> Taichung City Reserve
        - Changhua Reserve Brigade
        - Tainan Reserve Brigade
        - Pingtung Reserve Brigade
        - 1<sup>st</sup> Kaohsiung Reserve Brigade
      - By 2025 will finish transition from 24 solider to 150 solider organization

<sup>447</sup> <https://news.ltn.com.tw/news/politics/paper/1561526>

<sup>448</sup> <https://news.ltn.com.tw/news/politics/breakingnews/3390751>

<sup>449</sup> Transformation of Taiwan's Reserve Force,

[https://www.rand.org/content/dam/rand/pubs/research\\_reports/RR1700/RR1757/RAND\\_RR1757.pdf](https://www.rand.org/content/dam/rand/pubs/research_reports/RR1700/RR1757/RAND_RR1757.pdf) (2017), pg. 21

<sup>450</sup> *Transformation of Taiwan's Reserve Force*, Ian Easton, Mark Stokes, Cortez A. Cooper, Arthur Chang, 2017,

[https://www.rand.org/content/dam/rand/pubs/research\\_reports/RR1700/RR1757/RAND\\_RR1757.pdf](https://www.rand.org/content/dam/rand/pubs/research_reports/RR1700/RR1757/RAND_RR1757.pdf) (2017), pg. 14

<sup>451</sup> 18縣市後備旅 明年底前全數編成

<https://web.archive.org/web/20230519113733/https://www.taiwandaily.net/18%E7%B8%A3%E5%B8%82%E5%BE%8C%E5%82%99%E6%97%85-%E6%98%8C%E5%B9%B4%E5%BA%95%E5%89%8D%E5%85%A8%E6%95%B8%E7%B7%A8%E6%88%90/>

<sup>452</sup>

<https://zh.wikipedia.org/wiki/%E4%B8%AD%E8%8F%AF%E6%B0%91%E5%9C%8B%E9%99%B8%E8%BB%8D%E7%B5%84%E7%B9%94> (accessed July 4<sup>th</sup>, 2024)

- Taipei Reserve Brigade
- Keelung Reserve Brigade
- Taoyuan Reserve Brigade
- Hualien Reserve Brigade
- Miaoli Reserve Brigade
- Nantou Reserve Brigade
- Yunlin Reserve Brigade
- Chiayi Reserve Brigade
- Taitung Reserve Brigade
- Penghu Reserve Brigade
- Commands<sup>453</sup>
  - Italics indicate island formations.
  - North Area Reserve Command
    - Keelung Reserve Command
    - Yilan Reserve Command
    - Hualien Reserve Command
    - Taipei Reserve Command
    - New Taipei Reserve Command
    - Taoyuan Reserve Command
    - Hsinchu Reserve Command
    - *Lienchiang County Mobile Management Team*
  - Central Area Reserve Command
    - Miaoli Reserve Command
    - Taichung Reserve Command
    - Nantou Reserve Command
    - Yunlin Reserve Command
    - Changhua Reserve Command
    - Chiayi Reserve Command
  - South Area Reserve Command
    - Tainan Reserve Command
    - Kaohsiung Reserve Command
    - Pingtung Reserve Command
    - Taitung Reserve Command
    - *Penghu Reserve Command*
    - *Kinmen Reserve Command*
- D-Level Reserve Units - reserve units made of soldiers from the mobilization structure itself. Total – 3 brigades without artillery.<sup>454</sup>
- C and D level units are of lesser quality in combat than A and B units which are as good as standing forces.<sup>455</sup>

<sup>453</sup> [https://afrc.mnd.gov.tw/AFRCWeb/Unit\\_en.aspx?MenuID=6104&MP=2](https://afrc.mnd.gov.tw/AFRCWeb/Unit_en.aspx?MenuID=6104&MP=2) (accessed April 8<sup>th</sup>, 2024)

<sup>454</sup> Given there are there are 3 reserve force training centers, I would say 3 brigades <https://www.defensenews.com/global/asia-pacific/2021/11/16/taiwan-to-continue-strengthening-asymmetric-capabilities-reserve-force/>

<sup>455</sup> Combined Sources, pg. 130 of [https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/210607\\_Cordesman\\_Chinese\\_Strategy.pdf?fG7hUZdWUVJgaJzyC4E9Qj1m3w13SfjQ](https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/210607_Cordesman_Chinese_Strategy.pdf?fG7hUZdWUVJgaJzyC4E9Qj1m3w13SfjQ), <https://foreignpolicy.com/2020/02/15/china-threat-invasion-conscription-taiwans-military-is-a-hollow-shell/> (2020)

## **Military Police**

The Military Police are a separate branch of the military, with units coming under command of Combat Theater Commands during wartime. It has 11,000 personnel.<sup>456</sup>

They have the following roles:<sup>457</sup>

- Enforcement of martial law
- Maintaining the security of military commanders and important institutions
- Traffic control
- Battlefield straggler searches
- Disaster control
- Disposal of enemy prisoners of war
- Investigation of illegal crimes by the enemy\*
- Cooperation with field government affairs
- Cleaning up rear areas

\*The google translate is shaky on this. I suspect this is investigation of both war crimes, and investigation of spies (they are one of the authorities who investigates spies, in this case in the military).

Units<sup>458</sup>

- Directly under the MP Command
  - Republic of China Military Police Special Services Company
    - Counterterrorism
  - Guard Battalion
    - 350 soldiers, guarding the headquarters
- 202<sup>nd</sup> Military Police Command
  - Brigade element for protecting various important locations and the president in Taipei. They are equipped as a regular infantry unit.<sup>459</sup> The command is looking to double in size (5,000 to 10,000 soldiers).<sup>460</sup>
  - Currently 5 x Bn's, soon to be 6 x Bn's<sup>461</sup>

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<sup>456</sup> *Officials request military police guard key facilities*, Chen Yu-fu, June 4<sup>th</sup>, 2024,

<https://www.taipeitimes.com/News/taiwan/archives/2024/06/04/2003818842>

<sup>457</sup> 第五章 我國憲兵現況、發展與未來願景, 2022,

[https://afpc.mnd.gov.tw/AFPC\\_Books/%E7%AC%AC%E4%BA%94%E7%AB%A0%20%E6%88%91%E5%9C%8B%E6%86%B2%E5%85%B5%E7%8F%BE%E6%B3%81%E3%80%81%E7%99%BC%E5%B1%95%E8%88%87%E6%9C%AA%E4%BE%86%E9%A1%98%E6%99%AF.pdf](https://afpc.mnd.gov.tw/AFPC_Books/%E7%AC%AC%E4%BA%94%E7%AB%A0%20%E6%88%91%E5%9C%8B%E6%86%B2%E5%85%B5%E7%8F%BE%E6%B3%81%E3%80%81%E7%99%BC%E5%B1%95%E8%88%87%E6%9C%AA%E4%BE%86%E9%A1%98%E6%99%AF.pdf), pg. 364

<sup>458</sup> The general source where not otherwise noted is *The Chinese Invasion Threat* (2017), Appendix III, as well as

[https://afpc.mnd.gov.tw/AFPC\\_Books/%E7%AC%AC%E4%BA%94%E7%AB%A0%20%E6%88%91%E5%9C%8B%E6%86%B2%E5%85%B5%E7%8F%BE%E6%B3%81%E3%80%81%E7%99%BC%E5%B1%95%E8%88%87%E6%9C%AA%E4%BE%86%E9%A1%98%E6%99%AF.pdf](https://afpc.mnd.gov.tw/AFPC_Books/%E7%AC%AC%E4%BA%94%E7%AB%A0%20%E6%88%91%E5%9C%8B%E6%86%B2%E5%85%B5%E7%8F%BE%E6%B3%81%E3%80%81%E7%99%BC%E5%B1%95%E8%88%87%E6%9C%AA%E4%BE%86%E9%A1%98%E6%99%AF.pdf), pg. 356 (accessed August 12, 2024)

<sup>459</sup> 第五章 我國憲兵現況、發展與未來願景, 2022,

[https://afpc.mnd.gov.tw/AFPC\\_Books/%E7%AC%AC%E4%BA%94%E7%AB%A0%20%E6%88%91%E5%9C%8B%E6%86%B2%E5%85%B5%E7%8F%BE%E6%B3%81%E3%80%81%E7%99%BC%E5%B1%95%E8%88%87%E6%9C%AA%E4%BE%86%E9%A1%98%E6%99%AF.pdf](https://afpc.mnd.gov.tw/AFPC_Books/%E7%AC%AC%E4%BA%94%E7%AB%A0%20%E6%88%91%E5%9C%8B%E6%86%B2%E5%85%B5%E7%8F%BE%E6%B3%81%E3%80%81%E7%99%BC%E5%B1%95%E8%88%87%E6%9C%AA%E4%BE%86%E9%A1%98%E6%99%AF.pdf), pg. 366

<sup>460</sup> *Taiwan military police head off leadership decapitation*, Matthew Strong, Dec. 27, 2023, <https://www.taiwannews.com.tw/news/5067131>

<sup>461</sup> DEFENSE/New military police battalion to be garrisoned in south Taipei: Source, 08/07/2023, Matt Yu, Joseph Yeh, and Chao Yen-hsiang, <https://focustaiwan.tw/politics/202308070010>

- 211st MP Bn. – defending the presidential office building<sup>462</sup>/president<sup>463</sup>)
- 228<sup>th</sup> MP Artillery Bn. – 120mm mortars,<sup>464</sup> in the north of the city<sup>465</sup>
- 229<sup>th</sup> MP Bn. – defending the General Staff's Joint Command Center<sup>466</sup>
- 239<sup>th</sup> MP Armored Bn. – V150, CM32 variants, responsible for evacuation of the president of VIP's in wartime,<sup>467</sup> in the north of the city<sup>468</sup>
- 332<sup>nd</sup> MP Bn. – defending the Presidential Residence<sup>469</sup>/vice president<sup>470</sup>
- ? New Bn – South Taipei<sup>471</sup>
- 202<sup>nd</sup>, 203<sup>rd</sup>, 204<sup>th</sup>, and 205<sup>th</sup> MP Commands each have regional MP offices.
  - From some shaky translation, I think this is as follows:<sup>472</sup>
    - 202<sup>nd</sup> Command – the above described battalions, and 2 offices
    - 203<sup>rd</sup> Command – 7 offices
    - 204<sup>th</sup> Command – 6 offices
    - 205<sup>th</sup> Command – 6 offices
- Each Army (6<sup>th</sup>, 8<sup>th</sup>, 10<sup>th</sup>) has a MP element of 1 x Company.

#### MP units of Other Branches

- Marine Corps Air Defense Group MP Element
  - 2 x Base Security Battalion
- Air Force HQ MP Element
  - 12 x MP Detachment

### Navy<sup>473</sup>

The Navy operates in the following structure:<sup>474</sup>

- Naval Command Headquarters
  - Naval Fleets Command (艦隊指揮部)
  - Littoral (or Costal) Combatant Command (濱海作戰指揮部) – coming 2026
    - Commanded by a 2-star vice Admiral (3 Star Equivalent)

<sup>462</sup> *The Chinese Invasion Threat* (2017), Appendix III (pg. 306-307)

<sup>463</sup> DEFENSE/New military police battalion to be garrisoned in south Taipei: Source, 08/07/2023, Matt Yu, Joseph Yeh, and Chao Yen-hsiang, <https://focustaiwan.tw/politics/202308070010>

<sup>464</sup> *The Chinese Invasion Threat* (2017), Appendix III (pg. 306-307), DEFENSE/New military police battalion to be garrisoned in south Taipei: Source, 08/07/2023, Matt Yu, Joseph Yeh, and Chao Yen-hsiang, <https://focustaiwan.tw/politics/202308070010>

<sup>465</sup> DEFENSE/New military police battalion to be garrisoned in south Taipei: Source, 08/07/2023, Matt Yu, Joseph Yeh, and Chao Yen-hsiang, <https://focustaiwan.tw/politics/202308070010>

<sup>466</sup> *The Chinese Invasion Threat* (2017), Appendix III (pg. 306-307)

<sup>467</sup> *The Chinese Invasion Threat* (2017), Appendix III (pg. 306-307)

<sup>468</sup> DEFENSE/New military police battalion to be garrisoned in south Taipei: Source, 08/07/2023, Matt Yu, Joseph Yeh, and Chao Yen-hsiang, <https://focustaiwan.tw/politics/202308070010>

<sup>469</sup> *The Chinese Invasion Threat* (2017), Appendix III (pg. 306-307)

<sup>470</sup> DEFENSE/New military police battalion to be garrisoned in south Taipei: Source, 08/07/2023, Matt Yu, Joseph Yeh, and Chao Yen-hsiang, <https://focustaiwan.tw/politics/202308070010>

<sup>471</sup> DEFENSE/New military police battalion to be garrisoned in south Taipei: Source, 08/07/2023, Matt Yu, Joseph Yeh, and Chao Yen-hsiang, <https://focustaiwan.tw/politics/202308070010>

<sup>472</sup> 第五章 我國憲兵現況、發展與未來願景, from sometime after 2020, accessed, August 12, 2024,

[https://afpc.mnd.gov.tw/AFPC\\_Books/%E7%AC%AC%E4%BA%94%E7%AB%A0%E6%88%91%E5%9C%8B%E6%86%B2%E5%85%B5%E7%8F%BE%E6%B3%81%E3%80%81%E7%99%BC%E5%B1%95%E8%88%87%E6%9C%AA%E4%BE%86%E9%A1%98%E6%99%AF.pdf](https://afpc.mnd.gov.tw/AFPC_Books/%E7%AC%AC%E4%BA%94%E7%AB%A0%E6%88%91%E5%9C%8B%E6%86%B2%E5%85%B5%E7%8F%BE%E6%B3%81%E3%80%81%E7%99%BC%E5%B1%95%E8%88%87%E6%9C%AA%E4%BE%86%E9%A1%98%E6%99%AF.pdf), pg. 365

<sup>473</sup> *The Chinese Invasion Threat* (2017/19), Appendix III

<sup>474</sup> <https://www.navalnews.com/naval-news/2024/04/taiwan-to-establish-littoral-combat-command-in-2026/>,

<https://focustaiwan.tw/politics/202404140006>, <https://www.cna.com.tw/news/aipl/202404140054.aspx> (see translated elements here: <https://www.taiwannews.com.tw/news/5632559>)



- Fast Attack Boat Combat Group/Command
- Integration of the old Naval Maritime Surveillance & Reconnaissance Command (or Group) (海軍海洋監視指揮部),
  - Radar facilities and mobile radar systems,
- Integration of the old Shore Based Anti-ship Missile Group (Hai Feng (Sea Blade) Group 海鋒大隊)/Naval Sea Control Missile Command (海軍制海飛彈指揮部) – Commanded by a rear admiral
  - Bases will be built in<sup>475</sup>

Base	Weapon	Year Expected
Tainan's Sinjhong District (新中)	Harpoon	2027 (before August 2027)
The military port of Kaohsiung's Zuoying District (左營)	?	?
The eastern coast of Pingtung County, Pingtung's Pucian Township (埔墘)	Harpoon	August 2027
Taitung County's Taiping Township (太平)	?	?
Yunlin County's Huwei Township (虎尾)	?	?

- 4 Groups (North, Central, South, and East<sup>476</sup>) made up of:
    - 1 x group headquarters,
    - 7 x squadrons,
    - 4 x mobile squadrons,
    - 1 x support squadron
    - Commanded by a captain.
  - “The facility [Command?] will also handle missiles, torpedoes, artillery, electro-optical, reconnaissance and surveillance equipment, and sonar systems.”<sup>477</sup>
- 
- Unknown Assignment
    - 1 x LPD<sup>478</sup>
  - 124<sup>th</sup> Flotilla - Zuoying
    - 6 x Frigates
  - 131<sup>st</sup> Flotilla - Keelung
    - 12 x Missile Patrol Ships (Corvette)
    - 31 x Missile Boats
    - 2 x Corvettes
  - 146<sup>th</sup> Flotilla - Magong

<sup>475</sup> *New navy command to operate Harpoon missiles*, Lo Tien-pin and Jake Chung, August 24, 2024, <https://www.taipetimes.com/News/taiwan/archives/2024/08/24/2003822696> AND *Military announces 2nd Harpoon missile base in south Taiwan*, August 26<sup>th</sup>, 2024, <https://www.taiwannews.com.tw/news/5925161>

<sup>476</sup> <https://www.taiwannews.com.tw/news/5632559> AND *New navy command to operate Harpoon missiles*, Lo Tien-pin and Jake Chung, August 24, 2024, <https://www.taipetimes.com/News/taiwan/archives/2024/08/24/2003822696>

<sup>477</sup> <https://www.taiwannews.com.tw/news/5891452>

<sup>478</sup> <https://www.janes.com/defence-news/news-detail/taiwanese-shipbuilder-csbc-corporation-launches-first-locally-built-lpd-for-roc>

- 8 x Frigates
- 151<sup>st</sup> Flotilla - Zuoying
  - 9 x LST
  - 1 x Landing Ship Dock
  - 2 x Support Ships
- 168<sup>th</sup> Flotilla - Su'ao
  - 6 x Frigates
  - 4 x Destroyers
- 192<sup>nd</sup> Flotilla
  - 3 x Minesweepers (Yung Yang (Yeong Yang)-class)
  - 4 x Mine Hunters (Yung Feng-class)
  - 2 x Coastal Mine Hunters (Yung Jin-class)
  - 4 x Minelayer (Min Jiang-class), which will be split 2 and 2 between the 1<sup>st</sup> and 2<sup>nd</sup> Minelaying Squadrons<sup>479</sup>
- 256<sup>th</sup> Squadron - Tsoying Naval Base, Kaohsiung<sup>480</sup>
  - 2 x SSK (Hai Lung (ex-Zwaardvis class))
    - 533mm torpedoes and Harpoons
  - Soon 1 x SSK Hai Kun class.
    - Mk 48 torpedoes and Harpoon
    - 18 x Mk 48 torpedoes have been approved for sale to Taiwan<sup>481</sup>
- ROC Marine Corps
  - 66<sup>th</sup> Marine Brigade – Guishan District, Taoyuan
  - 99<sup>th</sup> Marine Brigade – Linyuan District, Kaohsiung<sup>482</sup>
  - Marine Corps New Training Brigade (Marine Corps Recruit Training Center)<sup>483</sup> – A Level Reserve<sup>484</sup> - Longquan Camp, Neipu Township, Pingtung County<sup>485</sup>
  - Some number of coast guard personal are deployed on Dongsha Island (Pratas Island) and armed with anti-tank rockets.<sup>486</sup>

### **Minelaying Capability**<sup>487</sup>

- 4 x Automatic Minelayers (corvettes, Min Jiang-class)
  - Can carry up to 64 mines<sup>488</sup>
- 12 x Min Jiang-class<sup>489</sup>

<sup>479</sup> <https://www.overtdefense.com/2022/02/04/taiwans-navy-commissions-first-two-minelaying-squadrons/> (2022)

<sup>480</sup> <https://www.nti.org/analysis/articles/taiwan-submarine-capabilities/> (Accessed April 21, 2023, page last updated Feb 28, 2023)

<sup>481</sup> *Proven utility: Taiwan opts for trusted design for its new class of submarine*, Ridzwan Rahmat, Janes Defense Weekly, November 8<sup>th</sup>, 2023, pg. 21

<sup>482</sup> The Chinese Invasion Threat (2017/19), Appendix III, pg. 296 says only “Kaohsiung”, Wikipedia provides a more precise answer that aligns with Easton’s “Kaohsiung” so I assume Linyuan district is correct.

<sup>483</sup> [https://navy.mnd.gov.tw/AboutUs/Partner\\_Info.aspx?ID=30155&AID=30346](https://navy.mnd.gov.tw/AboutUs/Partner_Info.aspx?ID=30155&AID=30346)

<sup>484</sup> [https://navy.mnd.gov.tw/AboutUs/Partner\\_Info.aspx?ID=30155&AID=30346](https://navy.mnd.gov.tw/AboutUs/Partner_Info.aspx?ID=30155&AID=30346), A-Level reserve status from <https://news.ltn.com.tw/news/politics/paper/1561526>,

<sup>485</sup> This is from Wikipedia, and [https://navy.mnd.gov.tw/AboutUs/Partner\\_Info.aspx?ID=30155&AID=30346](https://navy.mnd.gov.tw/AboutUs/Partner_Info.aspx?ID=30155&AID=30346) lists that in 1993 it’s mission was to defend the “Gaofeng area,” but this is very imprecise and seems to have changed, so I default to the Wikipedia information.

<sup>486</sup> Taiwan Army purchases additional Kestrel rockets, training equipment, Jun. 4, 2024, Kelvin Chen, <https://www.taiwannews.com.tw/news/5883171>

<sup>487</sup> <https://www.taipeitimes.com/News/front/archives/2022/01/15/2003771403> (2022)

<sup>488</sup> There are two numbers (144, or 64 or various numbers of smaller mines) listed on the Wikipedia page, but unfortunately, looking at the sources cited I cannot verify either sets of numbers. As such I go with the more conservative one.

<https://zh.wikipedia.org/wiki/%E5%B8%A9%E9%80%9F%E5%B8%83%E9%9B%B7%E8%89%87>

<sup>489</sup> <https://news.usni.org/2014/03/26/taiwan-defend-chinese-attack> (2014)

- 12 x Landing Craft (limited to operations in non-rough water)<sup>490</sup>

Mines can also be deployed by Jinjiang-class patrol ships, Tuojiang-class patrol ships, and Haikun-class submarines<sup>491</sup> It is also possible that civilian ferries could be converted with the addition of minelaying rails for minelaying in lower sea states (though these would have to be planned for, rails fabricated, and installed in the run up to wartime).<sup>492</sup> Fishing boats 71 CT-6 and 230 CT-5 can be mobilized from the reserve system and report within 24 hours, and fitted for minelaying operations within 72 hours.<sup>493</sup> Mines can also be laid in inland waterways by M3 Amphibious Rig's.<sup>494</sup>

Recent initiatives have shown that the Taiwanese are taking minelaying seriously and are improving their capabilities.<sup>495</sup> Minelaying is practiced in exercises.<sup>496</sup>

Mines are stored in four naval armories<sup>497</sup>

Thousands of mines could be laid in a week,<sup>498</sup> and the navy trains to have ~3,500 mines laid in 14 hours.<sup>499</sup> If doctrine is followed, 4,788 mines will be laid across the 14 invasion beaches.<sup>500</sup>

In 2015 the mine inventory was ~7,000.<sup>501</sup> Taiwanese mine inventory as of 2018 consists of:<sup>502</sup>

- Wan Xiang mines<sup>503</sup> - estimated inventory 6,000 mines<sup>504</sup> or 7,000 mines<sup>505</sup>
  - Wanxiang Type 1 cone-shaped mine
  - Wanxiang Type 1 columnar mine
  - Wanxiang Type 2 bottom-sinking mine
  - Wanxiang Type 2 moored mine
- MK-6 mines – unknown number procured
- Shallow water influence mines (planned introduction by 2021, unsure if they have been introduced) – unknown number planned/procured
- Deep-water influence mines (planned introduction by 2021, unsure if they have been introduced) – unknown number planned/procured

<sup>490</sup> The Military Balance 2023, IISS, pg. 292

<sup>491</sup> Numbers from planned production run values given in

<https://zh.wikipedia.org/wiki/%E8%90%AC%E8%B1%A1%E6%B0%B4%E9%9B%B7>, accessed Oct 21, 2023

<sup>492</sup> Personal discussion with Dr. David Manley of UCL, who in the 1990's worked on a project looking at doing this for Channel ferries for the Royal Navy. Also see some discussion in <https://thinpinstripedline.blogspot.com/2024/12/we-must-prevent-minefield-gap-royal.html>, time to install with prefabricated equipment was ~5 days and would have been operated by nucleus crew of Royal Navy professionals.

<sup>493</sup> The Chinese Invasion Threat (2017/19), pg. 184 and 363 (footnote 432)

<sup>494</sup> <https://www.taipetimes.com/News/taiwan/archives/2024/07/23/2003821201>, July 23, 2024

<sup>495</sup> <https://warontherocks.com/2023/08/lessons-learned-of-lessons-observed-the-u-s-navys-relationship-with-mine-warfare/> (2023)

<sup>496</sup> <https://focustaiwan.tw/politics/202407220006>, July 22<sup>nd</sup>, 2024

<sup>497</sup> The Chinese Invasion Threat (2017/19), pg. 184, this book and it's information was collected before the approval of the new mines (to my knowledge) so I assume that this number refers to Wan Xiang mines.

<sup>498</sup> *Delay, Disrupt, Degrade: Mine Warfare in Taiwan's Porcupine Defense*, Jonathan Dorsey, Kelly A. Grieco, and Jennifer Kavanagh, March 21, 2024 [https://warontherocks.com/2024/03/delay-disrupt-degrade-mine-warfare-in-taiwans-porcupine-defense/?\\_\\_s=v9qoiigke47g70218fdn](https://warontherocks.com/2024/03/delay-disrupt-degrade-mine-warfare-in-taiwans-porcupine-defense/?__s=v9qoiigke47g70218fdn)

<sup>499</sup> The Chinese Invasion Threat (2017/19), pg. 184, this book and it's information was collected before the approval of the new mines (to my knowledge) so I assume that this number refers to Wan Xiang mines.

<sup>500</sup> The Chinese Invasion Threat (2017), pg. 363 (footnote 431)

<sup>501</sup> The Chinese Invasion Threat, Ian Easton, 2019, pg. 184

<sup>502</sup> <https://warontherocks.com/2018/10/hope-on-the-horizon-taiwans-radical-new-defense-concept/> (2018)

<sup>503</sup> <https://www.cna.com.tw/news/aip/202201070164.aspx> (2022)

<sup>504</sup> Numbers from planned production run values given in

<https://zh.wikipedia.org/wiki/%E8%90%AC%E8%B1%A1%E6%B0%B4%E9%9B%B7>, accessed Oct 21, 2023

<sup>505</sup> The Chinese Invasion Threat (2017/19), pg. 184, this book and it's information was collected before the approval of the new mines (to my knowledge) so I assume that this number refers to Wan Xiang mines.

- A self-propelled mine appeared to be under development but was seemingly canceled<sup>506</sup>

There were also discussions in 2020 about buying mines from the US (presumably Quickstrike), but it is not known what came of these discussions.<sup>507</sup>

### **Marine Corps**<sup>508</sup>

- 66<sup>th</sup> Marine Brigade - Guishan District, Taoyuan
  - 3 x Mech Inf bn (CM21/M113), 1 x Tank Bn (M60A3), 1 x Artillery Bn (M109 155mm SPH)
- 99<sup>th</sup> Marine Brigade
  - 3 x Mech Inf bn (CM21/M113), 1 x Tank Bn (M60A3), 1 x Artillery Bn (M109 155mm SPH)
- Amphibious Armor Group
- Amphibious Reconnaissance and Patrol Unit
  - 3x Recce Company
  - Marine Special Service Company (Tier 1 Special Forces Unit)
  - Underwater Demolition company
- Wuqiu Garrison Group
  - 2x Garrison Company (with towed 155mm and 105mm howitzers), plus ADA detachment of 40mm AA guns

### **Air Force (RoCAF)**<sup>509</sup>

#### **Survivability**

Initial dispersion to Chiashan (at Hualien air base) and Shizishan (Chihhang/Taitung) mountain bases will be important to survive missile strikes, but both are reliant upon a single runway at each complex,<sup>510</sup> though Chaishan's taxiway can serve as a runway.<sup>511</sup> Chiashan can hold up to 200 fighters,<sup>512</sup> Shizishan 80 fighters.<sup>513</sup> Five highway sites are acknowledged as dispersal sights, and this number may be as high as 8 with unacknowledged sites (the two sources are unclear), but concrete median dividers have to be removed before the highway sites can be used.<sup>514</sup> Such highway sites lower the effectiveness of deployed aircraft (mostly in terms of sortie generation rates) due to disadvantages relating to economies of scale, C2, and force protection, though having main bases to operate from also helps mitigate some of these problems (in the Taiwanese case by increasing the number of aimpoints mostly, though Hualien and Chihhang/Taitung airbases could operate as refuges too).<sup>515</sup> Sections:

- No. 1 National Freeway

<sup>506</sup> <https://news.ltn.com.tw/news/politics/breakingnews/1481053> (2015), I used google translate to read it, so I may well have missed something due to the translation.

<sup>507</sup> Mike Stone and Patricia Zengerle, "Exclusive: U.S. Pushes Arms Sales Surge to Taiwan, Needling China—Sources," Reuters, 16 September 2020, [www.reuters.com/article/us-usa-taiwan-arms-exclusive-idUSKBN2671M4](https://www.reuters.com/article/us-usa-taiwan-arms-exclusive-idUSKBN2671M4).

<sup>508</sup> The Chinese Invasion Threat (2017/19), Appendix III

<sup>509</sup> Modern Taiwanese Air Power, Roy Choo and Per Ho, 2021. Pgs 32-34, ORBAT accurate as of April 2021

<sup>510</sup> Modern Taiwanese Air Power, Roy Choo and Per Ho, 2021. Pg. 41

<sup>511</sup> <https://thediplomat.com/2014/09/taiwan-asias-secret-air-power/>, Ian Easton (2014)

<sup>512</sup> *Air Defense Options for Taiwan, An Assessment of Relative Costs and Operational Benefits*, Lostumbo et. al., RAND, 2016, pg. 17

<sup>513</sup> <https://thediplomat.com/2014/09/taiwan-asias-secret-air-power/>, Ian Easton (2014)

<sup>514</sup> Modern Taiwanese Air Power, Roy Choo and Per Ho, 2021. Pg. 27, The Chinese Invasion Threat, Ian Easton, 2019, pg. 192 and 365

<sup>515</sup> *Airbase Vulnerability to Conventional Cruise-Missile and Ballistic-Missile Attacks: Technology, Scenarios, and U.S. Air Force Responses*, John Stillion David T. Orletsky, RAND, 1999, [https://www.rand.org/pubs/monograph\\_reports/MR1028.html](https://www.rand.org/pubs/monograph_reports/MR1028.html), pg. 39-41

- Minsyong/Minxiong Section (near Chiayi)
- Rende section (near Tianan)
- Madou section (near Tainana)
- Huatan section (near Changhua)
- Provincial Highway 1
  - Jiadong Provencal Highway (near Kaohsiung)

Civilian airports provide an additional option for basing.<sup>516</sup> If dispersion were to occur, ~100 fighters could remain in protected shelters at airbases, while the rest of the fighter force would disperse or remain in unhardend shelters.<sup>517</sup> Documents from the 2023 Pentagon document leaks indicates that it would take a week to disperse aircraft.<sup>518</sup> In addition most aircraft shelters are not hardened to today's standards (having been built in the 1970's), but 36 new shelters will be constructed at Ching Chuan Kang Air Base from 2022-2027.<sup>519</sup>

After airbases have been hit it is expected that it will take 90 to 120 minutes to fix the runway (though this can be affected by UXO and the amount of damage). Runway repair teams are well trained, practiced, and have the appropriate equipment<sup>520</sup> (the Rapid Runway Repair System).<sup>521</sup> Note however that these repair times may be optimistic. It may take 4 hours to repair each cut point on a runway (longer with UXO), and repair teams are at great risk from follow on attacks and attacks targeting the runway repair crew themselves.<sup>522</sup> More recent reporting stated that old times were 4 hours to fix, and are now down to 2.5.<sup>523</sup> the RoCAF also has a number of Portarrest P-IV mobile aircraft arresting systems to allow for landing of aircraft on damaged runways.<sup>524</sup>

In the case of bases operating F-16's their higher risk of ingesting foreign objects<sup>525</sup> might also impose problems once an airbase has been hit (FOD walks and clearing debris carry risk to airbase personnel from another strike, not doing a through enough sweep risks airframes). All air operations would be at risk from Chinese ability to have good situation awareness and strike bases if they were to see air operations start, this also applies to dispersal operations (which might also suffer from logistical complexity).<sup>526</sup>

Overall, as Taiwan is geographically close to China and the airbases, mountain complexes, and dispersal airfields are all fixed sites it is unknown how effective attempts to protect the air force from the initial strike and in the long term will be.<sup>527</sup> If Taiwan fails to disperse its aircraft prior to the initial Chinese strike, casualties will likely be large.

## ORBAT and Airbase Information

Note that Hardened Aircraft Shelter's here are not modern HAS. Modern HAS are noted as such.

<sup>516</sup> Modern Taiwanese Air Power, Roy Choo and Per Ho, 2021. Pg. 41

<sup>517</sup> *Air Defense Options for Taiwan, An Assessment of Relative Costs and Operational Benefits*, Lostumbo et. al., RAND, 2016, pg. 18

<sup>518</sup> <https://www.washingtonpost.com/national-security/2023/04/15/taiwan-china-invasion-leaked-documents/> (2023)

<sup>519</sup> Modern Taiwanese Air Power, Roy Choo and Per Ho, 2021. Pg. 25-28

<sup>520</sup> Modern Taiwanese Air Power, Roy Choo and Per Ho, 2021. Pg. 28

<sup>521</sup> <https://news.usni.org/2014/03/26/taiwan-defend-chinese-attack> (2014)

<sup>522</sup> *Air Defense Options for Taiwan, An Assessment of Relative Costs and Operational Benefits*, Lostumbo et. al., RAND, 2016, pg. 15. This four hour assessment is echoed by the Taiwanese themselves as the general repair time, see

<https://web.archive.org/web/20140928193000/http://www.chinapost.com.tw/taiwan/national/national-news/2014/01/14/398317/Air-Force.htm>

<sup>523</sup> *Air base runways to be widened, source says*, Jan 22, 2024, <https://www.taipeitimes.com/News/front/archives/2024/01/22/2003812441>

<sup>524</sup> <https://news.usni.org/2014/03/26/taiwan-defend-chinese-attack> (2014)

<sup>525</sup> *Geopolitics Decanted, Episode 41: How Ukraine Can Survive the Exhaustion of Its Air Defense Stocks*, Dmitri Alperovitch, Justin Bronk, and Dara Massicot. April 17, 2023. Minutes 35:20-39:10.

<sup>526</sup> *Air Defense Options for Taiwan, An Assessment of Relative Costs and Operational Benefits*, Lostumbo et. al., RAND, 2016, pg. 18

<sup>527</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 330

- HQ – Taipei
- Tainan Air Base – 1<sup>st</sup> Tactical Fighter Wing
  - 1<sup>st</sup> Tactical Fighter Group – F-CK-1C and F-CK1D (operational conversion unit)
  - 3<sup>rd</sup> Tactical Fighter Group – F-CK-1C and F-CK1D
  - 9<sup>th</sup> Tactical Fighter Group – F-CK-1C and F-CK1D
  - Parking Areas<sup>528</sup>
    - 54 x Hardened Aircraft Shelter
    - 42 x Single-plane Revetments
    - 11 x Hangers (~4 can take large aircraft)
- Hsinchu Air Base – 2<sup>nd</sup> Tactical Fighter Wing
  - 41<sup>st</sup> Tactical Fighter Group – Mirage 2000-5DI and Mirage 2000-5EI
  - 42<sup>nd</sup> Tactical Fighter Group – Mirage 2000-5DI and Mirage 2000-5EI
  - 48<sup>th</sup> Training Group – Mirage 2000-5DI and Mirage 2000-5EI (operational conversion unit)
  - Parking Areas<sup>529</sup>
    - 41 x Hardened Aircraft Shelter
    - 12 x Single-plane Revetments
    - 14 x Large Hangers (can take large aircraft)
- Ching Chuan Kang Air Base (Taichung International Airport) – 3<sup>rd</sup> Tactical Fighter Wing
  - 7<sup>th</sup> Tactical Fighter Group – F-CK-1C and F-CK1D
  - 28<sup>th</sup> Tactical Fighter Group – F-CK-1C and F-CK1D
  - Runway is 60m wide, can accommodate B-52's<sup>530</sup>
  - Parking Areas<sup>531</sup>
    - 36 x Hardened Aircraft Shelter\*
      - Some of these 36 or all 36 are modern HAS which can take a 2,000 lb warhead hit (36 of these were being constructed from 2020 over the next 7 years).<sup>532</sup>
    - 1 x 2-plane Revetments with covering hanger (can fit 3 planes, but probably not a good idea).
    - 2 x 2-plane Revetments
    - 1 x Single-plane Revetment
    - 2 x 2-plane Revetment with 2 single hangers
    - 5 x Large Hangers (2 x fighters only)
    - 3 x Large Hangers
    - 5 x Small Hanger
- Chiayi Air Base – 4<sup>th</sup> Tactical Fighter Wing<sup>533</sup>
  - 21<sup>st</sup> Tactical Fighter Group – F-16V
  - 22<sup>nd</sup> Tactical Fighter Group – F-16V
  - 23<sup>rd</sup> Tactical Fighter Group – F-16V

<sup>528</sup> Google Earth reviewed by author, Sep 5, 2024

<sup>529</sup> Google Earth reviewed by author, Sep 5, 2024

<sup>530</sup> *Air base runways to be widened, source says*, Jan 22, 2024, <https://www.taipeitimes.com/News/front/archives/2024/01/22/2003812441>

<sup>531</sup> Google Earth reviewed by author, Sep 5, 2024

<sup>532</sup> <https://www.twz.com/extremely-rare-photos-inside-taiwans-underground-fighter-jet-caves>

<sup>533</sup> <https://www.thedrive.com/the-war-zone/43193/taiwan-has-declared-its-upgraded-f-16v-fighter-jets-fully-operational>

- Parking Areas<sup>534</sup>
  - 50 x Hardened Aircraft Shelter
  - 26 x Single-plane Revetments
  - 10 x Large Hangers
- Hualien Air Base (Chaishan) – 5<sup>th</sup> Tactical Composite Wing<sup>535</sup>
  - 12<sup>th</sup> Tactical Reconnaissance Group – RF-5E,<sup>536</sup> F16-V.<sup>537</sup>
    - On order MQ-9B Sea Guardian, MS-110 long-range oblique photography (LOROP) reconnaissance pods for F-16's.<sup>538</sup>
  - 17<sup>th</sup> Tactical Fighter Group – F-16V – Aggressor squadron in training exercises
  - 26<sup>th</sup> Tactical Fighter Group – F-16V
  - 27<sup>th</sup> Tactical Fighter Group – F-16V (OCU)
  - Parking Areas<sup>539</sup>
    - 42/?? x Hardened Aircraft Shelter (unsure if the shrub covered buildings by the government office are hangers or not)
    - 4 x 2-plane Revetments (can fit 3 planes, but probably not a good idea). One has a 1 plane hanger over one of the spots.
    - 5 x 2-plane Revetments with covering hanger (can fit 3 planes, but probably not a good idea). 3 have hangers across the entire thing, 1 has 2 smaller hangers. (can take large aircraft)
    - 4/?? x Large Hangers
    - 1 x Small Hanger
    - On the civilian airport side:
      - 9 x Small Hanger
      - 2 x Large Hanger
  - The base is supposedly comprised of a northern and southern complex, each of five horizontal and five vertical tunnels interlaced. It has a power generators, medical facilities, C2 infrastructure, and several months' worth of food and fuel.<sup>540</sup>
- Pingtung North Air Base – 6<sup>th</sup> Combined Wing
  - Anti-Submarine Warfare Group
    - 33<sup>rd</sup> Squadron – P-3C
    - 34<sup>th</sup> Squadron – P-3C
  - 20<sup>th</sup> Electronic Warfare Group
    - 2<sup>nd</sup> Early Warning Squadron – E-2K – This is made up of 6 total airframes<sup>541</sup>
  - Parking Areas<sup>542</sup>
    - Pingtung North

<sup>534</sup> Google Earth reviewed by author, Sep 5, 2024

<sup>535</sup> This Wing operated F-16A Block 20 and F-16B Block 20, however by the end of 2023 all F-16's were upgraded to F-16V.

<sup>536</sup> <https://www.thedrive.com/the-war-zone/taiwans-final-upgraded-f-16v-completes-test-flights>

<sup>537</sup> Note that RF-5E's lack their original radar and cannon. <https://www.thedrive.com/the-war-zone/taiwan-is-finally-saying-goodbye-to-its-f-5-tiger-ii-fighters> (2023)

<sup>538</sup> F-5F's removed from service as of the start of 2024. <https://www.thedrive.com/the-war-zone/taiwan-is-finally-saying-goodbye-to-its-f-5-tiger-ii-fighters> (2023).

<sup>539</sup> <https://www.thedrive.com/the-war-zone/taiwan-is-finally-saying-goodbye-to-its-f-5-tiger-ii-fighters> (2023)

<sup>540</sup> Google Earth reviewed by author, Sep 5, 2024

<sup>541</sup> <https://www.twz.com/extremely-rare-photos-inside-taiwans-underground-fighter-jet-caves>

<sup>542</sup> <https://www.flightglobal.com/download?ac=83735> (2022)

<sup>543</sup> Google Earth reviewed by author, Sep 5, 2024

- 9 x Single-plane Revetments
    - 2 x with hangers covering the plane
  - 12 x Large Hangers
    - 3 x with space for 2 planes
  - 18/?19? x Small Hangers (fighters only)
- Pingtung Interconnection Parking Areas<sup>543</sup>
  - 1 x Single-plane Revetments
  - 9 x 2-plane Revetments (can take large aircraft)
    - 4 covered with hangers
- Pingtung South Air Base – 6<sup>th</sup> Combined Air Wing
  - 10<sup>th</sup> Tactical Airlift Group
    - 101<sup>st</sup> Airlift Squadron – C-130H
    - 102<sup>nd</sup> Airlift Squadron – C-130H
  - 20<sup>th</sup> Electronic Warfare Group
    - 6<sup>th</sup> Electronic Warfare Squadron – C-130HE, C-130H
  - Parking Areas<sup>544</sup>
    - 10 x 2-plane Revetments (can take large aircraft)
    - 20 x Large Hangers
    - 2 x Small Hangers (fighters only)
- Chihhang Air Base - 7<sup>th</sup> Flight Training Wing
  - 7<sup>th</sup> Flight Training Group
    - 44<sup>th</sup> Flight Training Squadron – T-5<sup>545</sup>
    - 45<sup>th</sup> Flight Training Squadron – T-5<sup>546</sup>
    - 46<sup>th</sup> Flight Training Squadron – T-5<sup>547</sup>
  - Parking Areas<sup>548</sup>
    - 55 x Hardened Aircraft Shelter
      - 6? x Hardened Aircraft Shelter's are dug into the mountain taxiways (there may be a few more but I can't tell from google earth: 2 or 3 more would be my guess)
    - 3 x ?Large? Hangers
    - 8 x Small Hangers on a part of the apron, large enough to cover a fighter. I suspect that these are temporary.
    - There are also covered parts of taxiways out of the mountain that are likely equivalent to HAS, though lacking the maintenance and arming infrastructure.
- Gangshan Air Base – Air Force Academy
  - Air Force Academy Flight Training Command
  - Songshan Air Base Command
    - Special Transport Squadron and Presidential Flight Squadron

<sup>543</sup> Google Earth reviewed by author, Sep 5, 2024

<sup>544</sup> Google Earth reviewed by author, Sep 5, 2024

<sup>545</sup> This squadron originally flew F-5E's and F-5F's which removed from service as of the start of 2024. <https://www.thedrive.com/the-war-zone/taiwan-is-finally-saying-goodbye-to-its-f-5-tiger-ii-fighters> (2023)

<sup>546</sup> This squadron originally flew F-5E's and F-5F's which removed from service as of the start of 2024. <https://www.thedrive.com/the-war-zone/taiwan-is-finally-saying-goodbye-to-its-f-5-tiger-ii-fighters> (2023)

<sup>547</sup> This squadron originally flew F-5E's and F-5F's which removed from service as of the start of 2024. <https://www.thedrive.com/the-war-zone/taiwan-is-finally-saying-goodbye-to-its-f-5-tiger-ii-fighters> (2023)

<sup>548</sup> Google Earth reviewed by author, Sep 5, 2024



- Parking Areas<sup>549</sup>
  - 36 x Hardened Aircraft Shelter
  - 5 x Large Hangers
  - 12 x Small Hangers on a part of the apron, large enough to cover a fighter. I suspect that these are temporary.
- Magong Air Base
  - Detachments contributed from 1<sup>st</sup> and 3<sup>rd</sup> TFW.
  - Parking Areas<sup>550</sup>
    - 7 x Hardened Aircraft Shelter
    - 1 x Large Hanger (can fit 2 fighters, but not larger aircraft)
    - 5 x Small Hangers
    - 8 x 2-plane Revetments (can take large aircraft)
- Overseas
  - Luke AFB – 56<sup>th</sup> Fighter Wing
    - 21<sup>st</sup> Fighter Squadron
  - Edwards AFB – 412<sup>th</sup> Test Wing
    - 416<sup>th</sup> Flight Test Squadron
- Other
  - Leshan radar station (AN/FPS-115 PAVE PAWS)
    - Defended by at least one Phalanx CIWS,<sup>551</sup> and I remember having read but cannot prove (google earth is too grainy) that it is also defended by a SAM battery.

All airfield runways currently are 45-50m in width (except Ching Chuan Kang), but this will be expanded to 60m.<sup>552</sup>

### **RoCAF Aircraft Inventory<sup>553</sup>**

- Combat Aircraft
  - F/RF-5E (F-5E's removed from service as of 2024) – 27 (FG), 20- (Janes), 16 E + 27 F (IISS 2024)
  - F-16V – 111 (FG), 160+ (Janes), 110 V(A) + 30 V(B) (IISS 2024)
  - F-CK-1C – 103 (FG), 120+ (Janes), 127 (IISS 2024)
  - Mirage 2000-5EI – 45 (FG), 46+9 Trainers (Janes), 45E + 9D (IISS 2024)
- Special Mission Aircraft
  - C-130H (EW) – 1
  - E-2K (AEW) – 5
  - P-3C (MPA) – 12

### **Air Defenses**

<sup>549</sup> Google Earth reviewed by author, Sep 5, 2024

<sup>550</sup> Google Earth reviewed by author, Sep 5, 2024

<sup>551</sup> <https://www.twz.com/29405/taiwan-reveals-land-based-variant-of-naval-point-defense-missile-system-to-guard-key-sites>

<sup>552</sup> *Air base runways to be widened, source says*, Jan 22, 2024, <https://www.taipeitimes.com/News/front/archives/2024/01/22/2003812441>

<sup>553</sup> *On the edge: Taiwan's air force responds to increasing incursions*, Sebastian Falletti, Jon Grevatt, Akhil Kadidal, Janes Defense Weekly, September 13<sup>th</sup>, 2023, pg. 20-21, *Flight Global World Air Forces 2024*, <https://www.flightglobal.com/download?ac=98881>, *The Military Balance*, 2024, IISS, pg. 317

The Air Defense Missile Command (ADMC) was established in 2017 under the RoCAF.<sup>554</sup> In 2016 it's force plus an additional 300 PAC-3 missiles would allow it to open up at best two 12-hour windows of opportunity for Taiwanese forces to maneuver free from Chinese airpower.<sup>555</sup> Note that this is likely optimistic due to the fielding of Chinese 5<sup>th</sup> Gen aircraft and likely improvements in Chinese SEAD capabilities.<sup>556</sup> Taiwan has 350 missiles in inventory and as of 2020 have planed to purchase a further 300 by 2027,<sup>557</sup> though the (US) Congress has not been notified of the sale. The idea of preserving air defense assets at the start of a confect and using them to open windows of maneuver for the Army to operate under is possible (and viewed by this author as likely) given the constraints faced by Air Defense Missile Command.<sup>558</sup>

Taiwanese air defense units lack a common operating picture and compatible secure radios, leading to a lack of target deconfliction.<sup>559</sup> In addition Taiwan's "current doctrine of firing two air defense missiles per target 'would be strained under high-volume PLA fires' from China's short-range ballistic missile system ... Taiwanese airmen train for shooting at single unmoving targets.<sup>560</sup> Air defense may also suffer from restrictive rules of engagement until China strikes the first blow towards the island.<sup>561</sup> More recent Jane's reporting however notes that "Taiwan's air-defense capability appear as a coordinated and effective system with modern equipment that is expected to be upgraded further in the next decade." Though it notes issues of mass, and largely points out the issues discussed here (drawing on the cited RAND report).<sup>562</sup> One of the major goals from the Taiwanese 2021 Quadrennial Defense Review was to create a IADS with a central system.<sup>563</sup>

## Ground Based Air Defense

### *Ground Based Air Defense Batteries (2016)*<sup>564</sup>

Name	# of Batteries	Battery Missile Capacity	Mobility	Intercept SRBM?
Patriot	6/9 <sup>565</sup>	40	Moveable in ~60 min.	Yes
TK-I/II	6	40-60	Fixed	No
TK-III	12	24	Moveable in ~30 min.	Yes

Note TK-III can fire TK-I and TK-II missiles.<sup>566</sup>

<sup>554</sup> *Taiwan's Overall Defense Concept*, Sam Cranny Evans, Janes Defence Weekly, 18 June, 2021. Pg. 20-28 (pg 23)

<sup>555</sup> *Air Defense Options for Taiwan, An Assessment of Relative Costs and Operational Benefits*, Lostumbo et. al., RAND, 2016, pg. xxiii, more specifically 65-68

<sup>556</sup> *Air Defense Options for Taiwan, An Assessment of Relative Costs and Operational Benefits*, Lostumbo et. al., RAND, 2016, pg. 58

<sup>557</sup> <https://www.taiwannews.com.tw/en/news/4071599> (2020)

<sup>558</sup> *Taiwan's Overall Defense Concept*, Sam Cranny-Evans, Janes Defence Weekly, June 16, 2021, pg. 23, likely drawing on work from *Air Defense Options for Taiwan, An Assessment of Relative Costs and Operational Benefits*, Lostumbo et. al., RAND, 2016, pg. 58

<sup>559</sup> <https://www.washingtonpost.com/national-security/2023/04/15/taiwan-china-invasion-leaked-documents/> (2023), also see *Taiwan's Overall Defense Concept*, Sam Cranny Evans, Janes Defence Weekly, 18 June, 2021. Pg. 20-28 (pg 23-4)

<sup>560</sup> <https://www.washingtonpost.com/national-security/2023/04/15/taiwan-china-invasion-leaked-documents/> (2023)

<sup>561</sup> <https://www.washingtonpost.com/national-security/2023/04/15/taiwan-china-invasion-leaked-documents/> (2023)

<sup>562</sup> *Taiwan's Overall Defense Concept*, Sam Cranny Evans, Janes Defence Weekly, 18 June, 2021. Pg. 20-28 (pg 23-4)

<sup>563</sup> *Taiwan's Overall Defense Concept*, Sam Cranny-Evans, Janes Defence Weekly, June 16, 2021, pg. 23

<sup>564</sup> *Air Defense Options for Taiwan, An Assessment of Relative Costs and Operational Benefits*, Lostumbo et. al., RAND, 2016, pg. 4. While this data is from 2016, looking through the Defense Security Cooperation Agency's required notices to Congress on foreign military sales (<https://www.dsca.mil/search/node?keys=>), Taiwan has not purchased additional batteries. No numbers post 2016 could be found by the author for TK-III batteries (though the author does not speak any of the areas languages), so there may well have been updates that the author has missed.

<sup>565</sup> *Taiwan's Overall Defense Concept*, Sam Cranny Evans, Janes Defence Weekly, 18 June, 2021. Pg. 20-28 (pg 23) lists them as having 6 battery fire units instead, *Taiwan's Overall Defense Concept*, Sam Cranny-Evans, Janes Defence Weekly, June 16, 2021, pg. 23 (different source than the 18 June source), notes 6 battery fire units (4 x M902 Launch Stations with 16 PAC-3 or 4 PAC-2, 1 x AN/MPQ-65 Radar, and 1 x AN/MSQ-104 Engagement Control Station, plus supporting assets).

<sup>566</sup> *Taiwan to build 12 new domestic TK III missile sites by 2026*, Novia Huang and Joseph Yeh, 10/23/2023, <https://focustaiwan.tw/politics/202310230013>

Post 2016:

- 12 “new” bases for TK-III are to be built 2022-2026, which are upgrades of older TK-1/II and MIM-23 HAWK Sites to TK-III.<sup>567</sup>
- In 2023 full rate production for 6 new mobile TK-II batteries. Each battery is comprised of 5 launchers, 1 control center, 1 phased radar array per battery, 16-20 missiles total per battery.<sup>568</sup>

So based on the above my estimate is:

*Ground Based Air Defense Batteries (2024)*

Name	# of Batteries	Battery Missile Capacity	Mobility	Intercept SRBM?
Patriot	6/9 <sup>569</sup>	40	Moveable in ~60 min.	Yes
TK-II	6	16-20	? (but movable)	No
TK-III	24	24	Moveable in ~30 min.	Yes

## **Coast Guard**

### **Coast Guard Ships<sup>570</sup>**

- 13 x 1000+ tons
- 21 x ~700 tons
- 3 x 100-300 tons
- 46 x 100 tons
- 161 x Inshore and riverine vessels (100- tons)

8 of these cutters (modified versions of the military’s Tuo Jiang-class corvettes) can have Hsiung Feng II fitted very quickly to them for combat roles.<sup>571</sup>

Coast Guard Special Service Team – 75 people, with 66 operators.<sup>572</sup> They participated in the Han-Kuang Exercise in 2020 in a counter-decapitation roll alongside the Military Police Special Services Company and the National Police Agency Special Operations Group.<sup>573</sup> In 2024, they were spotted training with American special forces.<sup>574</sup>

<sup>567</sup> *Taiwan to build 12 new domestic TK III missile sites by 2026*, Novia Huang and Joseph Yeh, 10/23/2023, <https://focustaiwan.tw/politics/202310230013>

<sup>568</sup> *Taiwan begins mass production of land-based air defense systems*, Kelvin Chen, Nov. 25, 2023, <https://www.taiwannews.com.tw/news/5046937>

<sup>569</sup> *Taiwan’s Overall Defense Concept*, Sam Cranny Evans, Janes Defence Weekly, 18 June, 2021. Pg. 20-28 (pg 23) lists them as having 6 battery fire units instead, *Taiwan’s Overall Defense Concept*, Sam Cranny-Evans, Janes Defence Weekly, June 16, 2021, pg. 23 (different source than the 18 June source), notes 6 battery fire units (4 x M902 Launch Stations with 16 PAC-3 or 4 PAC-2, 1 x AN/MPQ-65 Radar, and 1 x AN/MSQ-104 Engagement Control Station, plus supporting assets).

<sup>570</sup> Coast Guard Administration (Taiwan), Wikipedia, - Accessed 01/31/22

<sup>571</sup> <https://www.thedrive.com/the-war-zone/taiwans-coast-guard-test-its-ability-to-turn-cutters-into-ship-killers> (June 2022), the chirstinging of the 8<sup>th</sup> occurred in 2024 (<https://www.taiwannews.com.tw/news/5881589>)

<sup>572</sup> <https://zh.wikipedia.org/wiki/%E6%B5%B7%E5%B7%A1%E7%89%B9%E5%8B%A4%E9%9A%8A>, accessed Oct 20, 2023

<sup>573</sup> 漢光演習首度同台！軍、警、海巡特勤隊共同投入衛戍區反特攻作戰, Su Zhonghong 2020-07-09

<https://www.storm.mg/amparticle/2837566>

<sup>574</sup> [https://www.scmp.com/news/china/politics/article/3289547/us-personnel-seen-training-elite-taiwanese-coastguard-unit-report?module=top\\_story&pgtype=section](https://www.scmp.com/news/china/politics/article/3289547/us-personnel-seen-training-elite-taiwanese-coastguard-unit-report?module=top_story&pgtype=section)

Some number of coast guard personal are deployed on Dongsha Island (Pratas Island) and armed with anti-tank rockets.<sup>575</sup> – as of 2024 this is no longer true, and the Marine Corps has taken over defense of the island.

### Missile Inventory<sup>576</sup>

Missile Name	Type	Range	Mach	Warhead	# of Missiles	# of Launchers
AIM-120 <sup>577</sup>	AAM				300-400	
Harpoon*	AShM				100 (from 2026, integrated 2030) <sup>578</sup>	100 <sup>579</sup>
Harpoon II*†					400 (missiles delivered 2026-2028, <sup>580</sup> integrated 2030) <sup>581</sup> First 100 delivered in 2024 <sup>582</sup>	
Hsiung Feng II	AShM	150km <sup>583</sup>			810 <sup>584</sup>	Ships, Trucks <sup>585</sup>
Hsiung Feng IIE (Type A)	LACM, AShM	500km+ <sup>586</sup>	.85 <sup>587</sup>	HE or Frag <sup>588</sup>	500-1,000 <sup>589</sup>	Trucks, under Air Force Special Missile Brigade <sup>590</sup>
Hsiung Sheng (based on HF II), (Type B)		1200-1500 km <sup>591</sup>	.85 <sup>592</sup>	HE or Frag <sup>593</sup>		Under Air Force Special Missile Brigade <sup>594</sup>
Hsiung Feng III	ASCM (possible LACM)	200 km <sup>595</sup>			220 <sup>596</sup>	Ship, Truck

<sup>575</sup> Taiwan Army purchases additional Kestrel rockets, training equipment, Jun. 4, 2024, Kelvin Chen, <https://www.taiwannews.com.tw/news/5883171>

<sup>576</sup> Unless otherwise referenced information comes from <https://missilethreat.csis.org/country/taiwan/> - Accessed 02/02/22

<sup>577</sup> Modern Taiwanese Air Power, Roy Choo and Per Ho, 2021. Pg. 42

<sup>578</sup> <https://www.taiwannews.com.tw/news/5891452>

<sup>579</sup> <https://www.taiwannews.com.tw/news/5632559>

<sup>580</sup> Harpoon land-based anti-ship missile systems arrive in Taiwan, Matthew Strong, Sept 28, 2024,

<https://www.taiwannews.com.tw/news/5943642>

<sup>581</sup> <https://www.taiwannews.com.tw/news/5891452>

<sup>582</sup> Harpoon land-based anti-ship missile systems arrive in Taiwan, Matthew Strong, Sept 28, 2024,

<https://www.taiwannews.com.tw/news/5943642>

<sup>583</sup> Deep strike: Taiwan develops advanced missiles capable of striking China, Kapil Kajal, Janes Defence Weekly, December 20, 2023, pg. 21, though Missile threat says 100-120km, I prefer Janes.

<sup>584</sup> Estimated production run of 81/year (see Missile Production Table) of 10 years (2011-2021) this is a highly conservative estimation as it assumes a full production line switch to Hsiung Sheng in 2021. As per *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 336, the adversity to live fire exercises means that I assume that the pre-full production run covers training expenditures.

<sup>585</sup> Deep strike: Taiwan develops advanced missiles capable of striking China, Kapil Kajal, Janes Defence Weekly, December 20, 2023, pg. 21 states that land based launchers have now been deployed.

<sup>586</sup> <https://www.taipeitimes.com/News/front/archives/2023/11/13/2003809084>

<sup>587</sup> Deep strike: Taiwan develops advanced missiles capable of striking China, Kapil Kajal, Janes Defence Weekly, December 20, 2023, pg. 20

<sup>588</sup> Deep strike: Taiwan develops advanced missiles capable of striking China, Kapil Kajal, Janes Defence Weekly, December 20, 2023, pg. 20

<sup>589</sup> Hazeldine, Richard. "US trying to block Taiwan missiles: 'Defense News'", Taipei Times, 29 October 2008.

<sup>590</sup> <https://www.taipeitimes.com/News/front/archives/2023/11/13/2003809084> (2024)

<sup>591</sup> Deep strike: Taiwan develops advanced missiles capable of striking China, Kapil Kajal, Janes Defence Weekly, December 20, 2023, pg. 20, <https://www.taipeitimes.com/News/front/archives/2023/11/13/2003809084> (2024)

<sup>592</sup> Deep strike: Taiwan develops advanced missiles capable of striking China, Kapil Kajal, Janes Defence Weekly, December 20, 2023, pg. 20

<sup>593</sup> Deep strike: Taiwan develops advanced missiles capable of striking China, Kapil Kajal, Janes Defence Weekly, December 20, 2023, pg. 20

<sup>594</sup> <https://www.taipeitimes.com/News/front/archives/2023/11/13/2003809084>

<sup>595</sup> Deep strike: Taiwan develops advanced missiles capable of striking China, Kapil Kajal, Janes Defence Weekly, December 20, 2023, pg. 21, though Missile threat says 120-150km, I prefer Janes.

<sup>596</sup> Estimated production run of 20/year (see Missile Production Table) of 11 years (2011-2022) this is a highly conservative estimation as no full-scale production pre-2011. As per *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 336, the adversity to live fire exercises means that I assume that the pre-full production run covers training expenditures.

Tien Chi	SRBM (Submunition Warhead)	120 km			At least 15-50 <sup>597</sup>	Silos on Tungyin and Penghu Islands <sup>598</sup>
Wan Chien	ALCM, cluster warhead <sup>599</sup>	Base- 200 km <sup>600</sup> Improved – 400km <sup>601</sup>			~126? <sup>602</sup>	Aircraft
Ching Tien (during development was named the Yun Feng)	?LACM? (bunker buster), Hypersonic	2,000km <sup>603</sup>	6 (est.) <sup>604</sup>	Semi-armor piercing, HE blast-frag	20 <sup>605</sup>	10 <sup>606</sup>
ATACAMS					84 <sup>607</sup>	

\*For coastal defense, the 400 Harpoon II will be under the Littoral Combat Command of the Navy.<sup>608</sup>

† The proposed sale included 400 RGM-84L-4 Block II land-launched Harpoon missiles, 411 missile containers, 100 mobile transport vehicles, and 25 radar vehicles. Expected completion of delivery is 2030<sup>609</sup>

There are some numbers of drones in domestic production with a range of 149km.<sup>610</sup>

It is possible a number of aerial targets (Spark,<sup>611</sup> Flamingo/Fire Crane II<sup>612</sup>, Training Aerial Target System?<sup>613</sup>) could be converted for strike as seen in Ukraine,<sup>614</sup> or used as decoys like the BQM-74C in the Gulf War.<sup>615</sup> Given the size of all the drones, light strike or decoy is the most likely.

Stinger (perhaps MANPADS inventory more widely) inventory is 10% of what is needed.<sup>616</sup>

400 Harpoon, with 100 control units and other support equipment for them will be planned to be delivered between 2026 to 2029.<sup>617</sup>

<sup>597</sup> <https://missilethreat.csis.org/missile/tien-chi/> (Accessed 03/09/22)

<sup>598</sup> <https://missilethreat.csis.org/missile/tien-chi/> (Accessed 03/09/22)

<sup>599</sup> <https://www.taipeitimes.com/News/front/archives/2024/01/27/2003812685> (Jan 27, 2024)

<sup>600</sup> Missile threat claims 240km, but I prefer the more recent number <https://www.taipeitimes.com/News/front/archives/2024/01/27/2003812685> (Jan 27, 2024)

<sup>601</sup> <https://www.taipeitimes.com/News/front/archives/2024/01/27/2003812685> (Jan 27, 2024)

<sup>602</sup> Estimated production run of 18/year (see Missile Production Table) of 7 years (2015-2022). As per *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 336, the adversity to live fire exercises of the military means that I assume that the pre-full production run covers training expenditures.

<sup>603</sup> <https://www.taipeitimes.com/News/front/archives/2023/11/13/2003809084>

<sup>604</sup> *Deep strike: Taiwan develops advanced missiles capable of striking China*, Kapil Kajal, Janes Defence Weekly, December 20, 2023, pg. 20

<sup>605</sup> <https://missilethreat.csis.org/missile/yun-feng/> - Accessed 02/02/22

<sup>606</sup> <https://missilethreat.csis.org/missile/yun-feng/> - Accessed 02/02/22, *Taiwan's Overall Defense Concept*, Sam Cranny-Evans, Janes Defence Weekly, June 16, 2021, pg. 24

<sup>607</sup> <https://www.taiwannews.com.tw/news/5968338>

<sup>608</sup> *New navy command to operate Harpoon missiles*, Lo Tien-pin and Jake Chung, August 24, 2024,

<https://www.taipeitimes.com/News/taiwan/archives/2024/08/24/2003822696>

<sup>609</sup> *Military announces 2nd Harpoon missile base in south Taiwan*, August 26<sup>th</sup>, 2024, <https://www.taiwannews.com.tw/news/5925161>

<sup>610</sup> Taiwan seeks US suicide drones, May 9, 2024, Keoni Everington, <https://www.taiwannews.com.tw/news/5682775>

<sup>611</sup> [https://www.ncsist.org.tw/eng/csisdup/products/product.aspx?product\\_id=276&catalog=41](https://www.ncsist.org.tw/eng/csisdup/products/product.aspx?product_id=276&catalog=41)

<sup>612</sup> [https://en.wikipedia.org/wiki/National\\_Chung-Shan\\_Institute\\_of\\_Science\\_and\\_Technology](https://en.wikipedia.org/wiki/National_Chung-Shan_Institute_of_Science_and_Technology)

<sup>613</sup> [https://www.ncsist.org.tw/ENG/csisdup/products/product.aspx?product\\_id=531&catalog=51](https://www.ncsist.org.tw/ENG/csisdup/products/product.aspx?product_id=531&catalog=51)

<sup>614</sup> <https://www.forbes.com/sites/davidaxe/2024/03/16/ukraines-seven-ton-strike-drones-are-back-in-action/>

<sup>615</sup> [https://en.wikipedia.org/wiki/Northrop\\_BQM-74\\_Chukar#Persian\\_Gulf\\_War\\_combat\\_use](https://en.wikipedia.org/wiki/Northrop_BQM-74_Chukar#Persian_Gulf_War_combat_use)

<sup>616</sup> <https://www.bbc.co.uk/news/world-asia-67282107> (2023)

<sup>617</sup> *Deep strike: Taiwan develops advanced missiles capable of striking China*, Kapil Kajal, Janes Defence Weekly, December 20, 2023, pg. 21

In 2024 a 2018 order was delivered for 1,700 TOW-2B and 100 launchers.<sup>618</sup>

In 2024 and 2025, the RoCA will procure 5,982 Kestrel anti-tank rockets, bringing total inventory to over 10,000.<sup>619</sup>

## Missile Production

It's unclear if the June 2022 deadline for upgrades of production was met as this source<sup>620</sup> indicates that the capacity upgrades were planned to be finished by June, but the language from the following article from August<sup>621</sup> would indicate that capacity upgrades were not finished.

<i>Missile</i>	<i>Production Rate</i>	<i>Missiles/Month (from Production Rate)</i>	<i>Production Start Date</i>
Hsiung Feng II + Hsiung Sheng*	81/year (initial) 131/year (post June 2022) <sup>622</sup>	6.75/mo. (initial) 10.9/mo. (post June 2022)	2011 (HF-II) <sup>623</sup> 2021 (HS) <sup>624</sup> Confirmed in production as of 2024 <sup>625</sup>
Hsiung Feng III	20/year (initial) 70/year (post June 2022) <sup>626</sup>	1.66/mo. (initial) 5.83/mo. (post June 2022)	Between 2007-2011 <sup>627</sup>
Tien Chien II	40/year (initial) 150/year (post June 2022) <sup>628</sup>	3.33/mo. (initial) 12.5/mo. (post June 2022)	Between 1997-2001 <sup>629</sup>
Tien-Kung III	48/year (initial), 96/year (post June 2022) <sup>630</sup>	4/mo. (initial), 8/mo. (post June 2022)	?
Wan Chien	18/year (initial),** 50/year (post June 2022) <sup>631</sup>	1.5/mo. (initial),** 4.16/mo. (post June 2022)	Full production in 2015 <sup>632</sup>
Yun Feng	? (Initial) ? (from 2022) <sup>633</sup>		
Ching Tien	? (Initial)		

<sup>618</sup> <https://focustaiwan.tw/politics/202406170007>

<sup>619</sup> Taiwan Army purchases additional Kestrel rockets, training equipment, Jun. 4, 2024, Kelvin Chen, <https://www.taiwannews.com.tw/news/5883171>

<sup>620</sup> <https://focustaiwan.tw/politics/202203030020> (2022) - article no longer publicly available, use the Wayback Machine to get a copy.

<sup>621</sup> <https://www.taiwannews.com.tw/en/news/4625333> (2022).

<sup>622</sup> <https://www.taiwannews.com.tw/en/news/4625333> (2022). Post June 2022 is inferred from linked article. The 131/year is in line with *Deep strike: Taiwan develops advanced missiles capable of striking China*, Kapil Kajal, Janes Defence Weekly, December 20, 2023, pg. 20 which says "250 HF IIE + HS by 2025", eg ~125 total a year.

<sup>623</sup> While [https://en.wikipedia.org/wiki/Hsiung\\_Feng\\_IIE#Hsiung\\_Sheng](https://en.wikipedia.org/wiki/Hsiung_Feng_IIE#Hsiung_Sheng) cites an article stating 2011, the article cannot be accessed and the 2011 number cannot be confirmed.

<sup>624</sup> <https://www.taiwannews.com.tw/en/news/4099431> AND

<https://web.archive.org/web/20210117101919/https://focustaiwan.tw/politics/202101110011>

<sup>625</sup> <https://www.taipeitimes.com/News/front/archives/2023/11/13/2003809084> (2024)

<sup>626</sup> <https://focustaiwan.tw/politics/202203030020> (2022) - article no longer publicly available, use the Wayback Machine to get a copy.

<sup>627</sup> <https://missilethreat.csis.org/missile/hsiung-feng-iii/> - the missile was unveiled in 2007, and became operational in 2011, as such it entered production at some point in-between those two years.

<sup>628</sup> <https://focustaiwan.tw/politics/202203030020> (2022) - article no longer publicly available, use the Wayback Machine to get a copy.

<sup>629</sup> <https://missilethreat.csis.org/missile/tien-chi/> - missile was first test fired in 1997, and entered service in 2001, so it must have entered production at some point between those years.

<sup>630</sup> <https://focustaiwan.tw/politics/202203030020> (2022) - article no longer publicly available, use the Wayback Machine to get a copy.

<sup>631</sup> <https://focustaiwan.tw/politics/202203030020> (2022) - article no longer publicly available, use the Wayback Machine to get a copy., <https://www.taipeitimes.com/News/front/archives/2024/01/27/2003812685> (Jan 27, 2024)

<sup>632</sup> <https://missilethreat.csis.org/missile/wan-chien/> (accessed October 2022)

<sup>633</sup> *Deep strike: Taiwan develops advanced missiles capable of striking China*, Kapil Kajal, Janes Defence Weekly, December 20, 2023, pg. 21

	? (from 2023?) <sup>634</sup>		
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\*Joint production line, likely split 50/50.<sup>635</sup> The Hsiung Sheng is an upgraded version of the HF-IIE.

\*\*Note that while the first production number is given in the initial articles to be 18/year, a more recent article states that only about 50 of the original were produced/remain before full rate production began.<sup>636</sup>

## **Drones**

Under the National Drone Team, the government has the goal of procuring 15,000 drones per month by 2028.<sup>637</sup>

In 2024 the Navy ordered a unknown number of Loitering Unmanned Aircraft Type I drones from the (produced by NCSIST). These are nicknamed the "Taiwanese Switchblade 300" by media due to having similar features to Switchblade. In December 2024 the drones were undergoing final testing before delivery. The drones have an operational range of 10 km and an endurance of more than 15 minutes. They have an EO/IR system and a HE warhead and can be carried and set up by one soldier.<sup>638</sup> I presume these are for the Marine Corps.

## **Police**

National Police Agency (Federal Level Agency for Police)<sup>639</sup>

- Special Operations Groups<sup>640</sup>
  - Roles are counter-terrorism, counter-hijacking, high-profile hostage rescue, and presidential protection. There are ~150 officers total?
  - They are organed into a “brigade”, consisting of two squadrons, and each squadron consisted of two detachments.
  - 2 SOG detachments are in Taipei, 1 is in Taichung, and 1 is in Kaohsiung.
  - Equipped with some V-150S armor vehicles (Cadillac Gage Commando), M998 Humvees, and Infantry Mobility Vehicles.
  - These units participated in the yearly major military exercise (Han-Kuang exercise) in 2020, conducting rear area security<sup>641</sup>

<sup>634</sup> *Deep strike: Taiwan develops advanced missiles capable of striking China*, Kapil Kajal, Janes Defence Weekly, December 20, 2023, pg. 21, states unconfirmed local media reports that mass production has started and that the RoCAF has received some missiles already.

<sup>635</sup> 131 are produced a year, and *Deep strike: Taiwan develops advanced missiles capable of striking China*, Kapil Kajal, Janes Defence Weekly, December 20, 2023, pg. 20 says that 131 HS will be produced by 2025 (e.g. 131 over 2 years), indicating a 50-50 production line split.

<sup>636</sup> <https://www.taipeitimes.com/News/front/archives/2024/01/27/2003812685> (Jan 27, 2024)

<sup>637</sup> <https://www.taiwannews.com.tw/news/6000722>

<sup>638</sup> *Taiwan's Navy to receive domestically developed loitering munitions*, 12/24/2024, Matt Yu and Sean Lin, <https://focustaiwan.tw/sci-tech/202412240019>

<sup>639</sup> [https://en.wikipedia.org/wiki/National\\_Police\\_Agency\\_\(Taiwan\)](https://en.wikipedia.org/wiki/National_Police_Agency_(Taiwan)), Accessed Oct 20, 2023, <https://zh.wikipedia.org/wiki/%E7%B6%AD%E5%AE%89%E7%89%B9%E5%8B%A4%E9%9A%8A>, Accessed Oct 20, 2023. Where information contradicts, I prefer the Taiwanese source.

<sup>640</sup> [https://en.wikipedia.org/wiki/National\\_Police\\_Agency\\_\(Taiwan\)](https://en.wikipedia.org/wiki/National_Police_Agency_(Taiwan)), Accessed Oct 20, 2023, <https://zh.wikipedia.org/wiki/%E7%B6%AD%E5%AE%89%E7%89%B9%E5%8B%A4%E9%9A%8A>, Accessed Oct 20, 2023. Where information contradicts, I prefer the Taiwanese source.

<sup>641</sup> 漢光演習首度同台！軍、警、海巡特勤隊共同投入衛戍區反特攻作戰, Su Zhonghong 2020-07-09 <https://www.storm.mg/amparticle/2837566>

- Thunder Squad<sup>642</sup>
  - 200 operator SWAT style team
  - Organization is 4 operator fire teams, of which 3 make an operating group
  - These units participated in the yearly major military exercise (Han-Kuang exercise) in 2020, conducting rear area security<sup>643</sup>
- Anti-Violence Special Task Force<sup>644</sup>
  - Not tasked with counter-terrorism or VIP protection (they do mostly anti-drug/gang work), but is an available SWAT team.
  - Size is between 20-40 people (currently 20)
- 2<sup>nd</sup> Special Police Corps
  - Responsible for infrastructure protection across Taiwan.<sup>645</sup>
- 6<sup>th</sup> Special Police Corps<sup>646</sup>
  - 4 x Guard Bn's for VIP's and Infrastructure in Taipei
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## Local Level

- City's have their own Thunder Squad (not to be confused with the NPA's Thunder Squad Above), that are SWAT units.
- List of Thunder Squads (Known to be incomplete)
  - Kaohsiung 1 x Thunder Squad<sup>647</sup>
  - Taichung – 1 x Thunder Squad<sup>648</sup>

<sup>642</sup> [https://en.wikipedia.org/wiki/Thunder\\_Squad](https://en.wikipedia.org/wiki/Thunder_Squad), Accessed Oct 20, 2023,  
<https://zh.wikipedia.org/wiki/%E4%B8%AD%E8%8F%AF%E6%B0%91%E5%9C%8B%E7%89%B9%E7%A8%AE%E8%AD%A6%E5%AF%9F>, Accessed Oct 20, 2023, Where information contradicts, I prefer the Taiwanese source.

<sup>643</sup> 漢光演習首度同台！軍、警、海巡特勤隊共同投入衛戍區反特攻作戰, Su Zhonghong 2020-07-09  
<https://www.storm.mg/amparticle/2837566>

<sup>644</sup> <https://zh.wikipedia.org/wiki/%E9%99%A4%E6%9A%B4%E7%89%B9%E5%8B%A4%E9%9A%8A>, Accessed Oct 20, 2023

<sup>645</sup> *Officials request military police guard key facilities*, Chen Yu-fu, June 4<sup>th</sup>, 2024,

<https://www.taipeitimes.com/News/taiwan/archives/2024/06/04/2003818842>

<sup>646</sup> <https://zh.wikipedia.org/wiki/%E5%85%A7%E6%94%BF%E9%83%A8%E8%AD%A6%E6%94%BF%E7%BD%B2%E4%BF%9D%E5%AE%89%E8%AD%A6%E5%AF%9F%E7%AC%AC%E5%85%AD%E7%B8%BD%E9%9A%8A>, , accessed July 21<sup>st</sup>, 2024

<sup>647</sup> <https://zh.wikipedia.org/wiki/%E9%AB%98%E9%9B%84%E5%B8%82%E6%94%BF%E5%BA%9C%E8%AD%A6%E5%AF%9F%E5%B1%80%E7%A7%91>, Accessed Oct 20, 2023

<sup>648</sup> <https://zh.wikipedia.org/wiki/%E8%87%BA%E4%B8%AD%E5%B8%82%E6%94%BF%E5%BA%9C%E8%AD%A6%E5%AF%9F%E5%B1%80%E7%B5%84%E7%B9%94>, Accessed Oct 20, 2023



# Japan

## Command and Control Arrangements

By 2024, Japan will set up a new commanding officer position for the Self-Defense Force branches to oversee them in an emergency. “Currently, the Joint Staff Office of the SDF commands all three forces and is overseen by the chief of staff, the sole person in charge of communication with the prime minister and U.S. military.” However, the chief of staff is has multiple other duties and this move is intended to relieve some of the workload. In an emergency the Chief of Staff will be “required to primarily focus on supporting the prime minister and defense minister.” The new position will report to the defense minister and will be a counterpart to the commander of USINDOPACOM, easing the control of JSDF forces.<sup>649</sup>

The US and the Japanese do not currently have an architecture to share data to create a common operating picture, and cannot pass second-to-second targeting information.<sup>650</sup>

## JMSDF<sup>651</sup>

### *Units*

Escort Flotilla 1 at Yokosuka

- 1 Helicopter Carrier (Izumo, F-35B capable<sup>652</sup>)
- 3 Destroyers

Escort Flotilla 2 at Sasebo

- 1 Helicopter Carrier
- 4 Destroyers

Escort Flotilla 3 at Maizuru

- 1 Helicopter Carrier
- 3 Destroyers

Escort Flotilla 4 at Kure

- 1 Helicopter Carrier (Kaga, F-35B capable<sup>653</sup>)
- 4 Destroyers

11th Escort Squadron

- 3 Destroyers

12th Escort Squadron

- 1 Destroyer
- 2 Destroyer Escorts

13th Escort Squadron

- 2 Destroyers

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<sup>649</sup> <https://asia.nikkei.com/Politics/Japan-to-establish-Self-Defense-Forces-joint-command-in-2024> (2022)

<sup>650</sup> <https://warontherocks.com/2023/02/the-case-for-japanese-land-power-in-the-first-island-chain/>

<sup>651</sup> Submarine numbers slightly different from IISS Military Balance 2021 and 2022 (off by 1 combat sub, but this is within readiness tolerance), organization from <https://www.mod.go.jp/msdf/en/about/org/> Accessed 2/17/22, exact types (Izumo, Kaga) from [https://en.wikipedia.org/wiki/Fleet\\_Escort\\_Force](https://en.wikipedia.org/wiki/Fleet_Escort_Force) Accessed 2/17/22.

<sup>652</sup> <https://www.defensenews.com/naval/2022/06/02/japans-converted-aircraft-carrier-to-undertake-indo-pacific-deployment/> (2022), *South by Southwest*, Christian Le Miere, Janes Defense Weekly, 12 January, 2022, pgs. 20-29 (pg. 23-4). Note that “F-35B Capable” here does not mean the practice and experience needed to support such operations off the deck, which may pose a problem in wartime unless properly trained for. For details on the upgrades done to the ships see <https://www.thedrive.com/the-war-zone/japans-converted-f-35b-carrier-leaves-dock-sporting-new-bow> (2023)

<sup>653</sup> <https://www.defensenews.com/naval/2022/06/02/japans-converted-aircraft-carrier-to-undertake-indo-pacific-deployment/> (2022), *South by Southwest*, Christian Le Miere, Janes Defense Weekly, 12 January, 2022, pgs. 20-29 (pg. 23-4). Note that “F-35B Capable” here does not mean the practice and experience needed to support such operations off the deck, which may pose a problem in wartime unless properly trained for. For details on the upgrades done to the ships see <https://www.thedrive.com/the-war-zone/japans-converted-f-35b-carrier-leaves-dock-sporting-new-bow> (2023)

- 1 Destroyer Escort

14th Escort Squadron

- 2 Destroyers
- 1 Destroyer Escort

15th Escort Squadron

- 1 Destroyer
- 2 Destroyer Escorts

Submarine Flotilla 1 at Kure

- 10 x SSK

Submarine Flotilla 2 at Yokosuka

- 8 x SSK

Landing Ship Squadron 1 (Kure)

- 3 x LST

The JMSDF has 26 minesweepers, of which 3 were built after 2014.<sup>654</sup>

The JMSDF has 3 Hibiki-class of Ocean Surveillance Ships operating SURTASS,<sup>655</sup> there are also a number of hydrophone arrays operated jointly with the United States.<sup>656</sup>

### *Airbases*<sup>657</sup>

Basing numbers are conservative, based on what is currently based at the location plus 1/3<sup>rd</sup>, rounded to the nearest squadron. This number is given in the number in squadrons of fighters that can be based in a location. Medium aircraft (P-3, EC-2) squadrons are counted as 1.5 squadrons of fighters, large aircraft (C-5, B-52) squadrons are counted as 2 squadrons of fighters, helicopters are counted a 1 squadron of fighters. When estimating what can take off/land, fighters are required to have 5,000ft, SOTL medium (C-17, C-130, ect.) 3000ft, tankers and bombers 7,000ft.<sup>658</sup>

- Kanoya Air Base<sup>659</sup>
  - Can base 1 squadron
  - 1 x 4,000 ft. runway
  - 1 x 7,400 ft. runway
- Hachinohe Air Base<sup>660</sup>
  - Can base 3 squadrons.
  - 1 x 7,400 ft. runway.

<sup>654</sup> <https://wavelroom.com/2022/11/21/mine-warfare-in-asia-pacific-naval-theatre-a-clear-and-present-danger/> (2022)

<sup>655</sup> <https://www.navalnews.com/naval-news/2021/03/jmsdf-commissions-new-hibiki-class-surtass-ocean-surveillance-ship-js-aki/>

<sup>656</sup> Ball, Desmond, and Richard Tanter. "US SOSUS Stations." In *The Tools of Owatsumi: Japan's Ocean Surveillance and Coastal Defence Capabilities*, 51–54. ANU Press, 2015. <http://www.jstor.org/stable/j.ctt13wwwvt.15>, pg. 53

<sup>657</sup> <https://www.mod.go.jp/en/presiding/law/sdf.html>, accessed Aug 25, 2023, see

<https://web.archive.org/web/20230825032257/https://www.mod.go.jp/en/presiding/law/sdf.html>

<sup>658</sup> *The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017*, RAND, published 2015, Heginbotham et. al., pg. 56-57

<sup>659</sup> <https://ja.wikipedia.org/wiki/%E9%B9%BF%E5%B1%8B%E8%88%AA%E7%A9%BA%E5%9F%BA%E5%9C%B0>, accessed Aug 25, 2023, basing estimated from google earth

<sup>660</sup> [https://en.wikipedia.org/wiki/JMSDF\\_Hachinohe\\_Air\\_Base](https://en.wikipedia.org/wiki/JMSDF_Hachinohe_Air_Base), accessed Aug 25, 2023

- Tateyama Air Base<sup>661</sup>
  - Helicopters and light aircraft only
- Omura Air Base<sup>662</sup>
  - Can base 2 squadrons
  - Formally part of Nagasaki Airport
    - 1 x 4,000 ft. runway (Military)
    - 1 x 10,000 ft. runway (Civilian)
      - Only accessible by a 2 lane road across the water, thus requires using civilian facilities
- Iwakuni Air Base (adjoins MCAS Iwakuni)<sup>663</sup>
  - Can base 2 wings
  - Seaplane ramp
  - 1 x 8,000 ft. runway
- Maizuru Air Base<sup>664</sup>
  - Helicopters only.
  - 1 x 2,000 ft. runway
- Ominato Air Base<sup>665</sup>
  - Helicopters only
- Shimofusa Air Base<sup>666</sup>
  - Can base 3 squadrons
  - 1 x 7,400 ft. runway
- Tokushima Air Base<sup>667</sup>
  - Can base 2 squadrons
  - Shares the runways with the civilian airport
  - 1 x 8,200 ft. runway
- Ozuki Air Base<sup>668</sup>
  - 1 squadron of light aircraft.
  - 1 x 4,000 ft. runway
  - 1 x 3,000 ft. runway
- Iwo-to Air Base<sup>669</sup>
  - No significant asset basing
- Minamitorishima Air Base<sup>670</sup>
  - 1 or 2 aircraft could be based here (e.g. no significant number)
  - 1 x 4,500 ft. runway
- Naval Air Facility Atsugi<sup>671</sup>

<sup>661</sup> [https://en.wikipedia.org/wiki/JMSDF\\_Tateyama\\_Air\\_Base](https://en.wikipedia.org/wiki/JMSDF_Tateyama_Air_Base), accessed Aug 25, 2023, double checked by google earth imagery.

<sup>662</sup> [https://en.wikipedia.org/wiki/Fleet\\_Air\\_Force\\_\(JMSDF\)](https://en.wikipedia.org/wiki/Fleet_Air_Force_(JMSDF)), accessed Aug 25, 2023

<sup>663</sup> [https://en.wikipedia.org/wiki/Marine\\_Corps\\_Air\\_Station\\_Iwakuni#Japan\\_Maritime\\_Self-Defense\\_Force](https://en.wikipedia.org/wiki/Marine_Corps_Air_Station_Iwakuni#Japan_Maritime_Self-Defense_Force), accessed Aug 25, 2023

<sup>664</sup> [https://en.wikipedia.org/wiki/JMSDF\\_Maizuru\\_Naval\\_Base#Maizuru\\_Air\\_Base](https://en.wikipedia.org/wiki/JMSDF_Maizuru_Naval_Base#Maizuru_Air_Base), accessed Aug 25, 2023

<sup>665</sup> [https://en.wikipedia.org/wiki/JMSDF\\_%C5%8Cminato\\_Naval\\_Base#%C5%8Cminato\\_Air\\_Base](https://en.wikipedia.org/wiki/JMSDF_%C5%8Cminato_Naval_Base#%C5%8Cminato_Air_Base), accessed Aug 25, 2023

<sup>666</sup> [https://en.wikipedia.org/wiki/Shimofusa\\_Air\\_Base#Japan\\_Maritime\\_Self\\_Defense\\_Force](https://en.wikipedia.org/wiki/Shimofusa_Air_Base#Japan_Maritime_Self_Defense_Force), accessed Aug 25, 2023

<sup>667</sup> <https://ja.wikipedia.org/wiki/%E5%BE%B3%E5%B3%B6%E9%A3%9B%E8%A1%8C%E5%A0%B4>, accessed Aug 25, 2023.

<sup>668</sup> <https://ja.wikipedia.org/wiki/%E5%B0%8F%E6%9C%88%E8%88%AA%E7%A9%BA%E5%9F%BA%E5%9C%B0>, accessed Aug 25, 2023, basing estimated from google earth.

<sup>669</sup> <https://www.yokota.af.mil/News/Article-Display/Article/1354036/iwo-jima/#:~:text=Force%20Air%20Station.%E2%80%9D-,The%20main%20duties%20of%20Iwo%20To%20JMSDF%20air%20station%20is,relief%20in%20the%20surrounding%20waters.>

<sup>670</sup> <https://ja.wikipedia.org/wiki/%E5%8D%97%E9%B3%A5%E5%B3%B6%E8%88%AA%E7%A9%BA%E5%9F%BA%E5%9C%B0>, accessed Aug 25, 2023, size estimated from google earth

<sup>671</sup> [https://en.wikipedia.org/wiki/Naval\\_Air\\_Facility\\_Atsugi#Maritime\\_Self\\_Defence\\_Force](https://en.wikipedia.org/wiki/Naval_Air_Facility_Atsugi#Maritime_Self_Defence_Force), accessed Aug 25, 2023

- Shared with the US
- Room for 7 squadrons of fighter aircraft
- 1 x 8,000 ft. runway

## **JASDF**<sup>672</sup>

### ***Wings***

- Northern Air Defense Force: Misawa, Aomori
  - 2nd Air Wing - Chitose Air Base
    - 201SQ, F-15J/DJ
    - 203SQ, F-15J/DJ
  - 3rd Air Wing - Misawa Air Base
    - 301SQ, F-35A
    - 302SQ, F-35A
- Central Air Defense Force
  - 6th Air Wing - Komatsu Air Base
    - 303SQ, F-15J/DJ
    - 306SQ, F-15J/DJ
  - 7th Air Wing - Hyakuri Air Base
    - 3SQ, F-2A/B
- Western Air Defense Force
  - 5th Air Wing - Nyutabaru Air Base
    - 305SQ, F-15J/DJ
  - 8th Air Wing - Tsuiki Air Base
    - 6SQ, F-2A/B
    - 8SQ, F-2A/B
- Southwestern Air Defense Force: Naha, Okinawa
  - 9th Air Wing - Naha Air Base
    - 204SQ, F-15J/DJ
    - 304SQ, F-15J/DJ
- Airborne Early Warning and Control Wing: Hamamatsu Air Base
  - Flight Warning and Control Group - Hamamatsu Air Base
    - 602SQ, E-767
  - Flight Alert Monitoring Group - Misawa Air Base
    - 601SQ, E-2C/D - Misawa Air Base
    - 603SQ, E-2C/D - Naha Air Base
- Electronic Warfare Squadron Iruma Air Base (EC-1, YS-11EB)
- Electronic Intelligence Squadron Iruma Air Base (YS-11EB)
- Air Rescue Wing
- Detachments: Chitose, Matsushima, Ashiya, Akita, Hyakuri, Nyutabaru, Niigata, Hamamatsu, Naha, Komatsu, Komaki (Training Squadron) (UH-60J, U-125A)

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<sup>672</sup> Squadron numbers cross checked with IISS Military Balance 2021 pg. 272-273, organizational structure and planes Wikipedia Accessed 01/31/22

- Helicopter Airlift Squadrons: Iruma (CH-47J (LR)), Kasuga (CH-47J (LR)), Misawa (CH-47J (LR)), Naha (CH-47J (LR))
- Air Support Command: Fuchū Air Base, Tokyo
  - 1st Tactical Airlift Group - Komaki Air Base
    - 401SQ, C-130H, KC-130H
    - 404SQ, KC-767
  - 2nd Tactical Airlift Group - Iruma Air Base
    - 402SQ, C-1, U-4
  - 3rd Tactical Airlift Group - Miho Air Base
    - 403SQ, C-1, C-2
    - 41SQ, T-400

#### Combat Aircraft<sup>673</sup>

- 62 x F-2A
- 155 x F-15J
- 23 x F-35A/B

#### Air Defense

- 28 Patriot PAC-3 units<sup>674</sup>
  - Of these perhaps 14 would be dedicated to defend airfields<sup>675</sup>
- ?

Japan lacks sufficient material and trained personal for rapid runway repair at scale.<sup>676</sup>

#### *Air Bases*<sup>677</sup>

Basing numbers are conservative, based on what is currently based at the location plus 1/3<sup>rd</sup>, rounded to the nearest squadron. This number is given in the number in squadrons of fighters that can be based in a location. Medium aircraft (P-3, EC-2) squadrons are counted as 1.5 squadrons of fighters, large aircraft (C-5, B-52) squadrons are counted as 2 squadrons of fighters, helicopters are counted as 1 squadron of fighters. When estimating what can take off/land, fighters are required to have 5,000ft, SOTL medium (C-17, C-130, ect.) 3000ft, tankers and bombers 7,000ft.<sup>678</sup>

<sup>673</sup> <https://www.flightglobal.com/download?ac=83735> (2022), Note that *Japan's F-15 Upgrade Adds Strike Capability*, Bradley Perett, Aviation Week and Space Technology, Jan 30-Feb 12, 2023, pg. 20-21 lists 91 F2, 200 F-15J, and 31 F-35A in inventory (with 116 F-35A to be delivered). I defer to the Flight Global numbers as that's what I use consistently throughout.

<sup>674</sup> *Japan's Counter Strike Capabilities*, Kapil Kajal, Janes Defense Weekly, 6 September 2023, pg. 28

<sup>675</sup> *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 52

<sup>676</sup> *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 32

<sup>677</sup> <https://www.mod.go.jp/en/presiding/law/sdf.html>, accessed Aug 25, 2023, see

<https://web.archive.org/web/20230825032257/https://www.mod.go.jp/en/presiding/law/sdf.html>

<sup>678</sup> *The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017*, RAND, published 2015, Heginbotham et. al., pg. 56-57



*Airports in Japan capable of supporting fighter or larger aircraft operations as of 2024 (Joint-use airfields marked as military bases)<sup>679</sup>*

The above includes 55 civilian airfields in Japan with 61 runways that meet the MOS for fighters and/or tankers<sup>680</sup>

- Chitose Air Base<sup>681</sup>
  - Can base 3 squadrons
  - 1 x 9,000 ft runway
  - 1 x 10,000 ft runway
  - Connected to New Chitose Airport
    - 1 x 13,000 ft runway
    - 1 x 10,000 ft runway
- Misawa Air Base<sup>682</sup>
  - Can base 1 wing
  - Shared with the US
  - 1 x 10,000 ft runway
- Matsushima Air Base<sup>683</sup>
  - Can base 3 squadrons

<sup>679</sup> *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 28

<sup>680</sup> *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 51

<sup>681</sup> [https://en.wikipedia.org/wiki/Chitose\\_Air\\_Base](https://en.wikipedia.org/wiki/Chitose_Air_Base), accessed Aug 25, 2023

<sup>682</sup> [https://en.wikipedia.org/wiki/Misawa\\_Air\\_Base](https://en.wikipedia.org/wiki/Misawa_Air_Base), accessed Aug 25, 2023

<sup>683</sup> [https://en.wikipedia.org/wiki/Matsushima\\_Air\\_Field](https://en.wikipedia.org/wiki/Matsushima_Air_Field), accessed Aug 25, 2023

- 1 x 9,000 ft runway
  - 1 x 5,000 ft runway
- Nyutabaru Air Base<sup>684</sup>
  - Can base 3 squadrons
  - 1 x 9,000 ft runway
- Hyakuri Air Base<sup>685</sup>
  - Can base 3 squadrons
  - Shares both runways with the civilian airport
  - 2 x 9,000 ft runways
- Iruma Air Base<sup>686</sup>
  - Can base 3 wings, 2 squadrons (14 squadrons total)
  - 1 x 6,500 ft runway
- Shizuhamu Air Base<sup>687</sup>
  - Can base 3 squadrons
  - 1 x 9,000 ft runway
- Hamamatsu Air Base<sup>688</sup>
  - Can base 2 wings
  - 1 x 8,300 ft runway
- Komaki Air Base<sup>689</sup>
  - Can base ½ a squadron
  - Shares runway with civilian airport
  - 1 x 9,200 ft runway
- Gifu Air Base<sup>690</sup>
  - No units currently based, can base 3 squadrons
  - 1 x 9,000 ft runway
- Komatsu Air Base<sup>691</sup>
  - Can base 1 wing
  - Shares the runway with the civilian airport
  - 1 x 9,000 ft runway
- Miho Air Base<sup>692</sup>
  - Can base 1 wing
  - Shares the runway with the civilian airport
  - 1 x 8,200 ft runway
- Hofukita Air Base<sup>693</sup>
  - Can base 3 squadrons
  - 1 x 3,900 ft runway
  - 1 x 4,900 ft runway (this is sufficient to land a fighter on, just slightly under the desired length)

<sup>684</sup> [https://en.wikipedia.org/wiki/Nyutabaru\\_Air\\_Base](https://en.wikipedia.org/wiki/Nyutabaru_Air_Base), accessed Aug 25, 2023

<sup>685</sup> [https://en.wikipedia.org/wiki/Ibaraki\\_Airport](https://en.wikipedia.org/wiki/Ibaraki_Airport), accessed Aug 25, 2023

<sup>686</sup> [https://en.wikipedia.org/wiki/Iruma\\_Air\\_Base#Tenant\\_squadrons](https://en.wikipedia.org/wiki/Iruma_Air_Base#Tenant_squadrons), accessed Aug 25, 2023

<sup>687</sup> [https://en.wikipedia.org/wiki/Shizuhamu\\_Air\\_Base](https://en.wikipedia.org/wiki/Shizuhamu_Air_Base), accessed Aug 25, 2023

<sup>688</sup> [https://en.wikipedia.org/wiki/Hamamatsu\\_Air\\_Base](https://en.wikipedia.org/wiki/Hamamatsu_Air_Base), accessed Aug 25, 2023

<sup>689</sup> [https://en.wikipedia.org/wiki/Nagoya\\_Airfield](https://en.wikipedia.org/wiki/Nagoya_Airfield), accessed Aug 25, 2023

<sup>690</sup> Based on an estimate looking at the base on google earth.

<sup>691</sup> [https://en.wikipedia.org/wiki/Komatsu\\_Airport](https://en.wikipedia.org/wiki/Komatsu_Airport), accessed Aug 25, 2023

<sup>692</sup> [https://en.wikipedia.org/wiki/Miho-Yonago\\_Airport](https://en.wikipedia.org/wiki/Miho-Yonago_Airport), accessed Aug 25, 2023

<sup>693</sup> [https://en.wikipedia.org/wiki/H%C5%8Dfu\\_Air\\_Field](https://en.wikipedia.org/wiki/H%C5%8Dfu_Air_Field), accessed Aug 25, 2023

- Tsuiki Air Base<sup>694</sup>
  - Can base 3 squadrons
  - 1 x 7,900 ft runway
- Ashiya Air Base<sup>695</sup>
  - Can base 3 squadrons
  - 1 x 5,400 ft runway
- Kasuga Air Base<sup>696</sup>
  - Aircraft are based out of Fukuoka airport
    - The airport has basing for 3 squadrons
    - 1 x 9,200 ft runway
- Naha Air Base<sup>697</sup>
  - Can base 2 wings
  - 1 x 9,800 ft runway
  - Shares the runway with the civilian airport
    - 1 x 8,900 ft runway
- Yokota Air Base<sup>698</sup>
  - No Japanese forces aircraft currently based here
  - 1 x 11,000 ft runway
- Iwo Jima<sup>699</sup>
  - 2 squadrons
  - 1 x 8,700 ft runway

### *Civilian Airports in the Ryukyus<sup>700</sup>*

- Amami Airport<sup>701</sup>
  - Can base 1 squadron
  - 1 x 6,500 ft runway
- Shimojishima Airport<sup>702</sup>
  - Can base 2 squadrons
  - 1 x 9,800 ft runway
- Miyako Airport<sup>703</sup>
  - Can base 1 squadron
  - 1 x 6,500 ft runway
- Naha Airport<sup>704</sup>
  - Can base 3 squadrons
  - Already used as part of Naha Airbase
  - 1 x 9,900 ft runway

<sup>694</sup> [https://en.wikipedia.org/wiki/Tsuiki\\_Air\\_Field](https://en.wikipedia.org/wiki/Tsuiki_Air_Field), accessed Aug 25, 2023

<sup>695</sup> [https://en.wikipedia.org/wiki/Ashiya\\_Air\\_Field](https://en.wikipedia.org/wiki/Ashiya_Air_Field), accessed Aug 25, 2023

<sup>696</sup> [https://en.wikipedia.org/wiki/Kasuga\\_Air\\_Base](https://en.wikipedia.org/wiki/Kasuga_Air_Base), accessed Aug 25, 2023, this number is almost certainly an undercount

<sup>697</sup> [https://en.wikipedia.org/wiki/Naha\\_Air\\_Base](https://en.wikipedia.org/wiki/Naha_Air_Base), accessed Aug 25, 2023

<sup>698</sup> [https://en.wikipedia.org/wiki/Yokota\\_Air\\_Base](https://en.wikipedia.org/wiki/Yokota_Air_Base), accessed Aug 25, 2023

<sup>699</sup> [https://en.wikipedia.org/wiki/Iwo\\_Jima#Japanese\\_military\\_base](https://en.wikipedia.org/wiki/Iwo_Jima#Japanese_military_base), accessed Aug 25, 2023, basing estimated from google earth, Aug 27, 2023, basing estimated from google earth

<sup>700</sup> Note that this source, given the way the website looks is likely to be somewhat old and may therefore be somewhat out of date as a listing. <https://en.allmetsat.com/airports/japan-ryukyu.php>. I have endeavored to cross check this with

[https://en.wikipedia.org/wiki/List\\_of\\_airports\\_in\\_Japan](https://en.wikipedia.org/wiki/List_of_airports_in_Japan) (accessed Aug 27, 2023) as best as possible, but I may well have missed something

<sup>701</sup> [https://en.wikipedia.org/wiki/Amami\\_Airport](https://en.wikipedia.org/wiki/Amami_Airport), accessed Aug 27, 2023, basing estimated from google earth

<sup>702</sup> [https://en.wikipedia.org/wiki/Shimajiri\\_Airport](https://en.wikipedia.org/wiki/Shimajiri_Airport), accessed Aug 27, 2023, basing estimated from google earth

<sup>703</sup> [https://en.wikipedia.org/wiki/Miyako\\_Airport](https://en.wikipedia.org/wiki/Miyako_Airport), accessed Aug 27, 2023, basing estimated from google earth

<sup>704</sup> [https://en.wikipedia.org/wiki/Naha\\_Airport](https://en.wikipedia.org/wiki/Naha_Airport), accessed Aug 27, 2023, basing estimated from google earth



- 1 x 8,900 ft runway
- New Ishigaki Airport<sup>705</sup>
  - Can base 1 squadron
  - 1 x 6,500 ft runway

As a check that I've included all Ryukyus airbases here, according to a CNAS report "eight of the airfield runways are long enough to support fighters [in the Ryukyus]."<sup>706</sup> The five civilian above, along with Naha AB, Kadena AB, and MCAS Futenma total 8 airbases.

## **JGSDF**

All Japanese units are currently turning their regional deployment units into rapid deployment units. The units will have all necessary capabilities for fighting organically rather than relying on division or higher elements to support them.<sup>707</sup> This means that 8 units<sup>708</sup> will be available of regiment size.<sup>709</sup>

- Amphibious Rapid Deployment Brigade<sup>710</sup> – Ainoura<sup>711</sup>
  - Brigade HQ
  - 2 x Infantry Regiments
  - Artillery Battalion
  - Reconnaissance Battalion
  - Engineer Battalion
  - Combat Landing Battalion
  - Logistic Support Battalion
  - Signal Company
- 1st Airborne Brigade<sup>712</sup> - Funabashi
  - Brigade Headquarters
  - Quartermaster Company
  - Signal Company
  - 3x Airborne Infantry Battalion (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>)
  - Airborne Artillery Battalion
  - Airborne Logistic Support Battalion
  - Engineer Company
- 12<sup>th</sup> Airmobile Brigade<sup>713</sup> - Shintō
  - Brigade HQ

<sup>705</sup> [https://en.wikipedia.org/wiki/New\\_Ishigaki\\_Airport](https://en.wikipedia.org/wiki/New_Ishigaki_Airport), accessed Aug 27, 2023, basing estimated from google earth

<sup>706</sup> *Going Anti-Access at Sea, How Japan Can Turn the Tables on China*, Toshi Yoshihara, September 2014, [https://s3.us-east-1.amazonaws.com/files.cnas.org/hero/documents/CNAS-Maritime2\\_Yoshihara.pdf?mtime=20160906081625&focal=none](https://s3.us-east-1.amazonaws.com/files.cnas.org/hero/documents/CNAS-Maritime2_Yoshihara.pdf?mtime=20160906081625&focal=none), pg. 9-10

<sup>707</sup> *Japan to allow ground forces across nation to deploy near Okinawa*, Ryo Nemoto, January 7, 2023, <https://asia.nikkei.com/Politics/Japan-to-allow-ground-forces-across-nation-to-deploy-near-Okinawa/>

<sup>708</sup> <https://asia.nikkei.com/Politics/Japan-to-allow-ground-forces-across-nation-to-deploy-near-Okinawa#:~:text=Japan%25252520to%2525252520allow%2525252520ground%2525252520forces%2525252520across%2525252520nation%2525252520to%2525252520deploy%2525252520near%2525252520Okinawa,-Tokyo%2525252520seeks%2525252520flexibility&text=TOKYO%2525252520%252525252D%252525252D%2525252520Japan%2525252520will%2525252520reorganize,tensions%2525252520in%2525252520the%2525252520Taiwan%2525252520Strait.>

<sup>709</sup> <https://warontherocks.com/2023/02/the-case-for-japanese-land-power-in-the-first-island-chain/>

<sup>710</sup> <https://www.mod.go.jp/gsdf/gcc/ardb/sta.html> – Accessed 02/03/22

<sup>711</sup> [https://www.mod.go.jp/en/publ/w\\_paper/wp2020/pdf/R02030102.pdf](https://www.mod.go.jp/en/publ/w_paper/wp2020/pdf/R02030102.pdf)

<sup>712</sup> Core info from IISS Military Balance 2021 pg. 272-273, slight supplemental info from [https://en.wikipedia.org/wiki/1st\\_Airborne\\_Brigade\\_\(Japan\)](https://en.wikipedia.org/wiki/1st_Airborne_Brigade_(Japan)) – Accessed 02/03/22

<sup>713</sup> IISS The Military Balance, 2022, pg. 276

- 3 x Infantry Regiments
- 1 x Recce Squadron
- 1 x Aviation squadron
- 1 x Field Artillery Battalion
- 1 x SAM Coy.
- 1 x Combat Engineer Coy.
- 1 x NBC Coy.
- 1 x Signals Coy.
- 1 x Logistics Bn.
- 15<sup>th</sup> Brigade
  - Oversees the Nansei region, in the coming years it “will be effectively doubled in size and reorganized into a division, while a new marine transport unit will be established to make troops more mobile.” <sup>714</sup> Based in Naha, capitol of Okinawa Prefecture. <sup>715</sup>
  - Currently: 1 x Infantry Regiment, commanded by a Major General. <sup>716</sup>
    - 1 x Reconnaissance Squadron, 1 x Infantry Regiment, 1 x Aviation Squadron, 1 x Air Defense Regiment, 1 x Combat Engineer Company, 1 x NBC Company, 1 x Signals Company, 1 x Logistics Battalion <sup>717</sup>
  - Planned: 2 x Regiments, commanded by a General (to better cooperate with III MEF, which is commanded by a General). Other additions will be signals troops, facility’s personal and logistics personal. <sup>718</sup>

## **Japanese Coast Guard**<sup>719</sup>

- Patrol vessels: 121
- Patrol craft: 234
- Various ISR assets including MQ-9B SeaGuardians<sup>720</sup>

## **Missile Inventory**<sup>721</sup>

Missile Name	Class	Range	# of Missiles	# of Launchers
Type 88 SSM	AShM	150 km	324 (at least) <sup>722</sup>	54 <sup>723</sup>

<sup>714</sup> <https://www.japantimes.co.jp/news/2022/12/20/national/japan-defense-nansei-islands-taiwan/> (2022)

<sup>715</sup> <https://www.japantimes.co.jp/news/2022/12/03/national/okinawa-nansei-islands-sdf/> (2022)

<sup>716</sup> <https://www.japantimes.co.jp/news/2022/12/03/national/okinawa-nansei-islands-sdf/> (2022)

<sup>717</sup> IISS Military Balance, 2023, pg. 258

<sup>718</sup> <https://www.japantimes.co.jp/news/2022/12/03/national/okinawa-nansei-islands-sdf/> (2022), <https://english.kyodonews.net/news/2022/12/920eaa7f46c8-japan-to-expand-okinawa-based-ground-force-unit-amid-china-threat.html#:~:text=Japan%25252520to%25252520expand%25252520Okinawa%25252520Dbased%25252520ground%25252520force%25252520unit%25252520amid%25252520China%25252520threat,-KYODO%25252520NEWS%25252520%25252520D%25252520Dec&text=Japan%25252520is%25252520considering%25252520expanding%25252520an,a%25252520government%25252520source%25252520said%25252520Saturday.> (2022)

<sup>719</sup> <https://www.kaiho.mlit.go.jp/info/books/report2020/html/top.html> (2021)

<sup>720</sup> *To Deter and Disrupt*, Chen Chuanren, Aviation Week and Space Technology, Jan 30-Feb 12, 2023, pg. 19

<sup>721</sup> <https://missilethreat.csis.org/country/taiwan/> - Accessed 02/02/22

<sup>722</sup> <https://www.navyrecognition.com/index.php/news/defence-news/year-2013-news/november-2013-navy-naval-forces-maritime-industry-technology-security-global-news/1344-jsdf-deploys-type-88-land-based-mobile-anti-ship-missiles-launchers-in-okinawa-.html> (2021)

<sup>723</sup> Stated to have both 54 launchers by this 2007 source: Wertheim, Eric (2007). *The Naval Institute Guide to Combat Fleets of the World: Their Ships, Aircraft, and Systems*. Naval Institute Press. p. 374. ISBN 9781591149552. This source says that they deployed 54, so I feel that this is likely the correct number: <https://www.navyrecognition.com/index.php/news/defence-news/year-2013-news/november-2013-navy-naval-forces-maritime-industry-technology-security-global-news/1344-jsdf-deploys-type-88-land-based-mobile-anti-ship-missiles-launchers-in-okinawa-.html> (2021)

Type 12 SSM	AShM	200 km	144 (at least) <sup>724</sup>	24 (at least) <sup>725</sup>
Type 12 SSM (Upgraded) <sup>726*</sup>		900 km (1,200 km later)		
Patriot Interceptors	SAM		~500 <sup>727</sup>	

\*in development into 2025 (ground launched), 2026 (ship launched), 2028 (air launched). the upgraded Type 12 will enter full production with Mitsubishi Heavy Industries after development is completed.<sup>728</sup>

Mitsubishi Heavy Industries produces 30 PAC-3 missiles per year (as of 2024), but is looking to ramp up production to 60 per year.<sup>729</sup>

## **Basing Rights**

Both the US (importantly a number of airbases), British, and Australia under the Receptical Access Agreement Between Austria and Japan

## **Ryuku Island Garrisons**

Note that this list is likely incomplete and is missing facilities and troops. Somewhere (likely Okinawa) a supply depot is being built.<sup>730</sup>

### **Yonaguni Island**

“Coastal surveillance unit” since 2016.<sup>731</sup> Radar station, 160 troops,<sup>732</sup> EW unit, (by unknown date) SAM unit<sup>733</sup>

### **Miyako Island**

360 troops, Type 12 AShM unit (unknown size), Type 03 SAM unit (unknown Size)<sup>734</sup>

### **Amami-Oshima Island**

500 troops, Type 12 AShM and Type 03 SAM.<sup>735</sup> US Army HIMARS operations “regularly train” with the Type-12 operators during Orent Shield.<sup>736</sup>

<sup>724</sup> <https://www.thedefensepost.com/2022/03/03/japan-type-12-missile-upgrade/> (2022)

<sup>725</sup> <https://www.thedefensepost.com/2022/03/03/japan-type-12-missile-upgrade/> (2022)

<sup>726</sup> <https://www.navalnews.com/naval-news/2022/08/here-is-our-first-look-at-japans-type-12-ssm-upgraded/>

<sup>727</sup> *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 52

<sup>728</sup> *Japan’s Counter Strike Capabilities*, Kapil Kajal, Janes Defense Weekly, 6 September 2023, pg. 28

<sup>729</sup> <https://kyivindependent.com/us-japan-patriot-missile-production-delayed-by-component-shortage-reuters-reports/>, July 20, 2024

<sup>730</sup> [https://asia.nikkei.com/Politics/Japan-to-allow-ground-forces-across-nation-to-deploy-near-Okinawa#:~:text=Japan%25252520to%25252520allow%25252520ground%25252520forces%25252520across%25252520nation%25252520to%25252520deploy%25252520near%25252520Okinawa,-Tokyo%25252520seeks%25252520flexibility&text=TOKYO%25252520%25252520D%25252520Japan%25252520will%25252520reorganize,tensions%25252520in%25252520the%25252520Taiwan%25252520Strait.\(2022\)](https://asia.nikkei.com/Politics/Japan-to-allow-ground-forces-across-nation-to-deploy-near-Okinawa#:~:text=Japan%25252520to%25252520allow%25252520ground%25252520forces%25252520across%25252520nation%25252520to%25252520deploy%25252520near%25252520Okinawa,-Tokyo%25252520seeks%25252520flexibility&text=TOKYO%25252520%25252520D%25252520Japan%25252520will%25252520reorganize,tensions%25252520in%25252520the%25252520Taiwan%25252520Strait.(2022))

<sup>731</sup> <https://www.japantimes.co.jp/news/2022/12/03/national/okinawa-nansei-islands-sdf/> (2022)

<sup>732</sup> *South by Southwest*, Christian Le Miere, Janes Defense Weekly, 12 January, 2022, pgs. 20-29 (pg. 24)

<sup>733</sup> <https://www.japantimes.co.jp/news/2022/12/27/national/yonaguni-japan-missile-deployment/> (2022)

<sup>734</sup> *South by Southwest*, Christian Le Miere, Janes Defense Weekly, 12 January, 2022, pgs. 20-29 (pg. 24)

<sup>735</sup> *South by Southwest*, Christian Le Miere, Janes Defense Weekly, 12 January, 2022, pgs. 20-29 (pg. 24)

<sup>736</sup> *To Upgun Seapower in the Indo-Pacific, You Need an Army*, Gen. Charles Flynn and Lt. Col. Tim Divein, February 2024, Proceedings of the US Naval Institute, pg. 39-45 (pg. 40)

## Okinawa

By 2023 – AshM battery.<sup>737</sup> The command (located in Naha) is being moved underground.<sup>738</sup>

## Ishigaki

November 2021 Japan buget budgeted for a garrison of 570 troops + 1 SAM and 1 ASHM battery for the island by 2022<sup>739</sup>

## Mageshima Island

New base by end of 2023<sup>740</sup>

## Yonaguni Island

New EW unit by end of 2023<sup>741</sup>

## Logistics

In 2022 two civilian ships were pre-contracted to move supplies into the Ryukyu's. This is planned to be upgraded to 6.<sup>742</sup>

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<sup>737</sup> *South by Southwest*, Christian Le Miere, Janes Defense Weekly, 12 January, 2022, pgs. 20-29 (pg. 24)

<sup>738</sup> [https://asia.nikkei.com/Politics/Japan-to-allow-ground-forces-across-nation-to-deploy-near-Okinawa#:~:text=Japan%25252520to%25252520allow%25252520ground%25252520forces%25252520across%25252520nation%25252520to%25252520deploy%25252520near%25252520Okinawa,-Tokyo%25252520seeks%25252520flexibility&text=TOKYO%25252520%25252520D%25252520Japan%25252520will%25252520reorganize,tensions%25252520in%25252520the%25252520Taiwan%25252520Strait.\(2022](https://asia.nikkei.com/Politics/Japan-to-allow-ground-forces-across-nation-to-deploy-near-Okinawa#:~:text=Japan%25252520to%25252520allow%25252520ground%25252520forces%25252520across%25252520nation%25252520to%25252520deploy%25252520near%25252520Okinawa,-Tokyo%25252520seeks%25252520flexibility&text=TOKYO%25252520%25252520D%25252520Japan%25252520will%25252520reorganize,tensions%25252520in%25252520the%25252520Taiwan%25252520Strait.(2022)

<sup>739</sup> *South by Southwest*, Christian Le Miere, Janes Defense Weekly, 12 January, 2022, pgs. 20-29 (pg. 21, 24)

<sup>740</sup> *South by Southwest*, Christian Le Miere, Janes Defense Weekly, 12 January, 2022, pgs. 20-29 (pg. 24)

<sup>741</sup> *South by Southwest*, Christian Le Miere, Janes Defense Weekly, 12 January, 2022, pgs. 20-29 (pg. 24)

<sup>742</sup> [https://asia.nikkei.com/Politics/Japan-to-allow-ground-forces-across-nation-to-deploy-near-Okinawa#:~:text=Japan%25252520to%25252520allow%25252520ground%25252520forces%25252520across%25252520nation%25252520to%25252520deploy%25252520near%25252520Okinawa,-Tokyo%25252520seeks%25252520flexibility&text=TOKYO%25252520%25252520D%25252520Japan%25252520will%25252520reorganize,tensions%25252520in%25252520the%25252520Taiwan%25252520Strait.\(2022](https://asia.nikkei.com/Politics/Japan-to-allow-ground-forces-across-nation-to-deploy-near-Okinawa#:~:text=Japan%25252520to%25252520allow%25252520ground%25252520forces%25252520across%25252520nation%25252520to%25252520deploy%25252520near%25252520Okinawa,-Tokyo%25252520seeks%25252520flexibility&text=TOKYO%25252520%25252520D%25252520Japan%25252520will%25252520reorganize,tensions%25252520in%25252520the%25252520Taiwan%25252520Strait.(2022)

# United States

## Navy<sup>743</sup>

### Force Quality

#### *Submarine Force*

In general US Submariners are considered to be extremely skilled at their job. The submarine force undergoes force on force training at AUTECH to practice and develop new tactics.<sup>744</sup>

#### 3<sup>rd</sup> Fleet - Point Loma, CA

- 2 x Zumwalt Class
- CSG 1 – San Diego, CA
  - 1 x CV (USS Carl Vinson)
    - 3 x F/A-18, 1 x F-35 Squadrons
  - 2 x Cruisers
  - 5 x Destroyers
- CSG 3 – San Diego, CA
  - 1 x CV (USS Abraham Lincoln)
    - 3 x F/A-18, 1 x F-35 Squadrons
  - 2 x Cruisers
  - 5 x Destroyers
- CSG 9 - San Diego, CA
  - 1 x CV (USS Theodore Roosevelt)
    - 4 x F/A-18 Squadrons
  - 2 x Cruisers
  - 5 x Destroyers
- CSG 11 – NS Everett, WA
  - 1 x CV (USS Nimitz)
    - 4 x F/A-18 Squadrons
  - 1 x Cruiser
  - 5 x Destroyers
- Surface Squadron 31 – Pearl Harbor, HI
  - 1 x Cruiser
  - 9 x Destroyers
- ESG 3 – San Diego, CA
  - 1 x LHA
  - 4 x LHD
  - 5 x LPD
  - 4 x LSD
- LCSRON - San Diego, CA
  - 13 x LCS
- MCM Squadron – San Diego, CA
  - 3 x CMC ships
- Submarine Squadron 1 – Pearl Harbor, HI

<sup>743</sup> [https://en.wikipedia.org/wiki/List\\_of\\_units\\_of\\_the\\_United\\_States\\_Navy#United\\_States\\_Third\\_Fleet\\_\(NB\\_Point\\_Loma,\\_CA\)](https://en.wikipedia.org/wiki/List_of_units_of_the_United_States_Navy#United_States_Third_Fleet_(NB_Point_Loma,_CA)) – Accessed 02/01/22

<sup>744</sup> <https://www.thedrive.com/the-war-zone/33090/how-american-and-allied-submarines-regularly-fight-to-the-death-off-the-bahamas>

- 2 x Los Angeles SSN
- 6 x Virginia SSN
- Submarine Squadron 7 – Pearl Harbor, HI
  - 6 x Los Angeles SSN
- Submarine Squadron 17 – Kitsap-Bangor, WA
  - 7 x Ohio SSBN
- Submarine Squadron 19 – Kitsap-Bangor, WA
  - 4 x Los Angeles SSN
  - 2 x Ohio SSGN
  - 1 x Ohio SSBN
- Submarine Development Squadron 5 – Kitsap-Bangor, WA
  - 3 x Seawolf SSN
- Submarine Squadron 11 – Point Loma, CA
  - 4 x Los Angeles SSN

#### 7<sup>th</sup> Fleet - Yokosuka, Japan

- 2 x Submarine tender (based in Guam)
- CSG 5 – Yokosuka, Japan
  - 1 x CV (USS Ronald Regan)
    - 4 x F/A-18 Squadrons
  - 3 x Cruisers
  - 7 x Destroyers
- ESG 7 – Sasebo, Japan
  - 1 x LCC
  - 1 x LHA
  - 2 x LPD
  - 2 x LSD
- MCM Squadron – Sasebo, Japan
  - 4 x MCM vessels<sup>745</sup>
- Submarine Squadron 15 – Guam<sup>746</sup>
  - 5 x Los Angeles SSN
  - 2 x Submarine tenders (both of the US submarine tenders)

### Other Important Information

Upward Facing Hydrophone Networks - the gaps between the Philippines, the Ryukyu Islands, and Taiwan.<sup>747</sup>

### Marine Corps

- I MEF (California)<sup>748</sup>
  - 1<sup>st</sup> Marine Div.
  - 1<sup>st</sup> Marine Logistics Group,

<sup>745</sup> <https://wavelroom.com/2022/11/21/mine-warfare-in-asia-pacific-naval-theatre-a-clear-and-present-danger/> (2022)

<sup>746</sup> [https://news.usni.org/2022/11/02/navy-expanding-attack-submarine-presence-on-guam-as-a-hedge-against-growing-chinese-fleet?ct=t\(USNI\\_NEWS\\_DAILY\)&mc\\_cid=a8422a2f74&mc\\_eid=b5bb52f60a](https://news.usni.org/2022/11/02/navy-expanding-attack-submarine-presence-on-guam-as-a-hedge-against-growing-chinese-fleet?ct=t(USNI_NEWS_DAILY)&mc_cid=a8422a2f74&mc_eid=b5bb52f60a) (2022)

<sup>747</sup> <https://www.foreignaffairs.com/articles/china/2022-06-16/consequences-conquest-taiwan-indo-pacific> (2022)

<sup>748</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022, <https://crsreports.congress.gov/product/pdf/R/R47096>, pg. 11

- 3<sup>rd</sup> Marine Aircraft Wing,
- 11<sup>th</sup>, 13<sup>th</sup>, 15<sup>th</sup> MEU - Camp Pendleton, California.
- Marine Rotational Force – Darwin, MRF-D (from April to October)<sup>749</sup>
  - Draws from the above. Organized into a MEU
- Marine Rotational Force - Southeast Asia<sup>750</sup>
  - Draws from the above.
- III MEF<sup>751</sup>
  - 3<sup>rd</sup> Marine Division – Okinawa<sup>752</sup>
    - 3<sup>rd</sup> Marine Littoral Regiment (same size as MEU) - Hawaii<sup>753</sup>
    - 3<sup>rd</sup> Reconnaissance Battalion
    - 12<sup>th</sup> MLR<sup>754</sup>
    - 4<sup>th</sup> Marine Regiment (most Bn's are deployed elsewhere)
  - 3<sup>rd</sup> Marine Expeditionary Force Information Group
  - 3<sup>rd</sup> Marine Expeditionary Brigade
  - 31<sup>st</sup> MEU – Okinawa
  - 3<sup>rd</sup> Marine Logistics Group
  - 1<sup>st</sup> Marine Aircraft Wing<sup>755</sup>
    - 2 x F-35B squadrons – Iwakuni
- Units in the Philippines
  - MQ-9 Grey Eagles at Basa Airbase (on rotational deployment)<sup>756</sup>

## **Air Force**

### **Force Issues**

“Throughout this project experts identified a lack of qualified ground crew personnel as one of the most serious constraints on the ability of the Air Force to sustain operations under fire, or to adopt a more dispersed basing posture.”<sup>757</sup> A CNAS report found that if China could effectively target US logistics, it would severely limit US Air Operations and force it to rely on strikes from CONUS based bombers.<sup>758</sup>

<sup>749</sup> <https://www.marforpac.marines.mil/MRFDarwin/> (accessed April 14, 2023) and

[https://en.wikipedia.org/wiki/Marine\\_Rotational\\_Force\\_%E2%80%93\\_Darwin](https://en.wikipedia.org/wiki/Marine_Rotational_Force_%E2%80%93_Darwin), unit is under I MEF command.

<https://www.pacom.mil/Media/News/News-Article-View/Article/2970258/marine-rotational-force-darwin-22-arrives-in-darwin/>.

<sup>750</sup> <https://www.pacom.mil/Media/News/News-Article-View/Article/3924808/marine-rotational-force-southeast-asia-begins-third-annual-deployment/>

<sup>751</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022,

<https://csreports.congress.gov/product/pdf/R/R47096>, pg. 13, with some details from

[https://en.wikipedia.org/wiki/III\\_Marine\\_Expeditionary\\_Force](https://en.wikipedia.org/wiki/III_Marine_Expeditionary_Force) - Accessed 02/01/22

<sup>752</sup> [https://en.wikipedia.org/wiki/3rd\\_Marine\\_Division](https://en.wikipedia.org/wiki/3rd_Marine_Division) - Accessed 02/03/22

<sup>753</sup> <https://www.marinecorpstimes.com/news/your-marine-corps/2020/09/22/corps-to-begin-3-year-marine-littoral-regiment-experiment-using-hawaii-marines/> (2020), it's placement under 3<sup>rd</sup> MARDIV is mentioned in <https://www.marinecorpstimes.com/news/your-marine-corps/2023/03/16/marine-littoral-regiment-fends-off-traditional-regiment-in-exercise/> (2023)

<sup>754</sup> <https://www.marines.mil/News/Press-Releases/Press-Release-Display/Article/3588984/12th-marine-regiment-redesignates-to-12th-marine-littoral-regiment/>, November 14, 2023

<sup>755</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022,

<https://csreports.congress.gov/product/pdf/R/R47096>, pg. 12, unit identifier from [https://en.wikipedia.org/wiki/1st\\_Marine\\_Aircraft\\_Wing](https://en.wikipedia.org/wiki/1st_Marine_Aircraft_Wing) - Accessed 02/01/22

<sup>756</sup> <https://news.usni.org/2024/06/03/u-s-marine-mq-9a-reapers-now-deployed-to-the-philippines>

<sup>757</sup> *Buying Time: Logistics for a New American Way of War*, Chris Dougherty, April 2023, CNAS Report. <https://s3.us-east-1.amazonaws.com/files.cnas.org/documents/CNASReport-Logistics-Final.pdf?mtime=20230411171556&focal=none> pg. 10

<sup>758</sup> *Buying Time: Logistics for a New American Way of War*, Chris Dougherty, April 2023, CNAS Report. <https://s3.us-east-1.amazonaws.com/files.cnas.org/documents/CNASReport-Logistics-Final.pdf?mtime=20230411171556&focal=none> pg. 10

## Runway Repair

Repairing a runway takes 8 hours total (it's much more complicated than this) assuming perfect conditions, and will take more as time goes on due to fatigue, breakdowns, losses, etc..<sup>759</sup>

Currently there are 2 Marine Wing Support Squadrons (MWSSs) in Japan, and the USAF 554th Red Horse Squadron on Guam, there are also limited EOD units.<sup>760</sup>

## USAF Pacific<sup>761</sup>

This list includes only offensive units (no support ones)

- 3rd Wing - JB Elmendorf-Richardson, Alaska
  - 1 x F-22A Squadron
- 8th Fighter Wing (FW) Kunsan AB, South Korea<sup>762</sup>
  - 2 x F-16C/D Squadrons (35th and 80th Fighter Squadrons)
- 15th Wing JB Pearl Harbor-Hickam, Hawaii
  - 1 x F-22A Squadron (19th Fighter Squadron)
- 18th Wing Kadena AB, Japan
  - 48 x 4<sup>th</sup> and 5<sup>th</sup> Gen aircraft (F-16's<sup>763</sup> and F-35's<sup>764</sup>, possible others<sup>765</sup>) on a rotational basis.<sup>766</sup>
  - May be 2 squadrons (18 planes each) of F-15EX in the future<sup>767</sup>
- 35th FW Misawa AB, Japan
  - 2 x F-16C/D Squadrons (13th and 14th Fighter Squadron)<sup>768</sup>
- 51st FW Osan AB, South Korea<sup>769</sup>
  - 1 x A-10C Squadron (25<sup>th</sup> Fighter Squadron)
  - 1 x F-16C/D Squadron (36<sup>th</sup> Fighter Squadron)
- 354th FW Eielson AFB, Alaska<sup>770</sup>
  - 1 x F-35 (355th Fighter Squadron)<sup>771</sup>
  - 1x F-16C/D (356th Fighter Squadron)

## USAF Air Combat Command<sup>772</sup>

This list includes only offensive units (no support ones) and leaves out units that are dedicated to a training role.

- 1st Fighter Wing - JB Langley-Eustis, Va.<sup>773</sup>
  - 2 x F-22 squadrons

<sup>759</sup> *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 21

<sup>760</sup> *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 37

<sup>761</sup> Air Force Magazine Almanac 2021 is the general source for all following unless indicated otherwise.

<sup>762</sup> <https://www.kunsan.af.mil/About-Us/Fact-Sheets/Article/412731/8th-fighter-wing/> - Accessed 02/01/22

<sup>763</sup> <https://www.airandspaceforces.com/spangdahlem-f-16s-deploy-to-kadena-permanent-replacement-for-f-15s-will-be-superior/> (2023)

<sup>764</sup> <https://www.kadena.af.mil/News/Article/3342555/lightning-iis-arrive-at-kadena-to-maintain-advanced-fighter-presence/> (2023)

<sup>765</sup> *Changing the Guard*, Janes Defense Weekly, 30 November, 2022, pg. 28-29, lists 1 squadron F-22's - the 525<sup>th</sup> Fighter Squadron of the 3<sup>rd</sup> Wing. Janes estimates that it would be "difficult to maintain regular deployments" to Kadena of only 5<sup>th</sup> Gen aircraft. (pg. 29)

<sup>766</sup> <https://www.defensenews.com/air/2022/10/27/air-force-to-replace-kadena-f-15-squadrons-with-rotational-fighters/> (2022)

<sup>767</sup> <https://www.twz.com/f-15ex-to-be-based-at-kadena-air-base-in-japan-report>

<sup>768</sup> <https://www.misawa.af.mil/Units/> - Accessed 02/01/22

<sup>769</sup> [https://en.wikipedia.org/wiki/51st\\_Fighter\\_Wing](https://en.wikipedia.org/wiki/51st_Fighter_Wing) - Accessed 02/01/22

<sup>770</sup> [https://en.wikipedia.org/wiki/354th\\_Fighter\\_Wing#354th\\_Operations\\_Group](https://en.wikipedia.org/wiki/354th_Fighter_Wing#354th_Operations_Group) - Accessed 02/01/22

<sup>771</sup> <https://www.dvidshub.net/image/7023924/49th-state-welcomes-49th-f-35> (2022) - Other sources note this as a F-16C/D Squadron, but the most up to date info says they just became a F-35 unit.

<sup>772</sup> Air Force Magazine Almanac 2022 is the general source for all following unless indicated otherwise.

<sup>773</sup> <https://www.jble.af.mil/About-Us/Units/Langley-AFB/1st-Fighter-Wing/#:~:text=The%201st%20Fighter%20Wing%20is,to%20support%20Combatant%20Commander%20taskings> - Accessed 09/28/2022



- 4th Fighter Wing Seymour - Johnson AFB, N.C.<sup>774</sup>
  - 4 x F-15E squadrons (only 2 are expeditionary)
- 20th Fighter Wing Shaw - AFB, S.C.<sup>775</sup>
  - 3 x F-16CM squadrons
- 23rd Wing - Moody AFB, Ga.
  - 2 x A-10C squadrons
- 355th Wing - Davis-Monthan AFB, Ariz.<sup>776</sup>
  - 1 x A-10C Squadron
- 366th Fighter Wing - Mountain Home AFB, Idaho<sup>777</sup>
  - 2 x F-15E Squadrons
- 388th Fighter Wing - Hill AFB, Utah<sup>778</sup>
  - 3 x F-35A Squadrons

Optionally the A-10's (or other aircraft) could theoretically be sent to Europe or the Middle East to free up other squadrons of aircraft instead for deployment to the Pacific.<sup>779</sup>

Aircraft	Inventory <sup>780</sup>	Mission Capable Rate <sup>781</sup>	Aircraft Available	Notes
B-52H	76	59.3%	45	Likely that some number would be tasked for deterrent actives elsewhere in the world
B-1	44	54.8%	24	
B-2	20	52.8%	10.5	

### Other Reinforcing Units<sup>782</sup>

2 Aerospace Expeditionary Forces (AEF) would be available with ~90 multi-role fighters and bombers, plus 31 intra-theatre refuelling aircraft and 13 ISR/EW aircraft.

### Role of the A-10

Much has been made on the unsuitability of the A-10 in a high intensity peer conflict. The author generally believes that they would be of limited use in a war against China compared to other platforms. If one were to use them however, they have several possible uses: maritime security patrols (before conflict), search and rescue support,<sup>783</sup> or it can be employed as a long loiter time weapons carrier for MALDs (up to 16, same as a B-52, for comparison a F-16 carries 4), SDBs (between 16-24 with pylons to spare), and JASSM (once JASSM is integrated with the A-10).<sup>784</sup> Another potential use could be against lightly defended targets like

<sup>774</sup> <https://www.seymourjohnson.af.mil/About-Us/Fact-Sheets/4th-Operations-Group/> – Accessed 09/28/2022

<sup>775</sup> <https://www.shaw.af.mil/About-Us/> – Accessed 09/28/2022

<sup>776</sup> <https://www.dm.af.mil/About-DM/Units/355th-Operations-Group/> – Accessed 09/28/2022

<sup>777</sup> <https://www.mountainhome.af.mil/About-MHAFB/> - Accessed 09/28/2022

<sup>778</sup> <https://www.hill.af.mil/About-Us/Fact-Sheets/Display/Article/1464092/388th-fighter-wing/> - Accessed 09/28/2022

<sup>779</sup> <https://www.wsj.com/articles/u-s-to-send-aging-attack-planes-to-mideast-and-shift-newer-jets-to-asia-europe-df72da15> (2023)

<sup>780</sup> *Base Point*, Janes Defense and Intelligence Review, February 2023, pg. 26-28, graphic on pg. 27

<sup>781</sup> Air & Space Forces Almanac 2023, [https://www.airandspaceforces.com/app/uploads/2023/06/Almanac2023\\_Fullissue\\_REV2.pdf](https://www.airandspaceforces.com/app/uploads/2023/06/Almanac2023_Fullissue_REV2.pdf), pg. 68

<sup>782</sup> IISS The Military Balance 2024

<sup>783</sup> [https://www.airforcetimes.com/news/your-air-force/2022/10/28/a-10-warhogs-to-brush-up-on-maritime-combat-in-pacific-deployment/?utm\\_source=facebook&utm\\_medium=social&utm\\_campaign=fb\\_aft&fbclid=IwAR2AtPn0n-uXhNCwxqql-IoJkrTOloqj5PcxzKiyhYGxATRkbY-6px\\_VGRU](https://www.airforcetimes.com/news/your-air-force/2022/10/28/a-10-warhogs-to-brush-up-on-maritime-combat-in-pacific-deployment/?utm_source=facebook&utm_medium=social&utm_campaign=fb_aft&fbclid=IwAR2AtPn0n-uXhNCwxqql-IoJkrTOloqj5PcxzKiyhYGxATRkbY-6px_VGRU) (2022)

<sup>784</sup> <https://www.thedrive.com/the-war-zone/a-10-warhogs-tusks-are-being-sharpened-for-a-high-end-fight> (2022), additional info on A-10 MALDs <https://www.thedrive.com/the-war-zone/a-10s-train-with-air-launched-decoys-alongside-b-1b-bombers> (2022)

coast guard ships or fishing vessels.<sup>785</sup> However, all of these are highly situational, and context dependent. Draw your own conclusion as to their use and their effectiveness.

## **Army**<sup>786</sup>

- US Army Pacific
  - 1<sup>st</sup> and 3<sup>rd</sup> Multi-Domain Task Forces<sup>787</sup> (brigade sized element)<sup>788</sup>
    - 1<sup>st</sup> is based at Joint Base Lewis McChord (Washington), under command of I Corps<sup>789</sup>
    - 3<sup>rd</sup> is based at Fort Shafter (Hawaii)
    - MDTF's will fight highly distributed across the Pacific in time of war<sup>790</sup>
  - 8<sup>th</sup> Army – South Korea
    - HQ - Camp Humphreys, ROK<sup>791</sup>
    - 2nd Infantry Division<sup>792</sup> - Camp Humphreys, ROK<sup>793</sup>
      - Headquarters Battalion
      - 2<sup>nd</sup> Stryker BCT, 2ID (rotational unit)<sup>794</sup>
      - 210 Field Artillery Brigade<sup>795</sup>
        - (of 2 x Regiments)
      - 2nd Combat Aviation Brigade
    - Army Level Units<sup>796</sup>
      - Air and Missile Defense Brigade
      - MI Brigade
      - Signals Brigade
    - 19th Expeditionary Sustainment Command
  - I Corps
    - 7th Infantry Division - Washington<sup>797</sup>
      - 1<sup>st</sup> Stryker BCT
      - 2<sup>nd</sup> Stryker BCT
      - 81<sup>st</sup> Stryker BCT (National Guard)
      - Divisional Artillery, 2<sup>nd</sup> Infantry Division
      - 16<sup>th</sup> Combat Aviation Brigade

<sup>785</sup> This is the authors view and may be a result of reading *The Hunt for Red October* too many times.

<sup>786</sup> [https://en.wikipedia.org/wiki/United\\_States\\_Army\\_Alaska#Current\\_Structure](https://en.wikipedia.org/wiki/United_States_Army_Alaska#Current_Structure) - Accessed 02/01/22

<sup>787</sup> [https://www.army.mil/article/260505/third\\_multi\\_domain\\_task\\_force\\_activated\\_for\\_indo\\_pacific\\_duty](https://www.army.mil/article/260505/third_multi_domain_task_force_activated_for_indo_pacific_duty) (2023)

<sup>788</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022, <https://crsreports.congress.gov/product/pdf/R/R47096>, pg. 10

<sup>789</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022, <https://crsreports.congress.gov/product/pdf/R/R47096>, pg. 8

<sup>790</sup> [https://www.army.mil/article/277487/3d\\_mdtf\\_demonstrates\\_ability\\_to\\_operate\\_in\\_the\\_indo\\_pacific](https://www.army.mil/article/277487/3d_mdtf_demonstrates_ability_to_operate_in_the_indo_pacific)

<sup>791</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022, <https://crsreports.congress.gov/product/pdf/R/R47096>, pg. 12

<sup>792</sup> <https://www.2id.korea.army.mil/About-Us/Organization/> - Accessed 02/03/22

<sup>793</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022, <https://crsreports.congress.gov/product/pdf/R/R47096>, pg. 12

<sup>794</sup> <https://www.defense.gov/News/Releases/Release/Article/3081616/army-announces-korea-rotational-force-transition/>, <https://www.stripes.com/branches/army/2022-10-11/army-stryker-rotation-south-korea-7647687.html>

<sup>795</sup> [https://www.army.mil/article/163345/210th\\_field\\_artillery\\_brigade\\_welcomes\\_new\\_rotational\\_mlr\\_battalion](https://www.army.mil/article/163345/210th_field_artillery_brigade_welcomes_new_rotational_mlr_battalion)

<sup>796</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022, <https://crsreports.congress.gov/product/pdf/R/R47096>, pg. 11

<sup>797</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022,

<https://crsreports.congress.gov/product/pdf/R/R47096>, pg. 10, unit numbers from [https://en.wikipedia.org/wiki/7th\\_Infantry\\_Division\\_\(United\\_States\)#Current\\_structure](https://en.wikipedia.org/wiki/7th_Infantry_Division_(United_States)#Current_structure) - Accessed 02/03/22

- 25th Infantry Division – Hawaii<sup>798</sup>
  - 2<sup>nd</sup> Infantry BCT
  - 3<sup>rd</sup> Infantry BCT
  - DIVARTY is organic to BCT's rather than their own command.
  - 25<sup>th</sup> Combat Aviation Brigade
- 593rd Expeditionary Sustainment Command
- 5<sup>th</sup> Security Force Assistance Brigade<sup>799</sup>
- United States Army, Alaska<sup>800</sup>
  - 11<sup>th</sup> Airborne Division
    - 1<sup>st</sup> Infantry Brigade<sup>801</sup>
    - 2<sup>nd</sup> Infantry Brigade (Airborne)
    - Helicopter Units
      - 1/25 Attack/Reconnaissance Battalion<sup>802</sup>
      - 1-52 General Support Aviation Battalion<sup>803</sup>
- Corps Forces<sup>804</sup>
  - 17th Field Artillery Brigade (HIMARS) – Washington
  - MI Brigade
  - Engineer Brigade
  - MP Brigade
- United States Army, Japan<sup>805</sup>
  - Air Defense Brigade
  - Aviation Battalion
  - MI Brigade
  - 1st Battalion/1st Special Forces Group
- 8th Theater Sustainment Command (Hawaii)
- 9th Mission Support Command (Hawaii)
- In the Philippines
  - Army drone unit at Edwin Andrews Air Base supporting counterinsurgency operations.<sup>806</sup>
- Immediate Response Force – CONUS
  - 18-hour standby BCT from the 82<sup>nd</sup> Airborne
  - 18-hour standby 75<sup>th</sup> Ranger Regiment<sup>807</sup>
- NATO High Readiness Units

<sup>798</sup> <https://home.army.mil/hawaii/25thID> accessed July 16 2024, organic DIVARTY from

[https://en.wikipedia.org/wiki/25th\\_Infantry\\_Division\\_\(United\\_States\)#Organization](https://en.wikipedia.org/wiki/25th_Infantry_Division_(United_States)#Organization) - Accessed 02/03/22

<sup>799</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022, <https://crsreports.congress.gov/product/pdf/R/R47096>, pg. 10

<sup>800</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022, <https://crsreports.congress.gov/product/pdf/R/R47096>, pg. 8

<sup>801</sup> Note that this unit was 1<sup>st</sup> SBCT from 25<sup>th</sup> Infantry Division originally, then was transferred to Alaska to form the 11<sup>th</sup> Airborne Division with 4<sup>th</sup> Airborne Brigade Combat Team. The unit lost its Strykers (<https://www.military.com/daily-news/2022/09/20/alaska-gets-rid-of-strykers-brigade-shifts-air-assault.html>, 2022) and became 1<sup>st</sup> IBCT and 4<sup>th</sup> became the 2<sup>nd</sup> BCT of the division.

<sup>802</sup> <https://11thairbornedivision.army.mil/Units/1-25-Attack-Reconnaissance-Battalion/> (accessed Oct 14, 2023)

<sup>803</sup> <https://11thairbornedivision.army.mil/Units/1-52-General-Support-Aviation-Battalion/> (accessed Oct 14, 2023)

<sup>804</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022, <https://crsreports.congress.gov/product/pdf/R/R47096>, pg. 10

<sup>805</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022, <https://crsreports.congress.gov/product/pdf/R/R47096>, pg. 12

<sup>806</sup> [https://news.usni.org/2024/11/18/u-s-and-philippines-sign-intel-treaty-break-ground-on-new-command-center?ct=t\(USNI\\_NEWS\\_DAILY\)&mc\\_cid=7173ac7a41&mc\\_eid=b5bb52f60a](https://news.usni.org/2024/11/18/u-s-and-philippines-sign-intel-treaty-break-ground-on-new-command-center?ct=t(USNI_NEWS_DAILY)&mc_cid=7173ac7a41&mc_eid=b5bb52f60a)

<sup>807</sup> <https://75th-ranger-regiment.org/about-75th-ranger-regiment/> (accessed April 21, 2023), indicates all the Bn.'s are on 18 hour notice.

- 1<sup>st</sup> Armored BCT/3<sup>rd</sup> Infantry Division (Georgia)<sup>808</sup>
- Other Rapidly Deployable Units
  - 82<sup>nd</sup> Airborne Brigade
    - 3 BCT's
      - One BCT is part of the Immediate Response Force
      - Two Airborne BCT's available for deployment
    - One Combat Aviation Brigade
- Additional High Value Capabilities for Deployment
  - 4 x CONUS THADD Battery (total of 7 batteries in inventory, the other three are deployed in Hawaii, South Korea, and Guam),<sup>809</sup> some number of these would be unavailable due to maintenance.
    - Made of 6-9 launch vehicles, each with 8 missiles.<sup>810</sup>
  - Patriot Batteries - Total 33 CONUS batteries + 27 batteries overseas, not all would be available for use, and not all use PAC-3 (some are still PAC-2)<sup>811</sup>
  - INDOPACOM Deployment<sup>812</sup>
    - 3 x Patriot Battalions – 2 in Korea, 1 at Kaneda Air Base, 3 elsewhere in Okinawa<sup>813</sup>
    - 2 x THADD Battery
    - Note that as of 2022, across all Army units, 15 Patriot Bn's and all 7 THADD batteries are dedicated to missile defense. It's unclear if the deployments above are specific to missile defense or also include air defense missions.
- Other rapid reaction forces are put together as needed.

#### US Army Material Command (in the Pacific Theater)

- 1 x Army pre-positioned stock afloat (APS-3)<sup>814</sup>
  - Several “United States naval ship (Large Medium-Speed Roll-On/Roll-Off (RO/RO) (LMSR) vessels containing pre-configured unit sets and Unit Basic Load (UBL) of various classes of supply, in addition to Class V theater stock carrying commercial Motor Vessels (M/V).”<sup>815</sup>
  - It's unclear how much individual ships/whole group carry, but “17 M1 Abrams ... as well as 400 pieces of rolling stock”,<sup>816</sup> and “500 pieces of army equipment [plus other stores]”<sup>817</sup>

<sup>808</sup> <https://www.defensenews.com/news/pentagon-congress/2022/02/25/thousands-of-us-troops-deploying-for-first-ever-nato-response-force-activation-amid-russia-attack/> (2022)

<sup>809</sup> <https://www.armscontrol.org/factsheets/usmissiledefense> (2019)

<sup>810</sup> *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 18

<sup>811</sup> <https://media.defense.gov/2019/Jan/17/2002080666/-1/-1/1/2019-MISSILE-DEFENSE-REVIEW.PDF> (2019) pg. 50

<sup>812</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022, <https://crsreports.congress.gov/product/pdf/R/R47096>, pg. 2-3

<sup>813</sup> *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 18, 52

<sup>814</sup> <https://www.defensenews.com/digital-show-dailies/ausa/2022/10/11/us-army-materiel-command-tasked-to-ramp-up-joint-logistics-in-pacific/> (2022)

<sup>815</sup> [https://www.army.mil/article/228788/aps\\_3\\_floating\\_stock\\_deployment\\_and\\_rsoi](https://www.army.mil/article/228788/aps_3_floating_stock_deployment_and_rsoi) (2019)

<sup>816</sup> [https://www.defensenews.com/digital-show-dailies/global-force-symposium/2023/04/07/army-readies-for-record-setting-logistics-exercise-in-pacific/?utm\\_source=twitter&utm\\_medium=social&utm\\_campaign=tw\\_dfn](https://www.defensenews.com/digital-show-dailies/global-force-symposium/2023/04/07/army-readies-for-record-setting-logistics-exercise-in-pacific/?utm_source=twitter&utm_medium=social&utm_campaign=tw_dfn) (2023)

<sup>817</sup> [https://www.army.mil/article/262377/aps\\_3\\_dynamic\\_deployment\\_begins\\_on\\_oahu](https://www.army.mil/article/262377/aps_3_dynamic_deployment_begins_on_oahu) (2022)

- The APS-3 (Afloat) stocks aboard ships have prepositioned sets, ammunition, operational project stocks and sustainment stocks.<sup>818</sup> They have sets of equipment for different BCT's<sup>819</sup>
- APS-3 operates from Charleston, South Carolina, and Diego Garcia<sup>820</sup>
- 4 x Land-based Army pre-positioned stock locations in the Indo-Pacific AO (APS-4)<sup>821</sup>
  - Locations
    - Camp Carroll, Korea
    - Yokohama, Japan
    - Camp Sagami, Japan
    - 1 x unknown?
  - APS-4 (Northeast Asia) has prepositioned sets, operational project stocks, sustainment stocks, ammunition and watercraft.<sup>822</sup>

## Missile Inventories

Weapon	Type	# in Inventory	Launch Platform	Notes
CALCM (Retired 2019)	Air-to-Surface	450 <sup>823</sup>		1,300 km. #'s from 2017, but no production since then.
SLAM-ER	Air-to-Surface, ASHM	700-1,500 <sup>824</sup>	Multitroles	300km, 700 as of 2017, upgrades to 1,500 ongoing
JASSM	Air-to-Surface	3,000 <sup>825</sup>	Internally B-1B, B-52, B-2. Externally F-16, F-15E, F/A-18, F-35	200 nm
JASSM-ER	Air-to-Surface	2,000 <sup>826</sup>	B1B, B-2, Externally F-15E	500 nm
Harpoon	AShM	2,000-4,000 <sup>827</sup>	Everything	Numbers very unclear
LRASM	AShM	198 <sup>828</sup>	Aircraft	200-300 miles <sup>829</sup>

<sup>818</sup> <https://www.ousa.org/sites/default/files/TBIP-2008-Army-Prepositioned-Stocks-Indispensable-to-Americas-Global-Force-Projection-Capability.pdf> (2008) pg. 3

<sup>819</sup> <https://www.defensenews.com/land/2022/07/21/us-armys-floating-equipment-stockpile-in-pacific-gets-first-test/> (2022), known sets are IBCT

<sup>820</sup> The list of the given locations comes from the map on pg. 2 of: <https://www.ousa.org/sites/default/files/TBIP-2008-Army-Prepositioned-Stocks-Indispensable-to-Americas-Global-Force-Projection-Capability.pdf> (2008)

<sup>821</sup> <https://www.defensenews.com/digital-show-dailies/ousa/2022/10/11/us-army-materiel-command-tasked-to-ramp-up-joint-logistics-in-pacific/> (2022), the list of the given locations comes from the map on pg. 2 of: <https://www.ousa.org/sites/default/files/TBIP-2008-Army-Prepositioned-Stocks-Indispensable-to-Americas-Global-Force-Projection-Capability.pdf> (2008). It's possible that I may be misreading the first source and "Indo-Pacific" includes the middle east, in which case Camp Arifjan & Kuwait Naval Base, and Camp As Saliyah, Qatar would be two of the bases, while the bases in Japan would count as one.

<sup>822</sup> <https://www.ousa.org/sites/default/files/TBIP-2008-Army-Prepositioned-Stocks-Indispensable-to-Americas-Global-Force-Projection-Capability.pdf> (2008) pg. 3

<sup>823</sup> *The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017, RAND, published 2015*, Heginbotham et. al., pg. 106. Retired in 2019 - <https://www.dvidshub.net/image/5933234/history-making-final-calcmm-missile-package-retired> (2019)

<sup>824</sup> *The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017, RAND, published 2015*, Heginbotham et. al., pg. 218, see footnote 36

<sup>825</sup> <https://sgp.fas.org/crs/weapons/R45996.pdf> (2021) pg.15-16, number based on guesswork from source and known production rates for end of FY2022

<sup>826</sup> <https://sgp.fas.org/crs/weapons/R45996.pdf> (2021) pg.15-16, number based on guesswork from source and known production rates for end of FY2022

<sup>827</sup> *The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017, RAND, published 2015*, Heginbotham et. al., pg. 217.

<sup>828</sup> <https://www.defensenews.com/naval/2020/02/11/as-china-continues-rapid-naval-expansion-the-us-navy-begins-stockpiling-ship-killing-missiles/> (2021) – current number is based on projected buys from 2021

<sup>829</sup> <https://www.twz.com/air/land-attack-capability-axed-on-agm-158c-lrasm-anti-ship-missile> (2024)

Maritime Strike Tomahawk	AShM	88 <sup>830</sup>	Ship	
Naval Strike Missile	AShM	30 <sup>831</sup>	Ship	100-300 miles
Long-Range Hypersonic Weapon (LRHW)	Surface-to-surface	Salvo or lesss	Ground launcher	1,725 miles <sup>832</sup>
JSOW	Air to Surface	5050- <sup>833</sup>		
THADD interceptors	SAM	~500	Ground Launcher	Source <sup>834</sup>
Patriot interceptors	SAM	~1,200	Ground Launcher	Source <sup>835</sup>

## **Munitions Production Rates**

All of the following at current production rates, which could potentially be expanded in wartime.

### **Army Equipment**

- Javelin – 14,000 in stockpile, 2,100 produced a year, heading towards 4,000<sup>836</sup>
- 155mm Artillery Shells – 14,000 monthly capacity (may be different from production), hopefully 30,000 in 2023, and 90,000 per year (500% expansion in two years)<sup>837</sup>

### **Missiles**

- PRISM – 110 produced a year<sup>838</sup>
- Tomahawk – 60 produced a year<sup>839</sup> through from 2000-2021 an average of 209 Tomahawks were produced each year<sup>840</sup>

<sup>830</sup> <https://www.defensenews.com/naval/2020/02/11/as-china-continues-rapid-naval-expansion-the-us-navy-begins-stockpiling-ship-killing-missiles/> (2021) – current number is based on projected buys from 2021

<sup>831</sup> <https://www.defensenews.com/naval/2020/02/11/as-china-continues-rapid-naval-expansion-the-us-navy-begins-stockpiling-ship-killing-missiles/> (2021) – current number is based on projected buys from 2021

<sup>832</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022, <https://crsreports.congress.gov/product/pdf/R/R47096>, pg. 25

<sup>833</sup> [https://www.esd.whs.mil/Portals/54/Documents/FOID/Reading%20Room/Selected\\_Acquisition\\_Reports/FY\\_2014\\_SARS/15-F-0540\\_JSOW\\_SAR\\_Dec\\_2014.pdf](https://www.esd.whs.mil/Portals/54/Documents/FOID/Reading%20Room/Selected_Acquisition_Reports/FY_2014_SARS/15-F-0540_JSOW_SAR_Dec_2014.pdf), pg. 20 says 5450 procured,

[https://web.archive.org/web/20061020015633/http://www.raytheon.com/products/stellent/groups/public/documents/content/cms01\\_055754.pdf](https://web.archive.org/web/20061020015633/http://www.raytheon.com/products/stellent/groups/public/documents/content/cms01_055754.pdf), states 400 used since 2005

<sup>834</sup> *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 18

<sup>835</sup> *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 18

<sup>836</sup> <https://rusi.org/explore-our-research/publications/commentary/return-industrial-warfare> (2022), note that the numbers given in [https://www.foreignaffairs.com/united-states/americas-looming-munitions-crisis?utm\\_medium=social](https://www.foreignaffairs.com/united-states/americas-looming-munitions-crisis?utm_medium=social) (2023) some % of 8,500 Javelins being 7 years of production do not match, but I prefer the specificity of the RUSI piece as it references an article that is quoting the producer (Lockheed Martin), over a general statement by the head of CSIS, and the Foreign Affairs article cannot provide specific numbers and seems to be off the RUSI piece and with itself later on (the number transferred in the first six months is some % of 8,500 = 7 years of production, which is not solvable), though it does agree with heading towards 4,000 produced per year (“double production” which is very close to the 2,100 number I have).

<sup>837</sup> [https://www.foreignaffairs.com/united-states/americas-looming-munitions-crisis?utm\\_medium=social](https://www.foreignaffairs.com/united-states/americas-looming-munitions-crisis?utm_medium=social) (2023)

<sup>838</sup> <https://rusi.org/explore-our-research/publications/commentary/return-industrial-warfare> (2022)

<sup>839</sup> <https://rusi.org/explore-our-research/publications/commentary/return-industrial-warfare> (2022)

<sup>840</sup> *Beyond Precision Maintaining America’s Strike Advantage In Great Power Conflict*, CBSA, Tyler Hacker, 2023, pg. iii

- AGM-158 Family – 500-627<sup>841</sup> produced a year hoping to be doubled by 2024<sup>842</sup>
  - LRASM
  - JASSM
  - JASSM-ER
- Patriot<sup>843</sup>
  - PAC-3 550 produced a year in 2024, and 650 by 2027. The supply chain has also been invested in to make it more resilient. Seeker production for the missiles can be well over 650 if required
  - PAC-2 GEM-T – ~20 per month in 2024 (240/year), up to 35 per month (420/year) by 2027 though this increase is in part coming from international manufacturing.

Certain elements of this system have one-company bottlenecks: “The Javelin, for instance, relies on a rocket motor that is currently produced exclusively by the company Aerojet Rocketdyne [notably the Pentagon is pending \$80 million to stand up another source for the motors]. Only one company, Williams International, builds turbofan engines for most cruise missiles.”<sup>844</sup>

As a rough rule of thumb for missiles the lead time from starting to producing the first missile is two years.<sup>845</sup>

## **Hydrophone Network**

Integrated Undersea Surveillance System (IUSS)<sup>846</sup>

- A mix of undersea hydrophones and SURTASS ships as the mobile element. Oversees both Pacific and Atlantic.
  - In 2012 all SURTASS (Victorious and Impeccable -class) were deployed in the Pacific.
  - As of 2024 the US has (under Military Sealift Command): <sup>847</sup>
    - 4 x Victorious-class (Victorious, Able, Effective, and Loyal, as T-AGOS 19-22 respectively)
    - 1 x Impeccable-class (Impeccable, T-AGOS 23)
    - 2 x Offshore Supply Ships (HOS Red Rock, HOS Red Dawn), that employ SURTASS-E, a containerized capability<sup>848</sup>

<sup>841</sup> <https://rusi.org/explore-our-research/publications/commentary/return-industrial-warfare> (2022), <https://www.navalnews.com/event-news/sea-air-space-2023/2023/04/navy-looks-to-dramatically-increase-missile-production/> (2023), *Industry Looks to Surge Munitions Production Beyond Arming Ukraine*, Brian Everstein and Steve Tremble, Aviation Week and Space Technology, Dec 26 2022 – Jan 15 2023, pg. 60-62 (pg. 62) gives that there are plans to increase production to 1,100, which is 57% current output, which reverse engineering vies an output of 627 missiles. It's possible that 500 was the pre-Ukraine war production and the 627 is the surged production, or it could be for the whole family including LRASM making up the difference between the two numbers.

<sup>842</sup> <https://www.navalnews.com/event-news/sea-air-space-2023/2023/04/navy-looks-to-dramatically-increase-missile-production/> (2023)

<sup>843</sup> [https://www.defensenews.com/land/2024/04/09/how-companies-plan-to-ramp-up-production-of-patriot-missiles/?utm\\_source=twitter&utm\\_medium=social&utm\\_campaign=tw\\_dfn](https://www.defensenews.com/land/2024/04/09/how-companies-plan-to-ramp-up-production-of-patriot-missiles/?utm_source=twitter&utm_medium=social&utm_campaign=tw_dfn)

<sup>844</sup> [https://www.foreignaffairs.com/united-states/americas-looming-munitions-crisis?utm\\_medium=social](https://www.foreignaffairs.com/united-states/americas-looming-munitions-crisis?utm_medium=social) (2023)

<sup>845</sup> Ukraine and Lessons learned for Airpower and Spacepower, War on the Rocks Podcast, June 29 2023.

<sup>846</sup> [https://www.foreignaffairs.com/united-states/americas-looming-munitions-crisis?utm\\_medium=social](https://www.foreignaffairs.com/united-states/americas-looming-munitions-crisis?utm_medium=social) (2023)

<sup>847</sup> *The Silent Service's Quiet Partner*, by COMSUBPAC Public Affairs in *Undersea Warfare*, Issue48, Spring 2012, pg. 20-21

<sup>848</sup> The general 2012 source was checked against Military Sealift Commands 2024 list of ships:

[https://www.msc.usff.navy.mil/Portals/43/Posters/MS\\_C\\_USNavyShips-2024.pdf?ver=dV3swV93GrTAyspFFQsLpg%3d%3d](https://www.msc.usff.navy.mil/Portals/43/Posters/MS_C_USNavyShips-2024.pdf?ver=dV3swV93GrTAyspFFQsLpg%3d%3d)

<sup>849</sup> <https://www.navalnews.com/naval-news/2023/05/australia-cleared-for-207-million-modular-surtass-buy/>

- Red Rock is based in Norfolk,
- Overseen by Commander, Undersea Surveillance, though as of 2009 COMSUBPAC is the TYCOM for the IUSS.
- 2 Naval Ocean Processing Facilities (NOPFs)
  - Dam Neck, Va. - Commander, Undersea Surveillance is based here.
  - Whidbey Island, Wash.

## Hydrophone Arrays





Several of these are operated jointly with the Japanese.<sup>849</sup>

The US also has a number of hydrophones outside Chinese submarine bases.<sup>850</sup>

In 2016 General Dynamics was awarded a contract to develop new hydrophone arrays, the Deep Reliable Acoustic Path Exploitation System (DRAPES).<sup>851</sup> These are likely to be Reliable Acoustic Path (RAP) Arrays, as opposed to the older SOSUS model that is defeated by modern quieting. Older SOSUS hydrophones did wide area detection using low and very low frequencies that transmitted across the ocean via the deep sound channel (e.g. only things in the open ocean could be detected, as shallow water is not deep enough to have the channel). Each RAP hydrophone covers “tea cup-shaped zone of coverage several miles deep and 20 miles wide at the surface.” Each array has thousands of hydrophones and can detect even very quiet submarines as they transit through, allowing for more searching assets to be sent to attempt to localize and prosecute the contact.<sup>852</sup>

## **Mines**<sup>853</sup>

### **Ship Delivered**

- The Navy does not have ship laid mines.<sup>854</sup>

### **Air Delivered Mines**<sup>855</sup>

#### **Quickstrike**

Weapon	Based on	Size
Mk. 62 Quickstrike Quickstrike-ER (based on JDAM-ER, which is based on the Mk. 82)	Mk. 82 bomb	500 lbs.
Mk. 63 Quickstrike	Mk. 83 bomb	1,000 lbs.
Mk. 64 Quickstrike	Mk. 84 bomb	2,000 lbs.
Mk. 65 Quickstrike - Quickstrike-J	N/A	2,000 lbs.

Bomb based mines (QuickStrike) “can be laid by trained crews at low altitude from the Navy’s P-3 and F-18, and by the Air Force’s B-1 and B-52”<sup>856</sup> In addition, P-8A’s can also lay Quickstrike mines.<sup>857</sup> A B-1 can carry 84 of the Mk-36 QuickStrike mines, and 8 Mk-65

<sup>849</sup> Ball, Desmond, and Richard Tanter. “US SOSUS Stations.” In *The Tools of Owatsumi: Japan’s Ocean Surveillance and Coastal Defence Capabilities*, 51–54. ANU Press, 2015. <http://www.jstor.org/stable/j.ctt13wwwvt.15>, pg. 53

<sup>850</sup> Ball, Desmond, and Richard Tanter. “US SOSUS Stations.” In *The Tools of Owatsumi: Japan’s Ocean Surveillance and Coastal Defence Capabilities*, 51–54. ANU Press, 2015. <http://www.jstor.org/stable/j.ctt13wwwvt.15>, pg. 53

<sup>851</sup> <https://thediplomat.com/2016/11/us-navy-upgrading-undersea-sub-detecting-sensor-network/>

<sup>852</sup> Invisible nuclear-armed submarines, or transparent oceans? Are ballistic missile submarines still the best deterrent for the United States?, Bulletin of the Atomic Scientists, 2019, Vol. 75, NO. 1, 30–35, <https://doi.org/10.1080/00963402.2019.1555998>, pg. 33-34

<sup>853</sup> For an overview of US mine warfare, and specifics on US mines, see MINE WARFARE, NWP 3-15 or MCWP 3-3.1.2 (1996)

[https://ia902609.us.archive.org/24/items/milmanual-mcwp-3-3.1.2-mine-warfare/mcwp\\_3-3.1.2\\_mine\\_warfare.pdf](https://ia902609.us.archive.org/24/items/milmanual-mcwp-3-3.1.2-mine-warfare/mcwp_3-3.1.2_mine_warfare.pdf), section 2-9

<sup>854</sup> [https://warontherocks.com/2022/11/invisible-blockades-and-strategic-coercion/?\\_\\_s=v9qoijgke47g70218fdn](https://warontherocks.com/2022/11/invisible-blockades-and-strategic-coercion/?__s=v9qoijgke47g70218fdn) (2022), see also *U.S. Navy Mine Warfare Programs*, CAPTAIN Danielle George, Major Program Manager, 16 January 2020, <https://www.navsea.navy.mil/Portals/103/Documents/Exhibits/SNA2020/SNA2020-MineWarfarePrograms-CaptDanielleGeorge.pdf?ver=2020-01-17-113441-990>, slide 9

<sup>855</sup> MINE WARFARE, NWP 3-15 or MCWP 3-3.1.2 (1996) [https://ia902609.us.archive.org/24/items/milmanual-mcwp-3-3.1.2-mine-warfare/mcwp\\_3-3.1.2\\_mine\\_warfare.pdf](https://ia902609.us.archive.org/24/items/milmanual-mcwp-3-3.1.2-mine-warfare/mcwp_3-3.1.2_mine_warfare.pdf), section 2-9 and *U.S. Navy Mine Warfare Programs*, CAPTAIN Danielle George, Major Program Manager, 16 January 2020, <https://www.navsea.navy.mil/Portals/103/Documents/Exhibits/SNA2020/SNA2020-MineWarfarePrograms-CaptDanielleGeorge.pdf?ver=2020-01-17-113441-990>, slide 9, <https://news.usni.org/2016/04/26/essay-navy-air-force-reviving-offensive-mining-with-new-quickstrikes> (2016)

<sup>856</sup> <https://news.usni.org/2016/04/26/essay-navy-air-force-reviving-offensive-mining-with-new-quickstrikes> (2016)

<sup>857</sup> Launch Mines From the Stratosphere, Lt. Kyle Cregge USN, *Proceedings*, August 2023, Pg. 100

QuickStrike mines.<sup>858</sup> For the 500lb. Mk 62 mines, B-52's and B-1's can carry 140 mines, and B-2's 80 mines.<sup>859</sup> F/A-18's can also deliver mines,<sup>860</sup> and a single aircraft could deliver up to 10 Mk-63's<sup>861</sup>

However “[m]inelaying accuracy is very low, with the parachute kits contributing to poor predictability. Air-laid minefields [sic] are this designed for a “random uniform distribution” and consequently require large numbers of mines (and multiple minelaying passes at substantial risk to the aircraft) to be effective”.<sup>862</sup> With guidance kits, accuracy would be greatly improved, new Quickstrike-ER and Quickstrike-J kits will have a CEP of ~6 meters.<sup>863</sup>

A Quickstrike-ER's has a glide ratio of 6.94 (e.g. altitude of launch \* 6.94 = # of ft. the bomb can travel from the launch point), for a bomber release at 35,000 ft, this means 40 nautical miles.<sup>864</sup>

## Submarine Laid Mines

The only current submarine laid mine is the Mk 67 mobile mine (often called the Submarine Launched Mobile Mine SLMM) which is outdated and cannot be launched by Virginias.<sup>865</sup> They have not been discussed having been used in exercise since 2015.<sup>866</sup> A classified number are in storage on Guam.<sup>867</sup>

## Inventory

The US has ~3180 mines in inventory (very first order approximation),<sup>868</sup> Presumably majority of these would be Mk. 65 Quickstrike and Quickstrike-J, as Mk. 62, 63, and ER are made mines

<sup>858</sup> <https://www.airandspaceforces.com/b-1s-carry-naval-mines-for-bomber-task-force-mission/> (2022)

<sup>859</sup> Cancian, Matthew (2022) "An Offensive Minelaying Campaign Against China," Naval War College Review: Vol. 75: No. 1, Article 6. <https://digital-commons.usnwc.edu/nwc-review/vol75/iss1/6>, pg. 9

<sup>860</sup> <https://warontherocks.com/2023/08/lessons-learned-of-lessons-observed-the-u-s-navys-relationship-with-mine-warfare/> (2023)

<sup>861</sup> <https://www.thedrive.com/the-war-zone/11355/this-syria-bound-super-hornet-is-carrying-a-uniquely-massive-bomb-load> (2020)

<sup>862</sup> <https://news.usni.org/2016/04/26/essay-navy-air-force-reviving-offensive-mining-with-new-quickstrikes> (2016)

<sup>863</sup> <https://news.usni.org/2016/04/26/essay-navy-air-force-reviving-offensive-mining-with-new-quickstrikes> (2016)

<sup>864</sup> Launch Mines From the Stratosphere, Lt. Kyle Cregge USN, *Proceedings*, August 2023, Pg. 100

<sup>865</sup> Cancian, Matthew (2022) "An Offensive Minelaying Campaign Against China," Naval War College Review:

Vol. 75: No. 1, Article 6. <https://digital-commons.usnwc.edu/nwc-review/vol75/iss1/6>, pg. 8, *Mine Warfare in a Cross-Strait Invasion*, Chapter 11, Thomas Shugart, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 218

<sup>866</sup> *Mine Warfare in a Cross-Strait Invasion*, Chapter 11, Thomas Shugart, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 218

<sup>867</sup> *Mine Warfare in a Cross-Strait Invasion*, Chapter 11, Thomas Shugart, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 218

<sup>868</sup> <https://warontherocks.com/2023/08/lessons-learned-of-lessons-observed-the-u-s-navys-relationship-with-mine-warfare/> (2023) states that US adversaries have inventories 20-40 times the size of the US. The cited piece <https://www.usni.org/magazines/proceedings/2020/may/damn-torpedoes>, states “the People’s Liberation Army Navy is estimated to possess some 80,000 mines, while Russia’s inventory may total 125,000 or more. Even lesser competitors have embraced mines: North Korea has around 50,000, and Iran 4,000–6,000 weapons.” Using those numbers we get the following table (note the omission of Iran, as the US having 125-250 mines is unlikely.

Adversary	Inventory	US is 1/20	US is 1/40
PLAN	80,000	4000	2000
Russia	125,000	6250	3125
North Korea	50,000	2500	1250
Average		4250	2125
	Average	3187.5	

by changing the fuse on the bomb only and wouldn't be counted in inventory.<sup>869</sup> A “handful” of SLMM remain in service.<sup>870</sup>

### Mine Countermeasures<sup>871</sup>

- 8 x Navy Avenger MCM Ships (out of date and all due to be retired by 2027)
  - 4 x Sasebo, Japan and 4 x in Bahrain<sup>872</sup>
- ? x Navy LCS (crews not yet at operational proficiency)
  - Knifefish UUV<sup>873</sup>
- 2 x USMC MCM Helicopter Squadrons (MH-53's)
  - As of 2018 these were HM-14 and HM-15. They are rapidly deployable and mostly self-sustaining.<sup>874</sup>
- ? x MCM MH-60 Helicopters (substantially less effective than the MH-53's)
- Navy EOD expeditionary capability (effective capability)

The Navy Avengers and USMC MH-53 squadrons are to be phased out, but are delayed due to other capabilities not coming online.<sup>875</sup>

### Bases

#### *Pacific – Marianas Islands*

#### **Guam**

Fighter aircraft based in Guam can fly about ½ as many effective sorties as aircraft based in Japan/Philippines (1/2 sortie per day).<sup>876</sup> Guam has 2,000 National Guard soldiers.<sup>877</sup>

#### *Anderson AFB*

THAAD Battery and Iron Dome Battery<sup>878</sup>

Capacity for 250 aircraft, “space available to fighters would not likely exceed four to five squadrons” (roughly 100–125 aircraft), in addition to the other aircraft needed to enable

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<sup>869</sup> This is a guess based off the low number, therefore assuming this is only a count of the number of mines available, not things that could be turned into mines. To include that, one would be counting the fuses which would seem odd to me to include as “mines”. Given the looseness of the estimation here though, this may be incorrect.

<sup>870</sup> <https://cimsec.org/naval-mines-mining-innovating-face-benign-neglect/> (2016)

<sup>871</sup> <https://warontherocks.com/2023/08/lessons-learned-of-lessons-observed-the-u-s-navys-relationship-with-mine-warfare/> (2023)

<sup>872</sup> Build Partners, Build Autonomy, Rebuilding Mine Countermeasures, Lt. Cmdr. Andrew Kramer, Proceedings of the US Naval Institute, June 2024, pg. 56-59

<sup>873</sup> Build Partners, Build Autonomy, Rebuilding Mine Countermeasures, Lt. Cmdr. Andrew Kramer, Proceedings of the US Naval Institute, June 2024, pg. 56-59

<sup>874</sup> JP 3-15, Barriers, Obstacles, and Mine Warfare for Joint Operations, 06 September 2016

Validated 05 March 2018, [https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3\\_15.pdf?ver=E4f1lOixlYTx2M2qO8vWYQ%3D%3D](https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp3_15.pdf?ver=E4f1lOixlYTx2M2qO8vWYQ%3D%3D), Appendix B, pg 20 (B-20), pg. 100 in the PDF

<sup>875</sup> *Mine Warfare in a Cross-Strait Invasion*, Chapter 11, Thomas Shugart, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmsi-studies>, pg. 218

<sup>876</sup> The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017, RAND, published 2015, Heginbotham et. al., pg. 80

<sup>877</sup> U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress, Updated August 30, 2022,

<https://crsreports.congress.gov/product/pdf/R/R47096>, pg. 13

<sup>878</sup> <https://www.thedrive.com/the-war-zone/42687/the-iron-dome-air-defense-system-is-heading-to-guam> (2021)

those fighters and other aircraft.<sup>879</sup> If a squadron of bombers needed to be based, it would take up 2 squadrons worth of space.<sup>880</sup>

#### *Guam International Airport*

Has civilian element.

#### *Northwest Field*

Can land tankers, THAAD<sup>881</sup>

#### *Naval Base Guam*

The US from 2022 has started to expand it's capability's to operate submarines from the naval base.<sup>882</sup>

#### *Camp Blaz (USMC)*

5,000 perosn base, will house III MEF<sup>883</sup>

#### **Tinian Island**

##### *North Airfeild*

Can take fast jets and could be used, but cannot sustain military operations for a long time.<sup>884</sup> Currently be refurbished to have 4 x 8,000 ft. runways.<sup>885</sup>

##### *Tinian International Airport (Civilian)*

Could be used for dispersed basing.

#### **Saipan**

##### *Saipan International Airport (Civilian)*

Could be used for dispersed basing.

#### **Rota**

##### *Rota International Airport (Civilian)*

Could be used for dispersed basing.

### ***Pacific – Other***

#### **Marshal Islands**

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<sup>879</sup> The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017, RAND, published 2015, Heginbotham et. al., pg.78. Please also note the caveats provided in the footnote. AS OF MARCH 2023, there has been no airfield expansion (though there has been expansion of some non-airfield facilities), meaning that the RAND report's numbers are still current.

<sup>880</sup> This is a rough rule of thumb based on the information in footnote 9 (assuming a tanker and bomber are roughly the same size), The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017, RAND, published 2015, Heginbotham et. al., pg.78.

<sup>881</sup> <https://www.thedrive.com/the-war-zone/44232/kc-46-tanker-shows-it-can-rapidly-unload-tons-of-fuel-to-thirsty-fighters-at-austere-airstrips> (2022)

<sup>882</sup> [https://news.usni.org/2022/11/02/navy-expanding-attack-submarine-presence-on-guam-as-a-hedge-against-growing-chinese-fleet?ct=t\(USNI\\_NEWS\\_DAILY\)&mc\\_cid=a8422a2f74&mc\\_eid=b5bb52f60a](https://news.usni.org/2022/11/02/navy-expanding-attack-submarine-presence-on-guam-as-a-hedge-against-growing-chinese-fleet?ct=t(USNI_NEWS_DAILY)&mc_cid=a8422a2f74&mc_eid=b5bb52f60a) (2022)

<sup>883</sup> <https://www.thedrive.com/the-war-zone/marine-corps-activates-sprawling-new-base-on-highly-strategic-guam> (2023)

<sup>884</sup> <https://www.thedrive.com/the-war-zone/37885/air-force-to-build-alternate-airbase-on-tinian-island-in-case-guam-gets-knocked-out> (2020)

<sup>885</sup> <https://x.com/ThrustWR/status/1828502325469876517>

## **Wake Island**

Major air facilities and runway can take any aircraft.<sup>886</sup> It is at the extreme end (if not out of IRBM range) from China and is likely inside the outer engagement envelope of GBMD.<sup>887</sup>

## **Midway**

### ***Singapore***

The 1990 Memorandum of Understanding Regarding United States Use of Facilities in Singapore, “facilitates US' forces access to Singapore's air and naval bases, and provides logistic support for their transiting personnel, aircraft and vessels. Under its ambit, the US has rotationally deployed fighter aircraft for exercises, refueling and maintenance, and Littoral Combat Ships and P-8 Poseidon aircraft to Singapore since 2013 and 2015 respectively.”<sup>888</sup> Whether or not this access (or to what degree) would remain in wartime is uncertain.

### ***Palau***

#### **Roman Tmetuchl International Airport**

Can base ½ squadron

7,200 ft runway<sup>889</sup>

#### **Peleilu Sledge Airfield**

#### **Angaur Airfield<sup>890</sup>**

Semi-improved dirt strip. Rough field operations only (C-130's, A-10's)

### ***Australian Bases***

#### **RAAF Tindal**

Up to 6 bombers can already be deployed and a US Squadron Operations facility, fuel tanks, ammunition storage, and apron space for 6 more bombers is planned by 2026.<sup>891</sup> The Australians began improvements in 2020, increasing aviation fuel storage and improving base engineering services (due to be finished by 2027).<sup>892</sup>

#### **RAAF Darwin**

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<sup>886</sup> <https://www.thedrive.com/the-war-zone/34404/big-airfield-expansion-on-wake-island-seen-by-satellite-as-u-s-preps-for-pacific-fight> (2022) and the earlier article <https://www.thedrive.com/the-war-zone/34404/big-airfield-expansion-on-wake-island-seen-by-satellite-as-u-s-preps-for-pacific-fight> (2020)

<sup>887</sup> <https://www.thedrive.com/the-war-zone/34404/big-airfield-expansion-on-wake-island-seen-by-satellite-as-u-s-preps-for-pacific-fight> (2022)

<sup>888</sup> [https://www.mindef.gov.sg/web/portal/mindef/news-and-events/latest-releases/article-detail/2019/September/24sep19\\_nr](https://www.mindef.gov.sg/web/portal/mindef/news-and-events/latest-releases/article-detail/2019/September/24sep19_nr) (2019)

<sup>889</sup> [https://en.wikipedia.org/wiki/Roman\\_Tmetuchl\\_International\\_Airport](https://en.wikipedia.org/wiki/Roman_Tmetuchl_International_Airport), accessed Aug 27, 2023, basing estimated from google earth

<sup>890</sup> <https://www.thedrive.com/the-war-zone/a-10-warhogs-are-operating-from-a-tent-village-in-palau> (2022)

<sup>891</sup> [https://www.abc.net.au/news/2022-10-31/china-tensions-taiwan-us-military-deploy-bombers-to-australia/101585380?utm\\_campaign=abc\\_news\\_web&utm\\_content=twitter&utm\\_medium=content\\_shared&utm\\_source=abc\\_news\\_web](https://www.abc.net.au/news/2022-10-31/china-tensions-taiwan-us-military-deploy-bombers-to-australia/101585380?utm_campaign=abc_news_web&utm_content=twitter&utm_medium=content_shared&utm_source=abc_news_web) (2022),

<sup>892</sup> *Base Point*, Janes Defense and Intelligence Review, February 2023, pg. 26-28

USAF jet fuel storage (11 big tanks).<sup>893</sup> In 2021 the US issued a contract to create infrastructure to support 8 KC-10 Tankers at the base.<sup>894</sup>

**RAAF Amberly**  
**RAAF Base Curtian**  
**RAAF Base Learmonth**  
**RAAF Base Scherger**  
**RAAF Base Townsville**

### Pine Gap

In a war ‘Pine Gap would be detecting the launch of the missile ... it would be queuing US missile defence systems to find that missile in mid-flight and attack it with their own missiles,’ ... Pine Gap's geo-location technology would then be used to find and destroy the missile launch site.’<sup>895</sup>

### *Japanese Bases*

Basing for Kadena, Misawa, Yokota, Marine Corps Air Station Futenma, and Marine Corps Air Station Iwakuni were calculated as seen in footnote<sup>896</sup>

<sup>893</sup> [https://www.abc.net.au/news/2022-10-31/china-tensions-taiwan-us-military-deploy-bombers-to-australia/101585380?utm\\_campaign=abc\\_news\\_web&utm\\_content=twitter&utm\\_medium=content\\_shared&utm\\_source=abc\\_news\\_web](https://www.abc.net.au/news/2022-10-31/china-tensions-taiwan-us-military-deploy-bombers-to-australia/101585380?utm_campaign=abc_news_web&utm_content=twitter&utm_medium=content_shared&utm_source=abc_news_web) (2022)

<sup>894</sup> *Base Point*, Janes Defense and Intelligence Review, February 2023, pg. 26-28

<sup>895</sup> [https://www.abc.net.au/news/2022-10-31/china-tensions-taiwan-us-military-deploy-bombers-to-australia/101585380?utm\\_campaign=abc\\_news\\_web&utm\\_content=twitter&utm\\_medium=content\\_shared&utm\\_source=abc\\_news\\_web](https://www.abc.net.au/news/2022-10-31/china-tensions-taiwan-us-military-deploy-bombers-to-australia/101585380?utm_campaign=abc_news_web&utm_content=twitter&utm_medium=content_shared&utm_source=abc_news_web) (2022)

<sup>896</sup> *The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power*, 1996–2017, RAND, published 2015, Heginbotham et. al., pg.78. lays out numbers in fighter wings for the bases, given the assumptions for Guam (1/2 of space is reserved for non-fighters) and that that number would be lower for the bases in Japan (1/3<sup>rd</sup> of space is reserved for non-fighters), the total squadron basing size can be determined from the numbers in the RAND report (with a little bit of guesswork on what “squeezing in” equates too for some bases) as 1.5\*number of fighter squadrons per airbase (besides Anderson which is times 2).

Normal					
	Fighter Wings (Normal)	Fighter Squadrons (Normal)	Total Squadrons	Multiplier (based on Fighter %)	Fighters as % of basing
Guam (Anderson)	1.5	6	12	2	50%
Kadena	1	4	6	1.5	75%
Misawa	1	4	6	1.5	75%
Wartime					
	Fighter Wings (Squeezing)	Fighter Squadrons (Squeezing)	Total Squadrons	Multiplier (based on Fighter %)	Fighters as % of basing
Guam (Anderson)	1.75	7	14	2	50%
Kadena	1.25	5	7.5	1.5	75%
Misawa	1.25	5	7.5	1.5	75%
Yokota	0.75	3	4.5	1.5	75%
MCAS Futenma	0.5	2	3	1.5	75%
MCAS Iwakuni	0.5	2	3	1.5	75%

Note however this grievously undercounts MCAS Iwakuni, thus MCAS Iwakuni’s basing size is determined separately

## **Kadena AB**

Space for 1 wing of fighter aircraft (72), can base 8 squadrons total  
2 x 12,100 ft runways

## **Misawa AB**

Space for 1 wing of fighter aircraft (72), can base 8 squadrons total  
1 x 10,000 ft runway

## **Naval Air Facility Atsugi**<sup>897</sup>

Room for 7 squadrons of fighter aircraft  
Shared with the Japanese  
1 x 8,000 ft. runway

## **Yokota**

Can base 5 squadrons total  
1 x 11,000 ft runway

1 x Global Hawk squadron since 2017<sup>898</sup>

## **Marine Corps Air Station Futenma**

Can base 3 squadrons total  
1 x 9,000 x 150 ft runway<sup>899</sup>  
1 x taxiway of 8,810 by 75 ft<sup>900</sup>

## **Marine Corps Air Station Iwakuni**

Can base 10 squadrons total<sup>901</sup>  
1 x 8,000 ft. runway

## **Yokosuka**

Currently rearming is done at anchor points around Yokosuka using barges a process that can be affected by bad weather. A combatant loading wharf to allow for the loading of mentions pier side was started in 2021 and will be complete by 2027.<sup>902</sup>

## ***Philippines Bases***

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<sup>897</sup> [https://en.wikipedia.org/wiki/Naval\\_Air\\_Facility\\_Atsugi](https://en.wikipedia.org/wiki/Naval_Air_Facility_Atsugi), accessed Aug 25, 2023, basing size is equal to

<sup>898</sup> North Korea Air Power Capabilities, Akhil Kadidal, Janes Defense and Intelligence Review, October 2023, pg. 12

<sup>899</sup> *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 19

<sup>900</sup> *Cratering Effects Chinese Missile Threats to US Air Bases in the Indo-Pacific*, Kelly A. Grieco, Hunter Slingbaum, and Jonathan M. Walker, December 2024, [https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report\\_Dec-6\\_WEB.pdf](https://www.stimson.org/wp-content/uploads/2024/12/Cratering-Effects-Report_Dec-6_WEB.pdf), pg. 19

<sup>901</sup> Basing numbers are conservative, based on what is currently based at the location plus 1/3<sup>rd</sup>, rounded to the nearest squadron. This number is given in the number in squadrons of fighters that can be based in a location. Medium aircraft (P-3, EC-2) squadrons are counted as 1.5 squadrons of fighters, large aircraft (C-5, B-52) squadrons are counted as 2 squadrons of fighters, helicopters are counted as 1 squadron of fighters. When estimating what can take off/land, fighters are required to have 5,000ft, SOTL medium (C-17, C-130, etc..) 3000ft, tankers and bombers 7,000ft (on runways, see *The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017*, RAND, published 2015, Heginbotham et. al., pg. 56-57). Squadrons pulled from <https://www.mcaswakuni.marines.mil/> accessed Aug 27, 2023 (note these are marine and carrier air wing squadrons which are a smaller 12 airplanes than the standard 18). Squadron numbers checked against google earth on Aug 27, 2023 showed apron space for 142 aircraft (~8 x 18 aircraft squadrons) plus space for the carrier air wing helicopters, with an unestimated amount of hanger space.

<sup>902</sup> <https://www.dvidshub.net/news/403852/ground-breaking-ceremony-held-new-combatant-loading-wharf-urago-ordnance-storage-area> (2021)

### **Antonio Bautista AB (Palawan)<sup>903</sup>**

1 runway, 8,000ft

5 fixed wing jet capacity

New ECDA site

### **Basa Air Base (Pampanga)<sup>904</sup>**

2,800ft runway

In 2024 it was being upgraded with new apron to take 18 small and 2 large aircraft<sup>905</sup>

Original EDCA site

### **Fort Magsaysay (Nueva Ecija)<sup>906</sup>**

The Philippines largest military base

Original EDCA site

### **Mactan Benito Ebuen Air Base (Cebu, Visayas)<sup>907</sup>**

Original EDCA site

### **Lumbia Air Base (Cagayan de Oro City, Mindanao)<sup>908</sup>**

Original EDCA site

### **Santa Ana Naval Base<sup>909</sup>**

- 80 meter pier (cannot take most surface combatants), probably not deep dredged.
- 800 (2,625 ft.) runway
- New ECDA site.

### **Cagayan North International Airport<sup>910</sup>**

- 2100m (6,900 ft) runway, but extremely limited apron space.
- Without apron expansion perhaps 4 jets with 1-2 support aircraft.<sup>911</sup>
- New ECDA site

## ***South Korea Bases***

### **Kunsan Air Base**

- Can base 3 wings (2 US, 1 ROK)<sup>912</sup>
- 1 x 9,000 ft runway<sup>913</sup>

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<sup>903</sup> The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017, RAND, published 2015, Heginbotham et. al., pg.66

<sup>904</sup> <https://news.usni.org/2023/02/02/u-s-philippines-add-four-more-sites-to-edca-military-basing-agreement> (2023),

<https://news.usni.org/2023/11/06/u-s-philippines-complete-largest-edca-project-to-date> (2023)

<sup>905</sup> <https://news.usni.org/2024/01/29/philippine-air-base-gets-u-s-funded-upgrade-under-china-deterrence-plan>

<sup>906</sup> <https://news.usni.org/2023/02/02/u-s-philippines-add-four-more-sites-to-edca-military-basing-agreement> (2023)

<sup>907</sup> <https://news.usni.org/2023/02/02/u-s-philippines-add-four-more-sites-to-edca-military-basing-agreement> (2023)

<sup>908</sup> <https://news.usni.org/2023/02/02/u-s-philippines-add-four-more-sites-to-edca-military-basing-agreement> (2023)

<sup>909</sup> <https://twitter.com/tshugart3/status/1642934960402186244>

<sup>910</sup> <https://twitter.com/tshugart3/status/1642934964747370496>

<sup>911</sup> The numbers here are based upon the authors look at the area on google earth. For examples of such Agile Combat Employment see:

<https://www.thedrive.com/the-war-zone/39278/air-force-f-35-stealth-fighters-are-now-operating-from-guams-austere-airfield> (2021)

<sup>912</sup> <https://www.kunsan.af.mil/About-Us/Units/8th-Operations-Group/>, accessed Aug 26, 2023

<sup>913</sup> [https://en.wikipedia.org/wiki/Kunsan\\_Air\\_Base](https://en.wikipedia.org/wiki/Kunsan_Air_Base), accessed Aug 26, 2023



### **Osan Air Base**<sup>914</sup>

- Can base 1 wing
- 2 x 9,000 ft runway

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<sup>914</sup> [https://en.wikipedia.org/wiki/Osan\\_Air\\_Base](https://en.wikipedia.org/wiki/Osan_Air_Base), accessed Aug 26, 2023



# Philippines

The author wishes to thank Aaron-Matthew Lariosa for his help with this section of the ORBAT.

## Navy<sup>915</sup>

Note extremely limited AShM, ASW, and defensive capabilities. ASW is very limited:

- 2 x Jose Rizal – bow and hull-mounted sonar, ASW helicopter
- 1 x Conrado Yap – hull-mounted sonar
- 3 x Del Pilar OPVs – hull-mounted sonar, can take a ASW helicopter
- 1 x General Mariano Alvarez – hull-mounted sonar

In sum number of (less effective) hull mounted sonars, two (more effective) towed sonars, and 2 ASW helicopters. Air defenses are worse (4 x Mistral and 2 x CWIS between the two Jose Rizal's, and chaff on all of the above), and AShM availability is close to none (total 8 x SSM-700K C-Star between the two Jose Rizal).

- Amphibious Lift
  - 2 x LPD (Tarlac-class)
    - Each: 2 x LCVP, 3 Helos (currently 1 x AW-109E each), 12 Tanks, 500 Troops
  - 3 x LST
    - 2 x Bacolod City
      - Each: 32 tanks, 150 troops
    - 2 x LST-1/542
      - Each: 16 Tanks, 200 troops
  - 2 x LCU
    - 1 x Tagbanua
      - 100 tons or 200 troops
    - 1x Manobo
      - ? x Lift
    - 1 x Mulgae
      - 100 tons
    - 3 x LCU Mk. 6
      - 136 tons
  - 5 x LCT (Ivatan (ex-AUS Balikpapan))
    - 100 tons of cargo or 2-3 tanks or 23 trucks or 4 LARC-V or ? Troops
  - 6 x Multipurpose Assault Craft
    - Each can carry up to 16 troops
  - 9 x LCVP
    - 5 x Unknown make
    - 4 x LCVP (2 for each for the LPD's)
  - Total amphibious lift is about half/half+ a brigade with vehicles, or most of a brigade without them.<sup>916</sup>

<sup>915</sup> IISS Military Balance 2023, pg. 284-284, with [https://en.wikipedia.org/wiki/Philippine\\_Navy#Ships](https://en.wikipedia.org/wiki/Philippine_Navy#Ships) - Accessed April 25, 2023 for additional information.

<sup>916</sup> Based on given numbers for equipment/troop/tonnage capacity and educated guesses for ships without given numbers.

- Surface Combatants
  - 2 x Frigates (Jose Rizal)
    - Each: 4 x Sea-skimming subsonic AShM, 8 cell VLS (fitted for, but not with), 2 x Minstrel MAPAD, 1 x CIWS (fitted for, but not with), 1 Wildcat for ASW
  - 9 x Gun Armed Warships (Destroyer, Frigate, Corvette)
    - 1 x Conrado Yap (ROK Po Hang)
    - 3 x Del Pilar OPVs (ex-US Hamilton-class)
      - 1 x AW109 helicopter
    - 1 x General Mariano Alvares (ex-US Cyclone)
    - 3 x Jacinto-class patrol vessel (ex-UK Peacock-class)
    - IISS lists 1 x Malvar class, but this was only temporary recommissioned, and has since been decommissioned<sup>917</sup>
  - Littoral Combatants
    - IISS lists 2 x Kagitingan class in service however these have not been seen in service in the last few years<sup>918</sup>
  - 4 x Acero class (with Spike ATGM)
  - 6 x Multipurpose Assault Craft with ATGM (Spike)
- Coastal Craft<sup>919</sup>
  - 4 x Acero class (no Spike ATGM)
  - 2 x Alberto Navarette class
  - 22 x Jose Andrada class
  - 2 x Swift Boats
  - 4 x Type 966Y
- Auxiliaries
  - 1 x Fuel Tanker
  - 1 x Water Tanker
  - 7 x Harbor Tug<sup>920</sup>
  - 2 x Floating Crane<sup>921</sup>
  - 2 x Floating Drydock<sup>922</sup>
- Unmanned Surface Vessel Unit<sup>923</sup>
  - 4 x MANTAS T-12
  - 1+ x T-38 Devil Ray

## Aviation<sup>924</sup>

- MPA
  - 5 x Beech 90 King Air
  - 5 x BN-2A Defender (also light transport)

<sup>917</sup> *WW2 corvette to serve as command post in Dinagat relief ops: Navy*, Priam Nepomuceno, December 28, 2021, <https://www.pna.gov.ph/articles/1163878>

<sup>918</sup> Personal correspondence with Aaron-Matthew Lariosa

<sup>919</sup> Lacking other sources, I draw the types here from [https://en.wikipedia.org/wiki/List\\_of\\_equipment\\_of\\_the\\_Philippine\\_Navy](https://en.wikipedia.org/wiki/List_of_equipment_of_the_Philippine_Navy) - Accessed July 14, 2023

<sup>920</sup> [https://en.wikipedia.org/wiki/List\\_of\\_equipment\\_of\\_the\\_Philippine\\_Navy#Patrol\\_boats\\_and\\_support\\_vessels](https://en.wikipedia.org/wiki/List_of_equipment_of_the_Philippine_Navy#Patrol_boats_and_support_vessels) – accessed 07/15/2023

<sup>921</sup> [https://en.wikipedia.org/wiki/List\\_of\\_equipment\\_of\\_the\\_Philippine\\_Navy#Patrol\\_boats\\_and\\_support\\_vessels](https://en.wikipedia.org/wiki/List_of_equipment_of_the_Philippine_Navy#Patrol_boats_and_support_vessels) – accessed 07/15/2023

<sup>922</sup> [https://en.wikipedia.org/wiki/List\\_of\\_equipment\\_of\\_the\\_Philippine\\_Navy#Patrol\\_boats\\_and\\_support\\_vessels](https://en.wikipedia.org/wiki/List_of_equipment_of_the_Philippine_Navy#Patrol_boats_and_support_vessels) – accessed 07/15/2023

<sup>923</sup> <https://news.usni.org/2024/11/21/u-s-supporting-philippine-operations-in-south-china-sea-with-forward-deployed-task-force>

<sup>924</sup> Flight Global 2023, pg. 27, <https://www.flightglobal.com/download?ac=90688>

- Trainers
  - 4 x Cessna 172S "Skyhawk"<sup>925</sup>
- Helicopters
  - ASW
    - 2 x Wildcat (ASW)<sup>926</sup>
  - Transport
    - 5 x AW109 (utility)<sup>927</sup>
- UAV
  - 8 x ScanEagle, operated by the 71st Maritime Unmanned Aerial Reconnaissance Squadron (71<sup>st</sup> MUARS)<sup>928</sup>

## **Air Force**<sup>929</sup>

### ***Order of Battle***

- 12 x FA-50PH Fighting Eagle (derived from KAI FA-50 Golden Eagle),<sup>930</sup> only AIM-9 in stockpile for AAM's.<sup>931</sup> In January 2025, 12 more were bought from South Korea.<sup>932</sup>
  - They do not currently have AESA radars or BVR missiles.<sup>933</sup>
- 2 x Squadrons of Light Attack Aircraft,<sup>934</sup> for strike missions iron bombs, Paveway II, and AGM-65 Mavericks are available for use.
  - 6 x Super Tucano
  - Flight Global lists 7 x OV-10, but these haven't been seen to fly in the past year or two<sup>935</sup>
- 1 x MPA (C295)
- 4 x ISR (2 x Cessna 208, 2 x Turbo Commander)
- Transport
  - Medium
    - 4 x C-130B
    - 4 x C-295
  - Light
    - 7 x (1 x F27, 1 x F28, 2 x NC212i, 3 x Nomad)
- 2 x Attack Helo Squadrons<sup>936</sup>
  - 1 squadron of:
    - 1 x AH-1F

<sup>925</sup> Lorenzana thanks US as PH gets 4 new Cessna aircraft, Priam Nepomuceno, February 2022, <https://www.pna.gov.ph/articles/1167472>

<sup>926</sup> Philippine Navy Wildcat Marks First Deployment In West Philippine Sea Patrol, Aaron-Matthew Lariosa, 28 Jun 2023, <https://www.navalnews.com/naval-news/2023/06/philippine-navy-wildcat-marks-first-deployment-in-west-philippine-sea-patrol/>

<sup>927</sup> Based on Flight Global 2023, *Philippine Navy signs for another two AW109 Powers*, Terry Spruce · February 12, 2014, <https://www.helicopterinvestor.com/articles/philippine-navy-signs-another-two-aw109-powers/>, note that IISS lists 4 x Mi-171Sh and 4 x Bo-105, the Mi-171 are unaccounted for, but the Bo-105's are part of the army.

<sup>928</sup> *Philippine Navy Takes Delivery Of Eight ScanEagle UAV*, Xavier Vavasaur, 25 November 2020, <https://www.navalnews.com/naval-news/2020/11/philippine-navy-takes-delivery-of-eight-scaneagle-uav/>

<sup>929</sup> Flight Global 2023, pg. 27, <https://www.flightglobal.com/download?ac=90688>

<sup>930</sup> IISS the Military Balance 2023, Asia, pg. 227, checked by Aviation Week and Space Technology 02/10/20 and cross checked with <https://www.flightglobal.com/download?ac=83735> (2022)

<sup>931</sup> IISS the Military Balance 2023, Asia, pg. 286

<sup>932</sup> <https://breakingdefense.com/2025/01/philippines-to-increase-fa-50-fighter-fleet-among-moves-analysts-say-complicate-planning-in-beijing/>

<sup>933</sup> <https://breakingdefense.com/2025/01/philippines-to-increase-fa-50-fighter-fleet-among-moves-analysts-say-complicate-planning-in-beijing/>

<sup>934</sup> Flight Global 2023, pg. 27, <https://www.flightglobal.com/download?ac=90688>

<sup>935</sup> Personal correspondence with Aaron-Matthew Lariosa

<sup>936</sup> IISS the Military Balance 2023, Asia, pg. 285, cross checked with h Flight Global 2023, pg. 27, <https://www.flightglobal.com/download?ac=90688>

- 6 x T129<sup>937</sup>
    - 24 x MD-500
  - 1 squadron of:
    - 8 x AW109
- Transport Helicopters<sup>938</sup>
  - Organized into 3 Transport squadrons: 2 x Bell 205/Huey and 1 x VIP transport Squadron
  - Squadron 1 and 2
    - Some sources list 19-23 UH-1, however these have been retired<sup>939</sup>
    - 8 x Bell 205
    - 7 x Bell 212/412
  - Squadron 3
    - ? of 15 x S-70i
  - Squadron 4
    - ? of 15 x S-70i
  - SAR Squadron<sup>940</sup>
    - 9 x S-76 (likely squadron 4)
    - 5 x W-3
- Drones
  - 1 x Squadron of Hermes 450/900 (8-9 x 900's, 4 x 450's)<sup>941</sup>
  - 4 x ScanEagle<sup>942</sup>
- Air Defense
  - 2 x SHORAD/MRAD Spyder-MR Battery's of 3 x launchers each<sup>943</sup>

#### *Airbases<sup>944</sup>*

Basing numbers are conservative, based on what is currently based at the location plus 1/3<sup>rd</sup>, rounded to the nearest squadron. This number is given in the number in squadrons of fighters that can be based in a location. Medium aircraft (P-3, EC-2) squadrons are counted as 1.5 squadrons of fighters, large aircraft (C-5, B-52) squadrons are counted as 2 squadrons of fighters, helicopters are counted as 1 squadron of fighters. When estimating what can take off/land, fighters are required to have 5,000ft, SOTL medium (C-17, C-130, ect.) 3000ft, tankers and bombers 7,000ft<sup>945</sup>

- Clark Air Base<sup>946</sup>
  - Can base 3 squadrons
  - 2 x 10,500 ft runways

<sup>937</sup> The Philippines Wants to Acquire Six T129 ATAK Helicopters, 22<sup>nd</sup> March, 2023, <https://www.turdef.com/Article/the-philippines-wants-to-acquire-six-t129-atak-helicopters/2940>

<sup>938</sup> IISS the Military Balance 2023, Asia, pg. 285, cross checked with h Flight Global 2023, pg. 27, <https://www.flightglobal.com/download?ac=90688>

<sup>939</sup> Personal correspondence with Aaron-Matthew Lariosa. IISS the Military Balance 2023, Asia, pg. 285, 286 lists 19 operational and 25 non-operational. Flight global lists 23 operational.

<sup>940</sup> Designation as SAR squadron from personal correspondence with Aaron-Matthew Lariosa

<sup>941</sup> Personal correspondence with Aaron-Matthew Lariosa

<sup>942</sup> *U.S. Military Delivers Advanced Unmanned Aerial System to Philippine Air Force*, U.S. Embassy Manila, October 14, 2021, <https://ph.usembassy.gov/u-s-military-delivers-advanced-unmanned-aerial-system-to-philippine-air-force/>

<sup>943</sup> IISS the Military Balance 2023, Asia, pg. 285, 286

<sup>944</sup> <https://web.archive.org/web/20210305125536/https://www.paf.mil.ph/bases/philippine-air-force-bases> (archived on 5 March, 2021)

<sup>945</sup> *The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017*, RAND, published 2015, Heginbotham et. al., pg. 56-57

<sup>946</sup> [https://en.wikipedia.org/wiki/Clark\\_Air\\_Base](https://en.wikipedia.org/wiki/Clark_Air_Base), Accessed Aug 27, 2023, squadron basing estimated from google earth

- Basa Air Base<sup>947</sup>
  - Can base 2 squadrons
  - 1 x 9,200 ft runway
- Villamor Air Base<sup>948</sup>
  - Can base 1 squadron
  - Shares runways with Ninoy Aquino International Airport
    - 1 x 12,200 ft runway
    - 1 x 7,700 ft runway
- Danilo Atienza Air Base<sup>949</sup>
  - Can base 1 and ½ squadrons
  - 1 x 7,800 ft runway
- Fernando Air Base<sup>950</sup>
  - Can base ½ squadron
  - 1 x 5,000 ft runway
- Antonio Bautista Air Base<sup>951</sup>
  - Can base 1/2 squadron<sup>952</sup>
  - Shares runway with Puerto Princesa International Airport
  - 1 x 8,500 ft runway
- Mactan Benito-Ebuen Air Base (Mactan Air Base)<sup>953</sup>
  - Can base 2 squadron
  - 1 x 10,800 ft runway
  - 1 x 8,400 ft runway
  - Shares both runways with Mactan–Cebu International Airport
- Edwin Andrews Air Base<sup>954</sup>
  - Can base ½ squadron
  - 1 x 8,500 ft runway
    - Shares runway with Zamboanga International Airport
- Lumbia Airfield<sup>955</sup>
  - Can base 1/2 squadron
  - 1 x 8,000 ft runway
- Rajah Buayan Air Station<sup>956</sup>
  - 5,600 ft runway

## **Marine Corps**<sup>957</sup>

Each battalion is reinforced with additional elements and logistics support to form a Marine Battalion Landing Team (MBLT), much like US battalion landing teams.

<sup>947</sup> [https://en.wikipedia.org/wiki/Cesar\\_Basa\\_Air\\_Base](https://en.wikipedia.org/wiki/Cesar_Basa_Air_Base), accessed Aug 27, 2023, squadron basing estimated from google earth

<sup>948</sup> [https://en.wikipedia.org/wiki/Villamor\\_Air\\_Base](https://en.wikipedia.org/wiki/Villamor_Air_Base), accessed Aug 27, 2023, squadron basing estimated from google earth

<sup>949</sup> [https://en.wikipedia.org/wiki/Danilo\\_Atienza\\_Air\\_Base](https://en.wikipedia.org/wiki/Danilo_Atienza_Air_Base), accessed Aug 27, 2023, squadron basing estimated from google earth

<sup>950</sup> [https://en.wikipedia.org/wiki/Basilio\\_Fernando\\_Air\\_Base](https://en.wikipedia.org/wiki/Basilio_Fernando_Air_Base), accessed Aug 27, 2023, squadron basing estimated from google earth

<sup>951</sup> [https://en.wikipedia.org/wiki/Antonio\\_Bautista\\_Air\\_Base](https://en.wikipedia.org/wiki/Antonio_Bautista_Air_Base), accessed Aug 27, 2023

<sup>952</sup> This is larger than the 5 aircraft posted by *The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017*, RAND, published 2015, Heginbotham et. al., pg.66, but one could squeeze in a few more aircraft for a half squadron

<sup>953</sup> [https://en.wikipedia.org/wiki/Mactan%E2%80%93Benito\\_Ebuen\\_Air\\_Base](https://en.wikipedia.org/wiki/Mactan%E2%80%93Benito_Ebuen_Air_Base), accessed Aug 27, 2023, squadron basing estimated from google earth

<sup>954</sup> [https://en.wikipedia.org/wiki/Edwin\\_Andrews\\_Air\\_Base](https://en.wikipedia.org/wiki/Edwin_Andrews_Air_Base), accessed Aug 27, 2023, squadron basing estimated from google earth

<sup>955</sup> [https://en.wikipedia.org/wiki/Lumbia\\_Airfield](https://en.wikipedia.org/wiki/Lumbia_Airfield), accessed Aug 27, 2023, squadron basing estimated from google earth

<sup>956</sup> [https://en.wikipedia.org/wiki/Rajah\\_Buayan\\_Air\\_Station](https://en.wikipedia.org/wiki/Rajah_Buayan_Air_Station), accessed Aug 27, 2023, squadron basing estimated from google earth

<sup>957</sup> IISS Military Balance 2023, pg. 285, [https://en.wikipedia.org/wiki/Philippine\\_Marine\\_Corps](https://en.wikipedia.org/wiki/Philippine_Marine_Corps) - Accessed 02/03/22

## MBLT<sup>958</sup>

- 1 x HQ Coy.
- 3 x Inf Coy.
- 1 x Service Coy.
- May attach armor or artillery from Field Artillery Bn. or Assault Armor Bn.
  - In the future units from the Coastal Defense Regiment (SAM's and AShM) will be available to be attached as well.<sup>959</sup>
- MBLT's can be reinforced by additional infantry Bn's<sup>960</sup>

Some MBLT's have been becomes Marine Ready Amphibious Units (MARU) with a focus on amphibious maneuver, but maintain their MBLT designation. There is no change in structure<sup>961</sup>

- 1st Marine Brigade (Malabang, Lanao del Sur)<sup>962</sup>
  - 3 x Marine Bn. (MBLT-5, 2 x ? MBLT)<sup>963</sup>
- 2nd Marine Brigade (based in Tawi-Tawi)<sup>964</sup>
  - 3 x Marine Bn. (MBLT-1, 2 x ? MBLT)<sup>965</sup>
- 3rd Marine Brigade (Palawan)<sup>966</sup>
  - 3 x Marine Bn. (MBLT-3, MBLT-4, MBLT-9),<sup>967</sup> MBLT-9 is also a MRAU (1<sup>st</sup> MARU),<sup>968</sup>
  - MBLT-4 is now a certified as a Marine Security Battalion, dedicated to littoral operations<sup>969</sup>
  - MBLT-3 is in northern Palawan, MBLT-4 is in southern Palawan.<sup>970</sup>
- 4th Marine Brigade (based in Northern Luzon)<sup>971</sup>
- 3 x Marine Bn. (MBLT-10 stationed at Naval Base Camilo Osias,<sup>972</sup> MBLT-8 is somewhere in northern Luzon<sup>973</sup>)
- 7th Marine Brigade (Reserve)
  - 3 x Marine Bn.?
- Coastal Defense Regiment
  - 1 x AShM Bn (forming)

<sup>958</sup> See [https://twitter.com/Aaron\\_MatthewIL/status/1672904892845903873](https://twitter.com/Aaron_MatthewIL/status/1672904892845903873)

<sup>959</sup> See [https://twitter.com/Aaron\\_MatthewIL/status/1672905010110234624](https://twitter.com/Aaron_MatthewIL/status/1672905010110234624)

<sup>960</sup> See [https://twitter.com/Aaron\\_MatthewIL/status/1672904903323181056](https://twitter.com/Aaron_MatthewIL/status/1672904903323181056)

<sup>961</sup> See [https://twitter.com/Aaron\\_MatthewIL/status/1672904917780946945](https://twitter.com/Aaron_MatthewIL/status/1672904917780946945) and

[https://twitter.com/Aaron\\_MatthewIL/status/1672904930338668550](https://twitter.com/Aaron_MatthewIL/status/1672904930338668550)

<sup>962</sup> *Marines, police seized arms cache in Lanao Sur town*, Edwin Fernandez, September 30, 2021, <https://www.pna.gov.ph/articles/1155196>

<sup>963</sup> *Marines, police seized arms cache in Lanao Sur town*, Edwin Fernandez, September 30, 2021, <https://www.pna.gov.ph/articles/1155196>,

more recent evidence (the article implies that MBLT-5 is under 1<sup>st</sup> Marine Brigade): *Marines recover war materiel in Maguindanao Norte*,

Edwin Fernandez, March 15, 2023, <https://www.pna.gov.ph/articles/1197472>

<sup>964</sup> Sulu-based marine troops depart for Luzon assignment, Teofilo Garcia, Jr., September 23, 2022, 4 <https://www.pna.gov.ph/articles/1184421>

<sup>965</sup> *PH Marines' Battalion Landing Team 1 redeployed to Tawi-Tawi*, Teofilo Garcia, Jr., July 31, 2021,

<https://www.pna.gov.ph/index.php/articles/1148903>

<sup>966</sup> *MBLT-4 launches book on victory against terrorism*, Aira Genesa Magdayao, December 02, 2021, <https://palawan-news.com/mblt-4-launches-book-on-victory-against-terrorism/>

<sup>967</sup> *AFP deploys marine amphibious force to Palawan*, June 17, 2023, <https://www.pna.gov.ph/articles/1203744>

<sup>968</sup> [https://twitter.com/Aaron\\_MatthewIL/status/1672904917780946945](https://twitter.com/Aaron_MatthewIL/status/1672904917780946945)

<sup>969</sup> <https://www.navalnews.com/naval-news/2024/07/philippine-marine-corps-to-secure-maritime-routes-with-new-unit/>

<sup>970</sup> *AFP deploys marine amphibious force to Palawan*, June 17, 2023, <https://www.pna.gov.ph/articles/1203744>

<sup>971</sup> Sulu-based marine troops depart for Luzon assignment, Teofilo Garcia, Jr., September 23, 2022, 4 <https://www.pna.gov.ph/articles/1184421>

<sup>972</sup> *AFP chief visits EDCA sites in Northern Luzon*, Priam Nepomuceno, April 19, 2023, <https://www.pna.gov.ph/articles/1199697>

<sup>973</sup> Sulu-based marine troops depart for Luzon assignment, Teofilo Garcia, Jr., September 23, 2022, 4 <https://www.pna.gov.ph/articles/1184421>,

MBLT-8 is under 4<sup>th</sup> Marine Brigade as per 3 *ASG members surrender in Sulu*, Teofilo Garcia, Jr., February 12, 2022,

<https://www.pna.gov.ph/articles/1167629>



- To be comprised of 3 x Batteries<sup>974</sup>
  - 1 x SAM Bn (forming)
- Rotating Marine Rifle Battalion
- Combat Service Support Brigade
  - Field Artillery Battalion
    - 23 x M101 (105mm towed)
    - 8 x M-26 (105mm towed)
    - 6 x Soltam M-71 (155mm towed)
    - 105mm and 155mm howitzers, towed ADA guns
  - Assault Armor Battalion
    - 19 x LAV-150 Commando, 23 x LAV-300
    - 8 x AAV-7A1
    - Retired: 4 x LVTH-6, 55 x LVTP-7<sup>975</sup>

MBLT Brigade assignments unknown: <sup>976</sup>

- MBLT-2 based in Malabang town, Lanao del Sur<sup>977</sup>
  - MBLT-6 is in Western Mindanao, MBLT-6 is also a MRAU (2<sup>nd</sup> MARU)<sup>978</sup>
- MBLT-7 is in Southern Palawan
- MBLT-11 is based in/around Zamboanga City
- MBLT-12 is in Tawi-Tawi

MBLT-6 is a MARU.<sup>979</sup>

## Army<sup>980</sup>

The army has a large number of conventional forces but is mostly focused on internal counter-insurgency and disaster relief missions, though units are now changing to focus on territorial defense<sup>981</sup> (LCSO). For rapid reaction to a crisis, my guess is that most of it isn't movable or prepared for a rapid crisis/external deployment. Listed are the elements I think could deploy as they are designed or designated for rapid response.

### Rapid Response

- 1<sup>st</sup> Brigade Combat Team (Light/Mech Infantry)<sup>982</sup>
  - 2 x Inf Bn, 1 x Mech bn, 1 x Field Arty Bn, 1 x Engineer Bn, 1 x Recce Coy., unknown element size: signal, intel, civil-military operations, MP, EO, CBRN, sustainment unit, medical platoon<sup>983</sup>

<sup>974</sup> *Pushing Back*, Tim Fish, Janes Defence Weekly, 14<sup>th</sup> June, 2023, pg. 23

<sup>975</sup> IISS lists these as active, but I believe them to be retired as per personal correspondence with Aaron-Matthew Lariosa

<sup>976</sup> Where not otherwise noted locations are based on personal correspondence with Aaron-Matthew Lariosa

<sup>977</sup> *Suspects in ambush of Marines in Lanao Sur pursued*, Edwin Fernandez, February 6, 2023, <https://www.pna.gov.ph/articles/1194452>

<sup>978</sup> [https://twitter.com/Aaron\\_MatthewIL/status/1672904917780946945](https://twitter.com/Aaron_MatthewIL/status/1672904917780946945)

<sup>979</sup> *AFP deploys marine amphibious force to Palawan*, June 17, 2023, <https://www.pna.gov.ph/articles/1203744>

<sup>980</sup> Based on [https://army.mil.ph/home/index.php?option=com\\_sppagebuilder&view=page&id=1237&Itemid=383](https://army.mil.ph/home/index.php?option=com_sppagebuilder&view=page&id=1237&Itemid=383) - Accessed July 15<sup>th</sup>, 2023, and some details from [https://en.wikipedia.org/wiki/Philippine\\_Army#Organization](https://en.wikipedia.org/wiki/Philippine_Army#Organization) - Accessed 02/03/22

<sup>981</sup> *Nine Ready Reserve Battalions Gear up to augment Central Luzon territorial defense*, 01 August 2023, <https://www.afp.mil.ph/news/nine-ready-reserve-battalions-gear-up-to-augment-central-luzon-territorial-defense>

<sup>982</sup> *Army sends rapid deployment force to Sulu*, Frances Mangosing, May 31<sup>st</sup>, 2019, <https://newsinfo.inquirer.net/1125548/army-sends-rapid-deployment-force-to-sulu>

<sup>983</sup> <https://web.archive.org/web/20181215154225/https://news.mb.com.ph/2018/12/15/army-creates-own-us-inspired-rapid-deployable-team/> (2018)

- Based in Fort Magsaysay, Nueva Ecija<sup>984</sup>
- Elements of Army Artillery Regiment<sup>985</sup>
  - Based in Fort Magsaysay, Nueva Ecija?<sup>986</sup>
- Elements of Army SF Regiments

## Other Units

- Ground Operating Units
  - Lacking data for most of the Divisions, use the following if required:
    - 3 x Infantry Bde, 6 x Independent Infantry bde, 1 x Intelligence Bn, 1 x Civil-Military Operations Bn, 1 x Signals Bn, 1 x Service Support Bn., armor and artillery attachments in Coy. sized elements as needed.
  - 1<sup>st</sup> Infantry Division
    - 4 x Infantry Bde., 1 x Field Artillery Bn., 1 x Intel. bn., 1 x Signals bn.<sup>987</sup>
  - 2<sup>nd</sup> Infantry Division
  - 3<sup>rd</sup> Infantry Division
    - 3 x Infantry Bde., 1 x Intel. Bn., 1 x Signals bn. <sup>988</sup>
  - 4<sup>th</sup> Infantry Division
  - 5<sup>th</sup> Infantry Division
    - Headquartered at Gamu, Isabela<sup>989</sup>
  - 6<sup>th</sup> Infantry Division
  - 7<sup>th</sup> Infantry Division
    - 3 x Infantry Bde., 1 x Field Artillery Bn., 1 x Intel. Bn., 1 x Signals Bn.<sup>990</sup>
    - 9 x Ready Reserve Infantry Bn.<sup>991</sup>
  - 8<sup>th</sup> Infantry Division
    - As of 2017: 3 x Inf Bde. (801<sup>st</sup>, 802<sup>nd</sup>, 803<sup>rd</sup>), 11 x Inf Bn. (14<sup>th</sup>, 19<sup>th</sup>, 20<sup>th</sup>, 34<sup>th</sup>, 43<sup>rd</sup>, 46<sup>th</sup>, 52<sup>nd</sup>, 63<sup>rd</sup>, 78<sup>th</sup>, 87<sup>th</sup>, 93<sup>rd</sup>), 1 x Service Support Bn, 1 x Signal Bn, 1 x Civil-Military Operations Bn, 8th Field Artillery Battery (S), 8th Light Armor Company <sup>992</sup>
  - 9<sup>th</sup> Infantry Division
  - 10<sup>th</sup> Infantry Division
  - 11<sup>th</sup> Infantry Division
    - 3 x Inf Brig (1101<sup>st</sup>, 1102<sup>nd</sup>, 1103<sup>rd</sup>), 8 x Inf Bn (21<sup>st</sup>, 32<sup>nd</sup>, 35<sup>th</sup>, 41<sup>st</sup>, 45<sup>th</sup>, 100<sup>th</sup>, 101<sup>st</sup>, 104<sup>th</sup>), 3 x Div. Recce Unit (111<sup>th</sup>, 112<sup>th</sup>, 113<sup>th</sup> both unknown size), 1 x Civil-Military Operations Battalion (15<sup>th</sup>), 1 x MI Bn, 1 x Service Support Bn<sup>993</sup>

<sup>984</sup> Wikipedia

<sup>985</sup> <https://www.navalnews.com/naval-news/2023/07/philippines-to-acquire-himars-more-brahmos-missiles/>, Aaron-Matthew Lariosa, (2023)

<sup>986</sup> *Army activates new unit to operate Israel-made howitzers*, Priam Nepomuceno, June 24, 2022, <https://www.pna.gov.ph/articles/1177445>

<sup>987</sup> IISS the Military Balance 2023, Asia, pg. 284

<sup>988</sup> IISS the Military Balance 2023, Asia, pg. 284

<sup>989</sup> *AFP chief visits EDCA sites in Northern Luzon*, Priam Nepomuceno, April 19, 2023, <https://www.pna.gov.ph/articles/1199697>

<sup>990</sup> IISS the Military Balance 2023, Asia, pg. 284

<sup>991</sup> Nine Ready Reserve Battalions Gear up to augment Central Luzon territorial defense, 01 August 2023, <https://www.afp.mil.ph/news/nine-ready-reserve-battalions-gear-up-to-augment-central-luzon-territorial-defense>

<sup>992</sup> <http://8iddpaophilarmyunits.blogspot.com/> (2017)- Accessed 07/15/2023 (yes this is hosted on a BlogSpot blog, but the .gov Philippines Army website links to it, so I view it as legitimate. The most recent post was from 2017, so I assumed the ORBAT is accurate as to then.

<sup>993</sup> <https://army.mil.ph/alakdan/index.php/11id-units> - Accessed 07/15/2023

- Armored Division<sup>994</sup>
  - 2 x Mech bde.
    - In total having: 3 Light Armored bn, 7 Armored Cavalry coy, and 4 Mech Inf bn.
  - 1 x Combat Engineer Coy,
  - 1 x Signals Coy.
  - 1 x Aviation Regiment
- 5 x Engineer Brigades (51<sup>st</sup>, 52<sup>nd</sup>, 53<sup>rd</sup>, 54<sup>th</sup>, 55<sup>th</sup>)
- Specialty Enablers
  - SF
    - 1st Scout Ranger Regiment
    - Special Forces Regiment Airborne
    - Light Reaction Regiment
  - Aviation Regiment
  - Army Artillery Regiment<sup>995</sup>
    - This force is comprised of 10 x Towed Artillery Bn, of which 1 is a wheeled SPG. Artily inventory is almost entirely 105 so I assume 8 x 105mm towed, 1 x 155mm towed (could possibly be 2 x 155 and 7 x 105), and 1 x 155mm SPG (wheeled).
    - 2 x MRL Batteries of HIMARS (forming)
    - 2 x AD Battery (forming)
    - 1 x SSM Battery (forming)
  - Army Signal Regiment
  - Civil-Military Operations Regiment
  - 1 x AD battery

#### Aircraft<sup>996</sup>

- Fixed Wing
  - 1 x 1 Beech 80 Queen Air
  - 1 x Cessna 170
  - 1 x Cessna 172
  - 1 x Cessna P206A
- Rotary wing
  - 4 x Bo-105<sup>997</sup>
  - 2 x R-44 Raven II
- Drones
  - ? x Hermes 450<sup>998</sup>

#### Coast Guard<sup>999</sup>

- 3 x OPV

<sup>994</sup> IISS the Military Balance 2023, Asia, pg. 284

<sup>995</sup> Unit ORBAT from <https://www.navalnews.com/naval-news/2023/07/philippines-to-acquire-himars-more-brahmos-missiles/> (2023)

<sup>996</sup> IISS the Military Balance 2023, Asia, pg. 284

<sup>997</sup> Army Aviation Regiment marks 4th activation anniversary,

[https://army.mil.ph/home/index.php?option=com\\_content&view=article&id=2124:army-aviation-regiment-marks-4th-activation-anniversary&catid=8&Itemid=282](https://army.mil.ph/home/index.php?option=com_content&view=article&id=2124:army-aviation-regiment-marks-4th-activation-anniversary&catid=8&Itemid=282), photo 6

<sup>998</sup> Philippine Army orders Several Levels of Unmanned Aerial Systems from Israel for C4ISTAR Requirements, June 14, 2019, <http://maxdefense.blogspot.com/2019/06/philippine-army-orders-several-levels.html>

<sup>999</sup> IISS the Military Balance 2023, Asia, pg. 286

- 1 x Gabriela Silang
    - Unarmed, room for 1 x H145
  - 2 x Teresa Magbanua-class<sup>1000</sup>
    - Unarmed
- 4 x Large Boats
  - 4 x San Juan-class
    - Helipad
- 56 x Patrol Boats
  - 4 x Boracay
  - 4 x Ilocos Norte
  - 10 x Parola
  - 10 x PCF 46
  - 12 x PCF 50 (US Swift Mk1/2)
  - 2 x PCF 65 (US Swift Mk3)
  - 4 x Rodman 38
  - 10 x Rodman 101
- 11 x Patrol Boat, River
- 2 x Seagoing buoy tender<sup>1001</sup>
- 1 x Medium-size Ocean tugboat<sup>1002</sup>
- Aircraft
  - Fixed Wing
    - 2 x BN-2 Islander
    - 1 x Cessna 208B Grand Caravan EX
  - Rotary Wing
    - 2 x Bo-105
    - 2 x H145

### **Special Operations Forces**<sup>1003</sup>

AFP Special Operations Command (SOCOM) commands the following:

- Army
  - 1st Scout Ranger Regiment
  - Special Forces Regiment Airborne
  - Light Reaction Regiment
- Navy
  - Naval Special Operations Command
    - 1 SEAL unit
    - 1 diving unit
    - 10 naval spec ops unit
    - 1 special boat unit
  - Marine Corps
    - Marine Special Operations Group (bn element)
- Air Force

<sup>1000</sup> [https://en.wikipedia.org/wiki/Teresa\\_Magbanua-class\\_patrol\\_vessel](https://en.wikipedia.org/wiki/Teresa_Magbanua-class_patrol_vessel) - Accessed 07/15/2023

<sup>1001</sup> [https://en.wikipedia.org/wiki/Philippine\\_Coast\\_Guard#Ships\\_in\\_service](https://en.wikipedia.org/wiki/Philippine_Coast_Guard#Ships_in_service)

<sup>1002</sup> [https://en.wikipedia.org/wiki/Philippine\\_Coast\\_Guard#Ships\\_in\\_service](https://en.wikipedia.org/wiki/Philippine_Coast_Guard#Ships_in_service)

<sup>1003</sup> IISS the Military Balance 2023, Asia, pg. 285, 286 and [https://en.wikipedia.org/wiki/Special\\_Operations\\_Command\\_\(Philippines\)](https://en.wikipedia.org/wiki/Special_Operations_Command_(Philippines))

- 710th Special Operations Wing

### **Missile Inventory**

The Marine Corps has purchased and is integrating 3 BrahMos missile batteries, each with 6-8 missiles, first delivery is in December 2023.<sup>1004</sup>

### **Bases**

The Philippines is looking at expanding its presence on Mavulis Island, Batanes.<sup>1005</sup>

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<sup>1004</sup> <https://www.navalnews.com/naval-news/2023/07/philippines-to-acquire-himars-more-brahmos-missiles/>, Aaron-Matthew Lariosa, (2023)

<sup>1005</sup> <https://www.onenews.ph/articles/why-is-the-philippines-upgrading-its-batanes-military-defense>



# Space

## Anti-Satellite Capabilities<sup>1006</sup>

Note that none of the following accounts for cyber anti-space capabilities, or ASAT's via non-purpose ground based missiles like the SM-3.

<b><i>United States</i></b>	R&D	Testing	Operation	Used in Conflict?
LEO Direct Ascent	Significant	Some	?	None
MEO/GEO Direct Ascent	–	–	–	None
LEO Co-Orbital	Some	?	–	None
MEO/GEO Co-Orbital	Some	?	–	None
Directed Energy	Significant	Some	?	None
Electronic Warfare	Significant	Significant	Significant	Significant
SSA (Best in the World)	Significant	Significant	Significant	Significant

Further Capabilities:

- Globally deployed uplink jamming for GEO communication satellites
- Local GNSS denial/spoof for civilian GNSS
- Likely ability for GNSS degrade/denial of military targets
- Can likely dazzle, possibly blind satellites
- SM-3's + GBMD can target LEO satellites

<b><i>Australia</i></b>	R&D	Testing	Operation	Used in Conflict?
LEO Direct Ascent	–	–	–	None
MEO/GEO Direct Ascent	–	–	–	None
LEO Co-Orbital	–	–	–	None
MEO/GEO Co-Orbital	–	–	–	None
Directed Energy	Some	–	–	None
Electronic Warfare	Some	–	–	–
SSA	Some	Some	Some	?

<b><i>United Kingdom</i></b>	R&D	Testing	Operation	Used in Conflict?
LEO Direct Ascent	–	–	–	None
MEO/GEO Direct Ascent	–	–	–	None
LEO Co-Orbital	–	–	–	None
MEO/GEO Co-Orbital	–	–	–	None
Directed Energy	–	–	–	None
Electronic Warfare	–	–	–	–
SSA	Some	Some	Some	?

<b><i>France</i></b>	R&D	Testing	Operation	Used in Conflict?
LEO Direct Ascent	–	–	–	None
MEO/GEO Direct Ascent	–	–	–	None
LEO Co-Orbital	–	–	–	None
MEO/GEO Co-Orbital	Some	–	–	None
Directed Energy	Some	?	?	None
Electronic Warfare	?*	?	?	?
SSA	Some	Some	Some	?

\*Some as of 2022 report

<sup>1006</sup> Unless otherwise noted the following information comes from Global Counterspace Capabilities: An Open Source Assessment [https://swfound.org/media/207567/swf\\_global\\_counterspace\\_capabilities\\_2023\\_v2.pdf](https://swfound.org/media/207567/swf_global_counterspace_capabilities_2023_v2.pdf) (2023)

<b><i>Japan</i></b>	R&D	Testing	Operation	Used in Conflict?
LEO Direct Ascent	?	—	—	None
MEO/GEO Direct Ascent	—	—	—	None
LEO Co-Orbital	—	—	—	None
MEO/GEO Co-Orbital	—	—	—	None
Directed Energy	?	—	—	None
Electronic Warfare	?	—	—	—
SSA	Some	Some	Some	—

Further Capabilities:

- SM-3's can target LEO satellites

<b><i>South Korea</i></b>	R&D	Testing	Operation	Used in Conflict?
LEO Direct Ascent	—	—	—	None
MEO/GEO Direct Ascent	—	—	—	None
LEO Co-Orbital	—	—	—	None
MEO/GEO Co-Orbital	—	—	—	None
Directed Energy	?	—	—	None
Electronic Warfare	?	—	—	—
SSA	Some	Some	?	?

<b><i>India In Support</i></b>	R&D	Testing	Operation	Used in Conflict?
Electronic Warfare	Some	Some	?	?
SSA	Some	Some	?	?

<b><i>China</i></b>	R&D	Testing	Operation	Used in Conflict?
LEO Direct Ascent	Significant	Significant	Significant	None
MEO/GEO Direct Ascent	Some	Some	—	None
LEO Co-Orbital	Some	?	—	None
MEO/GEO Co-Orbital	Some	—	—	None
Directed Energy	Significant	Some	—	None
Electronic Warfare	Significant	Significant	Significant	Some
SSA	Significant	Significant	Significant	?

Further Capabilities:

- Likely strong EW for GNSS and satellite communications
- Limited SSA capabilities not based in mainland China, especially during wartime.
- China and Russia's GPS back each other up<sup>1007</sup>
- Baidu is made up of 60 satellites: 24 in MEO, 3 in GEO, 3 in IXO or inclined GEO, and one backup for each spacecraft.<sup>1008</sup>

China is routinely practicing RPO against GEO satellites.<sup>1009</sup>

<b><i>North Korea</i></b>	R&D	Testing	Operation	Used in Conflict?
LEO Direct Ascent	—	—	—	None
MEO/GEO Direct Ascent	—	—	—	None

<sup>1007</sup> <https://www.airforcemag.com/space-force-can-only-mitigate-china-russia-space-cooperation/> (May 2022)

<sup>1008</sup> *Space Threat Assessment 2023*, April 23 2023, CSIS [https://csis-website-prod.s3.amazonaws.com/s3fs-public/2023-04/230414\\_Bingen\\_Space\\_Assessment.pdf?VersionId=oMsUS8MupLbZi3BISPrqPCKd5jDejZnJ](https://csis-website-prod.s3.amazonaws.com/s3fs-public/2023-04/230414_Bingen_Space_Assessment.pdf?VersionId=oMsUS8MupLbZi3BISPrqPCKd5jDejZnJ) pg. 10

<sup>1009</sup> <https://breakingdefense.com/2024/12/chinas-space-moves-highly-mobile-satellites-stalking-geo-spook-space-force/>



LEO Co-Orbital	–	–	–	None
MEO/GEO Co-Orbital	–	–	–	None
Directed Energy	–	–	–	None
Electronic Warfare	Significant	Some	Some	?
SSA	?	?	?	–

<b><i>Russia In Support</i></b>	R&D	Testing	Operation	Used in Conflict?
Electronic Warfare	Significant	Significant	Significant	?
SSA (2 <sup>nd</sup> Best in World)	Significant	Significant	Significant	Significant

Further Capabilities:

### **Military Satellites (2023)**<sup>1010</sup>

LEO = Low Earth Orbit

MEO = Medium Earth Orbit

GEO = Geosynchronous Orbit

HEO = Highly Elliptical Orbit

<b>SIGINT</b>	<b>LEO</b>	<b>GEO</b>	<b>HEO</b>
US	13	11	7*
China	76	3	0
Russia	8		

\*Likely mostly/wholly tasked on Russia

<b>LEO Remote Sensing</b>	<b>US</b>	<b>China</b>	<b>Russia</b>
EO	9	36	7
Radar	5	19	1
Meteorology	4	8	0
Other	0	0	2

<b>Space Surveillance</b>	<b>US</b>
LEO	2
GSO	6

<b>Rendezvous and Proximity Operations</b>	<b>China</b>	<b>Russia</b>
LEO	0	6
GSO	2	1

<b>Early Warning</b>	<b>US</b>	<b>China</b>	<b>Russia</b>
GSO	10	5	5

<b>Communications</b>	<b>US</b>	<b>China</b>	<b>Russia</b>
LEO	0	0	15
GSO	43	11	8
HEO	3	0	9

<b>PNT*</b>	<b>US</b>	<b>China</b>	<b>Russia</b>
MEO	31	27	28
GSO	0	18	0

\*Positioning, Navigation, and Timing

<sup>1010</sup> (2023) The 2023 Military Balance Chart: Military space assets: China, Russia and the United States, The Military Balance, 123:1, ci-ci, DOI: 10.1080/04597222.2023.2162729

In the Chinese case these numbers may be out of date as a Space Force assessment (2024) gives the Chinese more than 1,000 satalities including “292 electro-optical and 43 radar satellites for imaging targets on Earth, and 74 signals intelligence gathering satellites.”<sup>1011</sup>

## **Taiwan**

Taiwan’s pace activity is overseen the Taiwanese Space Agency (TASA), established in 2023 (replacing the National Space Organization).

Satellite	Role	Developer	Notes	Source
FORMOSAT-1	Earth Observation, Experimental	Taiwan-US	Launched 1999. No longer active.	<sup>1012</sup>
FORMOSAT-2	Earth Observation	Taiwan-Astrium	Launched 2004. No longer active.	
FORMOSAT-3/ COSMIC-1	Meteorological	Taiwan-US	Launched 2004. 6 Satellites. Decommissioned 2020.	
FORMOSAT-5	Earth Observation	Taiwan?	Launched 2017	
FORMOSAT-7/ COSMIC-2	Meteorological	Taiwan?	Launched 2019. 6 Satellites.	
Triton	Earth Observation	Taiwan?	Launched 2023	
Eutelsat OneWeb	Communications	OneWeb (Eutelsat)	Access acquired 2024	<sup>1013</sup>
SES	Communications	SES (Luxembourg)	Access acquired 2024, overall use seems limited.	

Taiwan also has access to some geostationary communications satellites (or satellite) with low bandwith (voice and basic internet only), but I cannot find out what constellation this is. <sup>1014</sup>

## **OneWeb**

OneWeb will go through three ground stations (Japan, Thailand and Guam). 700 terminals will be deployed on Taiwan by the end of 2024.<sup>1015</sup> In addition there are 70 backhaul stations and 3 overseas hotspots by the end of 2024.<sup>1016</sup>

## **Beyond 5G LEO Satellite Program**

2027-2028, launch of 2 experimental LEO (600km) communications satellites. More to hopefully follow for a larger constellation. <sup>1017</sup>

## **FORMOSAT-8<sup>1018</sup>**

<sup>1011</sup> <https://breakingdefense.com/2024/12/chinas-space-moves-highly-mobile-satellites-stalking-geo-spook-space-force/>

<sup>1012</sup> *Taiwan’s Rising Space Program Building Up Industry, Supporting National Security*, IFRI Papers, November 2024, Marc Julienne, <https://www.ifri.org/en/papers/taiwans-rising-space-program-building-industry-supporting-national-security>, pg. 9-10

<sup>1013</sup> Taiwan upgrades satellite network system on Taiping Island, Sunny Lai, 04/18/2024, <https://focustaiwan.tw/politics/202404180021>

<sup>1014</sup> Taiwan upgrades satellite network system on Taiping Island, Sunny Lai, 04/18/2024, <https://focustaiwan.tw/politics/202404180021>

<sup>1015</sup> *Taiwan’s Rising Space Program Building Up Industry, Supporting National Security*, IFRI Papers, November 2024, Marc Julienne, <https://www.ifri.org/en/papers/taiwans-rising-space-program-building-industry-supporting-national-security>, pg. 20

<sup>1016</sup> *Trials underway for Taiwan’s wartime satcom program while domestic suppliers wait for a greater role*, Misha Lu, 12<sup>th</sup> December, 2023, <https://www.digitimes.com/news/a20231212VL203/oneweb-leo-satellite-satellite-telecom-service-infrastructure.html>

<sup>1017</sup> *Taiwan’s Rising Space Program Building Up Industry, Supporting National Security*, IFRI Papers, November 2024, Marc Julienne, <https://www.ifri.org/en/papers/taiwans-rising-space-program-building-industry-supporting-national-security>, pg. 29

<sup>1018</sup> *Taiwan’s Rising Space Program Building Up Industry, Supporting National Security*, IFRI Papers, November 2024, Marc Julienne, <https://www.ifri.org/en/papers/taiwans-rising-space-program-building-industry-supporting-national-security>, pg. 30

First satellite launch in 2025, full constellation by 2030

- Sun-synchronous at LEO (561 km)
- 6 x high resolution (1 meter) optical earth observation satellites
- 2 x ultra-high resolution (less than 1 meter) optical earth observation satellites

### **FORMOSAT-9**<sup>1019</sup>

First launch 2027, second in 2029

- 2 x SAR satellites

### **Launch Capability**

Taiwan is currently reliant on allies and partners. A 3 stage hybrid rocket to deliver 200kg payload to 400 km. Flight tests are planned for 2028, and the orbital launch vehicle tests for 2030. No launch center has been built and planning and site selection is underway.<sup>1020</sup>

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<sup>1019</sup> *Taiwan's Rising Space Program Building Up Industry, Supporting National Security*, IFRI Papers, November 2024, Marc Julienne, <https://www.ifri.org/en/papers/taiwans-rising-space-program-building-industry-supporting-national-security>, pg. 30

<sup>1020</sup> *Taiwan's Rising Space Program Building Up Industry, Supporting National Security*, IFRI Papers, November 2024, Marc Julienne, <https://www.ifri.org/en/papers/taiwans-rising-space-program-building-industry-supporting-national-security>, pg. 31

## **Military Space Launch Facilities<sup>1021</sup>**

### **China**

Jiuquan Satellite Launch Center  
Taiyuan Satellite Launch Center  
Xichang Satellite Launch Center  
Wenchang Satellite Launch Center  
(Hainan Island)

Locations as follows:<sup>1022</sup>



### **North Korea**

Sohae Satellite Launching Station

### **South Korea**

Naro Space Center

### **Japan**

Tanegashima Space Center (Kyushu)

Uchinoura Space Center (Kyushu)

*Spaceport Kii (Wakayama) – late 2023<sup>1023</sup>*

### **US**

*Anderson AFB - Air-Launch to Orbit*

Pacific Spaceport Complex (Kodiak  
Alaska)

Vandenberg Space Force Base (California)

Mojave Air and Space Port (California) -  
Air-Launch to Orbit

*SpaceX Starbase, (Boca Chica, Texas)*

Cape Canaveral Space Force Station,  
(Florida)

Kennedy Space Center (Florida)

Mid-Atlantic Regional Spaceport (Virginia)

### **Canada**

*Canso (Nova Scotia)*

### **Australia**

*Abbot Point (Queensland) – 202X?<sup>1024</sup>*

*Whaler's Way Orbital Launch Complex  
(South Australia) – full launch capability  
202X?<sup>1025</sup>*

### **New Zealand**

*Rocket Lab Launch Complex 1*

### **France**

Guiana Space Center (Kourou, French  
Guiana)

<sup>1021</sup> (2023) The 2023 Military Balance Chart: Military space assets: China, Russia and the United States, The Military Balance, 123:1, ci-ci, DOI: 10.1080/04597222.2023.2162729

<sup>1022</sup> <https://www.thespacereview.com/article/4731/1> (2024)

<sup>1023</sup> <https://asiatimes.com/2023/01/japans-space-one-finally-ready-for-blast-off/>

<sup>1024</sup> <https://www.gspace.com/post/qld-govt-gives-go-ahead-for-a-small-rocket-launch-site-at-abbot-point>

<sup>1025</sup> <https://www.southernlaunch.space/completed-missions> (accessed May 22, 2023)

# Environmental Factors

## Weather Overview

Each spring and fall has approximately 4 weeks of suitable weather for an invasion of Taiwan across the strait.<sup>1026</sup> “From late October until the middle of March, weather in the Strait is so foul it regular grounds civil air traffic and delays passenger ships.”<sup>1027</sup> “PLA writings assess that the strait has military significant waves 97 percent of the year, with average sea states between level 4 and level 7,” level 4 waves are between 4-8ft tall, level 7 are 20-30ft and make destroyer operations difficult.<sup>1028</sup> Spring and fall is often “just choppy enough to make it difficult for groups of landing craft to maintain a steady heading for beach assaults”<sup>1029</sup> In higher sea states seasickness is a major concern on impacting the ability of troops to fight.

## Predicting Weather<sup>1030</sup>

Predicting weather is difficult:

Forecast (Days Ahead)	Accuracy
3 days	98%
5 days	90%
7 days	77%
10 days	50%

- Rain can be estimated +/- a couple of degrees or hours at least a week ahead of time.
- Hurricanes can sometimes be predicted up to 10 days ahead of time
- Accuracy is poor past 15 days as whether systems are so complex even minor changes in base assumptions produce highly varied results.

Note that this information is only a first order approximation given the specifics of applying the data involved to the region, time, and specific questions for a military operation. Quality of specifics may vary to an unknown degree.

## Weather Conditions for Amphibious Invasion of Taiwan<sup>1031</sup>

### **January**

Gales, high winds/waves, low clouds  
Poor suitability.

### **February**

Gales, high winds/waves, heavy fog\*  
Poor suitability.

### **Early March**

High winds/waves, heavy fog.  
Poor suitability.

<sup>1026</sup> The Chinese Invasion Threat (2017), Ian Easton, 150

<sup>1027</sup> The Chinese Invasion Threat (2017), Ian Easton, 145-146

<sup>1028</sup> The Chinese Invasion Threat (2017), Ian Easton, 146

<sup>1029</sup> The Chinese Invasion Threat (2017), Ian Easton, 146

<sup>1030</sup> <https://www.economist.com/science-and-technology/2023/07/26/the-high-tech-race-to-improve-weather-forecasting>

<sup>1031</sup> Based mostly on The Chinese Invasion Threat (2017), Ian Easton, 151-152, with some additional notes from pg. 150

**Late March [Invasion Window 1]**

Heavy fog, mild wind/waves.

Good suitability.

**April [Invasion Window 1]**

Heavy fog/rain, mild wind/waves. Low number of clear days.

Good suitability.

**May**

Plum rains (very heavy seasonal rainstorms), heavy fog, mild wind/waves.

Variable suitability.

**June**

Plum rains (very heavy seasonal rainstorms), fog, strong currents, mild wind/waves. Typhoons possible.

Poor suitability.

**July**

Typhoons regularly, variable waves, strong currents, mild winds.

Poor suitability.

**August**

Typhoons regularly, variable waves, strong currents, mild winds.

Poor suitability.

**September [Invasion Window 2\*\*]**

Typhoons regularly, variable wind/waves, strong currents.

Variable suitability.

**Early October [Invasion Window 2]**

Variable waves, variable winds. Typhoons possible.

Variable suitability.

**Late October**

High winds/waves. Typhoons possible.

Poor suitability.

**November**

Gales, high winds/waves, low clouds.

Poor suitability.

**December**

Gales, high winds/waves, low clouds.

Poor suitability.

\* Fog is a major factor from February 15 to June 15<sup>th</sup>. The worst fog is early morning in April and May. Overall average visibility is 2km in spring, 4km in winter, and 10 km in summer.

\*\* Starting late September

## **Beaches**

“Taiwan’s mountainous eastern coastline is characterized by steep beach gradient and deep littoral waters, whereas much of the western seaboard is marked by strong currents and treacherous shoals”<sup>1032</sup>

Red beaches are no longer viable to attack across<sup>1033</sup>

## **Tides**

Generally, it is optimal to attack at monthly high tide. The attacker would clear obstacles on the beach at low tide, then attack on the rising tide so that beached landing craft may be cleared later. On China’s side of the Taiwan strait tidal difference may minorly hamper loading and sailing of troops. The tides for Taiwan are much more difficult: Northwestern Taiwan has semi-diurnal tides experiencing 2 high tides and 2 lows each day (cyclical period of 12 hr., 25 min), while southwestern Taiwan has diurnal tides (one high/low per lunar cycle of 24 hr. and 50min), or irregular tides. Tidal ranges can be between 1 to 14 feet, with 8 being average, it varies highly by location.<sup>1034</sup> The area around Taiwan also experiences erratic currents that may disrupt landing craft.<sup>1035</sup> These currents tend to be stronger in summer and weaker in winter.<sup>1036</sup>

## **Underwater Geography**

### **The Taiwan Strait**

The Taiwan Strait’s “level of background noise is much higher than in the open ocean depths, greatly improving the odds that Chinese submarines could avoid sonar detection as they sneaked up on Taiwan”<sup>1037</sup> However, the sea is shallow and it is difficult to remain concealed.<sup>1038</sup> Furthermore the “shallow and constrained waters of the strait restrict the number of submarines that can operate... the danger of blue-on-blue engagements would severely limit the number of U.S. boats that could operate in the Taiwan Strait—we [RAND] postulated two submarines”<sup>1039</sup> The geography is highly suitable for US mines: “average depth is sixty meters (m); even at its deepest (100 m), the depth does not exceed the maximum usable depth of America’s most numerous mine, the Quickstrike.”<sup>1040</sup> The local areas off of the coast and beaches around Taiwan’s north, south, and west are all well suited for mining.<sup>1041</sup>

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<sup>1032</sup> *Hard ROC 2.0, Taiwan and Deterrence Through Protraction*, Jim Thomas, John Stillion, and Iskander Rehman, Center for Strategic and Budgetary Assessments, 2014, [https://csbaonline.org/uploads/documents/2014-10-01\\_CSBA-TaiwanReport-1.pdf](https://csbaonline.org/uploads/documents/2014-10-01_CSBA-TaiwanReport-1.pdf), pg. 14

<sup>1033</sup> <https://english.cw.com.tw/article/article.action?id=3556> (2023)

<sup>1034</sup> *The Chinese Invasion Threat* (2017), Ian Easton, 147

<sup>1035</sup> *The Chinese Invasion Threat* (2017), Ian Easton, 148

<sup>1036</sup> *The Chinese Invasion Threat* (2017), Ian Easton, 151

<sup>1037</sup> *The Chinese Invasion Threat* (2017), Ian Easton, 150

<sup>1038</sup> *The Chinese Invasion Threat* (2017), Ian Easton, 150

<sup>1039</sup> *The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power, 1996–2017*, RAND, published 2015, Heginbotham et. al., pg. 223

<sup>1040</sup> Cancian, Matthew (2022) “*An Offensive Minelaying Campaign Against China*,” *Naval War College Review*: Vol. 75: No. 1, Article 6. <https://digital-commons.usnwc.edu/nwc-review/vol75/iss1/6>, pg. 7

<sup>1041</sup> *Delay, Disrupt, Degrade: Mine Warfare in Taiwan’s Porcupine Defense*, Jonathan Dorsey, Kelly A. Grieco, and Jennifer Kavanagh, March 21, 2024 [https://warontherocks.com/2024/03/delay-disrupt-degrade-mine-warfare-in-taiwans-porcupine-defense/?\\_\\_s=v9qoiygke47g70218fdn](https://warontherocks.com/2024/03/delay-disrupt-degrade-mine-warfare-in-taiwans-porcupine-defense/?__s=v9qoiygke47g70218fdn)

## ECS and SCS

“The East China Sea is shallow, with more than half of it less than 100m deep and another 20% is less than 200m deep. The South China Sea also includes a group of large shallow areas, mainly in the southern part and deep-water regions where the depth drops below 2,000m. There are also many small islands, atolls, and reefs.”<sup>1042</sup> The seas around China have been warming much faster than other areas due to global warming, which affects sonar distortions.<sup>1043</sup> “high maritime traffic (especially in the South China Sea), marine life, industrial coastal infrastructure, currents and a complex seabed, temperature, and salinity profile, there is an inhomogeneous and noisy undersea environment. In many areas there is also a high sea bottom reverberation level. The result is an operating environment in which passive and active ship mounted sonars are challenged to meet ASW detection, classification, and target—tracking requirements”<sup>1044</sup>

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<sup>1042</sup> *Blue Water Buildup*, Aika Torruella, Alessandra Giovanzanti, Georgios Papangelopoulos, and Matteo Scarano, *Janes Defense Weekly*, 18 May, 2022, pg. 22-29 (pg. 24)

<sup>1043</sup> *Blue Water Buildup*, Aika Torruella, Alessandra Giovanzanti, Georgios Papangelopoulos, and Matteo Scarano, *Janes Defense Weekly*, 18 May, 2022, pg. 22-29 (pg. 24)

<sup>1044</sup> *Blue Water Buildup*, Aika Torruella, Alessandra Giovanzanti, Georgios Papangelopoulos, and Matteo Scarano, *Janes Defense Weekly*, 18 May, 2022, pg. 22-29 (pg. 24). This is not a consensus view as *The U.S.-China Military Scorecard Forces, Geography, and the Evolving Balance of Power*, 1996–2017, RAND, published 2015, Heginbotham et. al., pg. 223 states: The “hydrography of the South China Sea is also conducive to submarine anti-surface warfare operations. The water around the Spratly Islands is deep, permitting submarine acoustic detection and tracking of surface ships at long ranges. The converse is also true, with Chinese escort ships better able to detect U.S. submarines.”



# Intelligence Indicators of a Chinese Invasion of Taiwan

## Detecting the Buildup

### Strategic

Easton concludes that Taiwan, the US, and Japan would likely be able to detect a Chinese buildup against Taiwan.<sup>1045</sup> Culver states that the scale of required preparations would be detected by the US, and likely Taiwan and other Western Observers.<sup>1046</sup> Taiwanese worst case planning believes that they will have 60 days of ambiguous warning, followed by another 30 days of unambiguous warning.<sup>1047</sup> Alternatively “Taiwan planners expect that they will have about four weeks of warning that the PRC is preparing to launch an invasion of Taiwan.”<sup>1048</sup> CBSA assumed that in the event of an island seizure by China (in this case Scarborough Shoal), the US would have 7 days of unambiguous warning.<sup>1049</sup>

However specific areas may be more difficult to assess. The PLA’s “heightened operations tempo and the use of civilian ferries in exercises in the Eastern Theater Command near Taiwan are ‘eroding’ the U.S. intelligence community’s ability to detect abnormal activity and preparations for ‘an attack on Taiwan’” according to leaked US documents.<sup>1050</sup> Similarly detecting the buildup of Chinese stockpiles of energy and other minerals and raw resources would be difficult.<sup>1051</sup>

### Tactical Surprise

Chinese sources are not optimistic on their ability to employ tactical deception.<sup>1052</sup> The Taiwanese have a strong early warning network that (if not degraded) would give them a good picture of tactical operations.<sup>1053</sup> The Chinese assess the Japanese have good capability to track Chinese military assets and would pass invasion indicators to the Taiwanese.<sup>1054</sup> However Chinese air missions over the median line also degrade the ability to avoid tactical surprise,<sup>1055</sup> and larger military exercises are having the same effect to some degree in the naval and ground domains.<sup>1056</sup>

Mobilization of PLAGF forces in tactical timeframes is unlikely “because the various forces involved are dispersed in peacetime, it will require days, if not weeks, to move and assemble the units within striking range of Taiwan and prepare them for launching an

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<sup>1045</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 53-54

<sup>1046</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1047</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 73

<sup>1048</sup> *Transformation of Taiwan's Reserve Force*, Ian Easton, Mark Stokes, Cortez A. Cooper, Arthur Chang, 2017, [https://www.rand.org/content/dam/rand/pubs/research\\_reports/RR1700/RR1757/RAND\\_RR1757.pdf](https://www.rand.org/content/dam/rand/pubs/research_reports/RR1700/RR1757/RAND_RR1757.pdf) (2017), pg. 4

<sup>1049</sup> *An Air Force for an Era of Great Power Competition*, Mark Gunzinger, Carl Rehberg, Jacob Cohn, Timothy A. Walton, Lukas Autenried, CSBA, 2019, [https://csbaonline.org/uploads/documents/CSBA\\_AFAIS\\_Report\\_v9.pdf](https://csbaonline.org/uploads/documents/CSBA_AFAIS_Report_v9.pdf), pg. 62

<sup>1050</sup> <https://www.washingtonpost.com/national-security/2023/04/15/taiwan-china-invasion-leaked-documents/> (2023)

<sup>1051</sup> *Could economic indicators give an early warning of a war over Taiwan?*, The Economist, July 27, 2023

<https://www.economist.com/china/2023/07/27/could-economic-indicators-signal-chinas-intent-to-go-to-war>

<sup>1052</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 72

<sup>1053</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 72-73

<sup>1054</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 54

<sup>1055</sup> *Hard ROC 2.0, Taiwan and Deterrence Through Protraction*, Jim Thomas, John Stillion, and Iskander Rehman, Center for Strategic and Budgetary Assessments, 2014, [https://csbaonline.org/uploads/documents/2014-10-01\\_CSBA-TaiwanReport-1.pdf](https://csbaonline.org/uploads/documents/2014-10-01_CSBA-TaiwanReport-1.pdf), pg. 12

<sup>1056</sup> *China's growing military activity makes a shift to war harder to spot, warns Taiwan*, Kathrin Hille, September 19<sup>th</sup> 2024, <https://www.ft.com/content/3402d159-418c-4485-abb4-7e2155288d61>

assault.”<sup>1057</sup> “No ACABs are located in immediate proximity to the assembly and embarkation points, so they will need to make a land movement (by road or rail) of hours or days to reach their designated areas.”<sup>1058</sup> Other than Army Aviation units of 73<sup>rd</sup> Group Army, Army Aviation units would also have to deploy forward to be able to fly across the Taiwan Strait.<sup>1059</sup>

## **Indicators**

Some of these might be somewhat self-evident, but I am attempting to compile a very compressive list.

### **Military Indicators**

- Other
  - Implementation of a stop-loss on personal (6-12 months before the invasion )<sup>1060</sup>
  - Increased meetings between high level military and political officials (Politburo, Central Military Commission, and Eastern Theater Command)<sup>1061</sup>
  - Right before the start of the invasion closure of airspace (either in selected areas or across China) to civilian traffic<sup>1062</sup>
  - Inspection of frontline units<sup>1063</sup>
  - Military bases in foreign countries would be placed on alert,<sup>1064</sup> as would forces all around China<sup>1065</sup> (out of fear of chain-reaction warfare<sup>1066</sup>)
- Training
  - Preparatory rehearsals and amphibious drills with an increasing focus on realism and joint operations, likely at the brigade/division scale<sup>1067</sup>
  - Naval/Air forces training on munitions reloading<sup>1068</sup>
  - Peoples Armed Police preparing for counterinsurgency and policy duties on Taiwan<sup>1069</sup>

<sup>1057</sup> *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 66

<sup>1058</sup> *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 70

<sup>1059</sup> *The PLAGF Amphibious Force: Missions, Organization, Capabilities, and Training*, Chapter 4, Dennis J. Blasko, in Study No. 8, Chinese Amphibious Warfare: Prospects for a Cross Strait Invasion, 11/8/2024

<https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1000&context=cmis-studies>, pg. 70

<sup>1060</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1061</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 55

<sup>1062</sup> *What war mobilisation might look like in China*, The Economist, July 27<sup>th</sup> 2023, <https://www.economist.com/china/2023/07/27/what-war-mobilisation-might-look-like-in-china?giftId=18dc703e-4e46-4192-a397-0a17764bbcd8>

<sup>1063</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1064</sup> *What war mobilisation might look like in China*, The Economist, July 27<sup>th</sup> 2023, <https://www.economist.com/china/2023/07/27/what-war-mobilisation-might-look-like-in-china?giftId=18dc703e-4e46-4192-a397-0a17764bbcd8>

<sup>1065</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1066</sup> For more on this see *System Overload: Can China's Military be Distracted in a War over Taiwan?*, Joel Wuthnow, China Strategic Perspectives 15, Center for the Study of Chinese Military Affairs, INSS, NDU June 2020, <https://ndupress.ndu.edu/Portals/68/Documents/stratperspective/china/china-perspectives-15.pdf>

<sup>1067</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 57

<sup>1068</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1069</sup> Author's view.

- Non-essential training would be stopped to prevent fatigue and allow for maintenance<sup>1070</sup>
  - This would occur 3-6 months before the invasion<sup>1071</sup>
- Mobilization
  - Canceling of leave<sup>1072</sup> and troops being confined to base/ship<sup>1073</sup>
  - Conscripts would be retained<sup>1074</sup>
  - Reserve and Militia units called up<sup>1075</sup>
  - Mobilization of RO-RO's<sup>1076</sup>
  - Gathering of maritime militia ships<sup>1077</sup>
  - Recommissioning of decommissioned LSMs and LSTs<sup>1078</sup>
  - Batteries on diesel-electrics swapped for new batteries<sup>1079</sup>
  - Hundreds of military/charted flights to move supplies and officers, and consequent disruption to civilian traffic<sup>1080</sup>
- Deployments
  - Deployment to staging areas on the coast<sup>1081</sup>
  - Deployment of Helicopters and Aircraft to Fujian<sup>1082</sup>
  - Dispersal of military units from peacetime garrisons.<sup>1083</sup>
  - Dispersal of missile units to wartime locations<sup>1084</sup>
  - Increased air defense units in Fujian Province<sup>1085</sup>
  - Ships putting to sea in large numbers<sup>1086</sup>
  - Unit HQ's moving out of garrison and deploying/hiding<sup>1087</sup>
  - Units managing POL deploying to support embarkation<sup>1088</sup>
  - Key Units for an Invasion (not counter intervention)<sup>1089</sup>
    - PLAGF

<sup>1070</sup> *What war mobilisation might look like in China*, The Economist, July 27<sup>th</sup> 2023, <https://www.economist.com/china/2023/07/27/what-war-mobilisation-might-look-like-in-china?giftId=18dc703e-4e46-4192-a397-0a17764bbcd8>

<sup>1071</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1072</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 57, AND How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053> AND *What war mobilisation might look like in China*, The Economist, July 27<sup>th</sup> 2023, <https://www.economist.com/china/2023/07/27/what-war-mobilisation-might-look-like-in-china?giftId=18dc703e-4e46-4192-a397-0a17764bbcd8>

<sup>1073</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1074</sup> *What war mobilisation might look like in China*, The Economist, July 27<sup>th</sup> 2023, <https://www.economist.com/china/2023/07/27/what-war-mobilisation-might-look-like-in-china?giftId=18dc703e-4e46-4192-a397-0a17764bbcd8>

<sup>1075</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 57

<sup>1076</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 237

<sup>1077</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 59

<sup>1078</sup> *Crossing The Strait*, China's Military Prepares for War with Taiwan, National Defense University Press, 2022 pg. 229

<sup>1079</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1080</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1081</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 57

<sup>1082</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 58

<sup>1083</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 56

<sup>1084</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 56

<sup>1085</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 57

<sup>1086</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 58

<sup>1087</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1088</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1089</sup> Authors view.

- Air Assault brigades
- Amphibious Combined Arms brigades
- PLAAF
  - PLAAF Airborne Corps
  - Air Transport brigades (rotary and fixed wing)
- PLAN
  - Landing Ships (civilian and military)
  - Amphibious Warfare Ships
- PLANMC
  - Marine Brigades

## Logistics Indicators

- Military
  - Expansion of blood reserves (in Fujian and major PLA hospitals)<sup>1090</sup>
  - Military equipment production ramping up<sup>1091</sup>
    - Ramping up of munitions production specifically<sup>1092</sup>
      - This would occur 6+ months before an invasion according to The Economist,<sup>1093</sup> while Carnegie states this would begin a year in advance (China would start to surge production of missiles (ballistic, cruise, SAM's, air-to-air, ect.) and other munitions)<sup>1094</sup>
  - Stockpiling of military equipment<sup>1095</sup>
- Production
  - Shipyards producing landing craft.<sup>1096</sup> Note that there may be bottlenecks to this that may limit the size of activity.<sup>1097</sup>
  - The creation of floating causeways to allow ships to offload from offshore<sup>1098</sup>
  - Civilian shipbuilders construing more RO-RO's and other dual use ships for use.<sup>1099</sup>
  - Refitting of civilian ships with military equipment/for military use.<sup>1100</sup> Note that there may be bottlenecks to this that may limit the size of activity.<sup>1101</sup>
    - Refitting of RO-RO's (at least for amphibious launch, e.g. reinforced ramps), may be on a small scale concealable, or on a larger scale, harder to detect.<sup>1102</sup>

<sup>1090</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 66 AND How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>, ALSO evidenced in the Russian buildup to their invasion of Ukraine as an intelligence indicator also <https://www.foreignaffairs.com/united-states/spy-and-tell-gioe-morell>

<sup>1091</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 60

<sup>1092</sup> <https://warontherocks.com/2022/09/hedging-with-humility-reassessing-chinas-power-projection-capabilities-against-taiwan/>

<sup>1093</sup> *What war mobilisation might look like in China*, The Economist, July 27<sup>th</sup> 2023, <https://www.economist.com/china/2023/07/27/what-war-mobilisation-might-look-like-in-china?giftId=18dc703e-4e46-4192-a397-0a17764bbcd8>

<sup>1094</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1095</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 60

<sup>1096</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 60

<sup>1097</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 169

<sup>1098</sup> <https://warontherocks.com/2022/09/hedging-with-humility-reassessing-chinas-power-projection-capabilities-against-taiwan/>

<sup>1099</sup> <https://warontherocks.com/2022/09/hedging-with-humility-reassessing-chinas-power-projection-capabilities-against-taiwan/>

<sup>1100</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 61

<sup>1101</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 169

<sup>1102</sup> *Ro-Ro Ferries and The Expansion Of The PLA's Landing Ship Fleet*, March 27, 2023, Conor Kennedy <https://cimsec.org/ro-ro-ferries-and-the-expansion-of-the-plas-landing-ship-fleet/>

- For a look at what refitting a ship may require, see the given source<sup>1103</sup>
- Civilian
  - Diversion of materials to war production<sup>1104</sup>
  - Measures to reduce demand/ration important goods (especially oil and gas)<sup>1105</sup>
  - Purchase and storage of critical materials for the war effort and for the general economy<sup>1106</sup>
    - Limiting of REM exports<sup>1107</sup>
  - Expansion of fuel reserves<sup>1108</sup>
    - Oil, Natural Gas, Coal<sup>1109</sup>
    - Limiting fuel exports<sup>1110</sup>
  - Expansion of fuel storage<sup>1111</sup>
  - Stockpiling of food<sup>1112</sup>
    - Most notably soybeans
    - Limiting food exports<sup>1113</sup>
  - Stockpiling of Medicine<sup>1114</sup>
- Capitol
  - Movement of foreign exchange reserves out of the dollar and euro and into assets harder to be interfered with by others such as gold<sup>1115</sup>
  - Tightening of capital controls.<sup>1116</sup>
    - Cross-border capital controls<sup>1117</sup>
  - Liquidation of Chinese overseas assets<sup>1118</sup>

<sup>1103</sup> *China Maritime Report No. 21: Civilian Shipping and Maritime Militia: The Logistics Backbone of a Taiwan Invasion*, Lonnie D. Henley, 2022, <https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1020&context=cmssi-maritime-reports>, pg. 11

<sup>1104</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1105</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1106</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 60, *Could economic indicators give an early warning of a war over Taiwan?*, The Economist, July 27, 2023 <https://www.economist.com/china/2023/07/27/could-economic-indicators-signal-chinas-intent-to-go-to-war> AND How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1107</sup> *Could economic indicators give an early warning of a war over Taiwan?*, The Economist, July 27, 2023 <https://www.economist.com/china/2023/07/27/could-economic-indicators-signal-chinas-intent-to-go-to-war> AND How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1108</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 60, *Could economic indicators give an early warning of a war over Taiwan?*, The Economist, July 27, 2023 <https://www.economist.com/china/2023/07/27/could-economic-indicators-signal-chinas-intent-to-go-to-war>

<sup>1109</sup> *Could economic indicators give an early warning of a war over Taiwan?*, The Economist, July 27, 2023

<https://www.economist.com/china/2023/07/27/could-economic-indicators-signal-chinas-intent-to-go-to-war>

<sup>1110</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1111</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 60

<sup>1112</sup> *Could economic indicators give an early warning of a war over Taiwan?*, The Economist, July 27, 2023 <https://www.economist.com/china/2023/07/27/could-economic-indicators-signal-chinas-intent-to-go-to-war>

<sup>1113</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1114</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1115</sup> *Could economic indicators give an early warning of a war over Taiwan?*, The Economist, July 27, 2023

<https://www.economist.com/china/2023/07/27/could-economic-indicators-signal-chinas-intent-to-go-to-war>

<sup>1116</sup> *Could economic indicators give an early warning of a war over Taiwan?*, The Economist, July 27, 2023

<https://www.economist.com/china/2023/07/27/could-economic-indicators-signal-chinas-intent-to-go-to-war>

<sup>1117</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1118</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

- Cashing in of overseas assets by SOE's.<sup>1119</sup>
    - Delay of payment to overseas investments.<sup>1120</sup>
    - Freezing foreign financial assets in China<sup>1121</sup>
      - “In the days leading up to an attack the government might freeze all foreign funds in China.”<sup>1122</sup>
  - Infrastructure
    - Increased security at military bases<sup>1123</sup>
    - Infrastructure expansion at ports that will be used as staging areas<sup>1124</sup>
    - Instalment of Air Defense and military patrols at ports and other critical civilian facilities<sup>1125</sup>
    - New railways and aprons as well as hardening of airbases around Taiwan<sup>1126</sup>
    - Expansion and hardening of ports<sup>1127</sup>
    - Construction/establishment of field hospitals<sup>1128</sup>
    - Fortification of military installations<sup>1129</sup>
  - Other
    - Movement restrictions on “Chinese elites and high-priority workers”<sup>1130</sup>

## Intelligence

- Increase in Chinese intelligence gathering activities<sup>1131</sup>
- Stepped up MASINT collection (air defense radars and targets especially)<sup>1132</sup>
- Increased tempo of space launches to put satellites into orbit and orbital changes of other satellites (happening in the weeks before the conflict)<sup>1133</sup>
- Attempts to recruit and place more spies in Taiwan (though this is unlikely to be effective)<sup>1134</sup>

<sup>1119</sup> *Could economic indicators give an early warning of a war over Taiwan?*, The Economist, July 27, 2023 <https://www.economist.com/china/2023/07/27/could-economic-indicators-signal-chinas-intent-to-go-to-war>

<sup>1120</sup> *Could economic indicators give an early warning of a war over Taiwan?*, The Economist, July 27, 2023 <https://www.economist.com/china/2023/07/27/could-economic-indicators-signal-chinas-intent-to-go-to-war>

<sup>1121</sup> *How We Would Know When China Is Preparing to Invade Taiwan*, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1122</sup> *Could economic indicators give an early warning of a war over Taiwan?*, The Economist, July 27, 2023 <https://www.economist.com/china/2023/07/27/could-economic-indicators-signal-chinas-intent-to-go-to-war>

<sup>1123</sup> *What war mobilisation might look like in China*, The Economist, July 27<sup>th</sup> 2023, <https://www.economist.com/china/2023/07/27/what-war-mobilisation-might-look-like-in-china?giftId=18dc703e-4e46-4192-a397-0a17764bbcd8>

<sup>1124</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 60

<sup>1125</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 60

<sup>1126</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 61

<sup>1127</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 66

<sup>1128</sup> *How We Would Know When China Is Preparing to Invade Taiwan*, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

ALSO As seen in Ukraine. See *This new satellite photo appears to show a sign Russia has been readying for war as its forces surround Ukraine, experts say*, Julie Coleman, February 15, 2022, <https://www.businessinsider.com/satellite-photo-field-hospital-russia-ukraine-experts-2022-2?r=US&IR=T> for example. Also mentioned in *What war mobilisation might look like in China*, The Economist, July 27<sup>th</sup> 2023, <https://www.economist.com/china/2023/07/27/what-war-mobilisation-might-look-like-in-china?giftId=18dc703e-4e46-4192-a397-0a17764bbcd8>

<sup>1129</sup> For example, putting booms in harbors to defend against USV threats as seen in Ukraine, or digging defensive positions and new bunkers at airbases.

<sup>1130</sup> *How We Would Know When China Is Preparing to Invade Taiwan*, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1131</sup> Author's view.

<sup>1132</sup> Author's view, reinforced by *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 82

<sup>1133</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 62, 89, 105

<sup>1134</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 62

## Diplomacy and Information Warfare

- Increase psychological warfare and propaganda against Taiwan<sup>1135</sup>
- Laying of the groundwork for a narrative of a just war against Taiwan (domestically)<sup>1136</sup>
- Laying of the groundwork for a narrative of a just war against Taiwan (foreign)<sup>1137</sup>
- Laying the groundwork to get Chinese to accept/be prepared for the war (# of deaths, austerity, civilian deaths, etc.)<sup>1138</sup>
- Attempts to intimidate and influence other nations to stay out of a potential war<sup>1139</sup>
- Attempts to create unrest (social, political, financial, etc..) in Taiwan<sup>1140</sup>
- Nuclear saber rattling (potential test(s) as well)<sup>1141</sup>
- VPN's in China would be cracked down on<sup>1142</sup>
- Increased internet censorship in China<sup>1143</sup>

## Other Measures

- Infiltration of saboteurs and assassination/decapitation teams into Taiwan<sup>1144</sup>
- Officials might be recalled from other countries and select people living in China either expelled or prevented from leaving the country<sup>1145</sup>
- Right before the war the burning of documents in embassies

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<sup>1135</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 63

<sup>1136</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 64, *What war mobilisation might look like in China*, The Economist, July 27<sup>th</sup> 2023, <https://www.economist.com/china/2023/07/27/what-war-mobilisation-might-look-like-in-china?giftId=18dc703e-4e46-4192-a397-0a17764bbcdb>

<sup>1137</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 67, *What war mobilisation might look like in China*, The Economist, July 27<sup>th</sup> 2023, <https://www.economist.com/china/2023/07/27/what-war-mobilisation-might-look-like-in-china?giftId=18dc703e-4e46-4192-a397-0a17764bbcdb>

<sup>1138</sup> How We Would Know When China Is Preparing to Invade Taiwan, John Culver, October 03, 2022, Carnegie Endowment for International Peace <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>

<sup>1139</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 64

<sup>1140</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 65

<sup>1141</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 59

<sup>1142</sup> Author's view, based on *What war mobilisation might look like in China*, The Economist, July 27<sup>th</sup> 2023, <https://www.economist.com/china/2023/07/27/what-war-mobilisation-might-look-like-in-china?giftId=18dc703e-4e46-4192-a397-0a17764bbcdb>

<sup>1143</sup> *What war mobilisation might look like in China*, The Economist, July 27<sup>th</sup> 2023, <https://www.economist.com/china/2023/07/27/what-war-mobilisation-might-look-like-in-china?giftId=18dc703e-4e46-4192-a397-0a17764bbcdb>

<sup>1144</sup> *The Chinese Invasion Threat*, Ian Easton, 2017, pg. 64

<sup>1145</sup> *What war mobilisation might look like in China*, The Economist, July 27<sup>th</sup> 2023, <https://www.economist.com/china/2023/07/27/what-war-mobilisation-might-look-like-in-china?giftId=18dc703e-4e46-4192-a397-0a17764bbcdb>