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SUMMARY

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U.S. Defense Infrastructure in the Indo-Pacific: Background and Issues for Congress

The Indo-Pacific occupies a central role in U.S. national strategy and hosts a large number of U.S. military forces. To enable the operation of these forces and accomplish its strategic objectives, the United States maintains and uses at least 66 significant defense sites spread across the region. This defense infrastructure network performs and supports numerous military functions, including basing for military personnel and weapon systems; domain awareness and area defense; maintenance and repair; training and exercises, storage and prepositioning of materiel; and research, development, testing, and evaluation activities. Some Indo-Pacific installations are located in U.S. states, territories, or possessions (such as Hawaii and Guam); others are located in allied or partner nations (such as South Korea and Japan). In addition to installations directly owned or operated by the U.S. Department of Defense (DOD), the U.S. military also makes use of sites operated by allied or partner nations (such as the Philippines and Australia).

DOD's basing posture in the Indo-Pacific reflects in part the legacy of decisions made under the geopolitical and technological conditions of the Cold War. Following the Obama Administration's announcement of a "pivot to Asia," the focus of U.S. strategy (and with it, regional defense infrastructure) shifted toward prevailing in competition against peer or near-peer rivals—particularly the People's Republic of China (PRC). Since 2011, the United States has negotiated access to 12 new defense sites in the Philippines and Australia, constructed new installations in Japan and Guam, and expanded facilities at dozens of existing installations across the region. Congress' role in these developments has included, for example, appropriating over $8.9 billion for new military construction projects at Indo-Pacific sites since fiscal year (FY) 2020 and establishing infrastructure improvements as an investment priority through the Pacific Deterrence Initiative (PDI).

Issues that Congress may consider include (1) whether DOD's current regional basing posture adequately supports strategic goals and operational requirements, and (2) whether the construction, maintenance, and utilization of defense infrastructure is appropriately resourced and managed. Within these issue areas, particular questions that may be raised in the 118th Congress include

- What criteria should inform the placement of U.S. bases in the Indo-Pacific, and what role should Congress play in determining those criteria?
- How can DOD optimize the organization, operation, and resilience of its Indo-Pacific installations, and what assessment and oversight options are available to Congress?
- What is an appropriate level of investment for military construction, facilities sustainment, and related infrastructure activities?

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Introduction

Encompassing the seas, islands, and littoral areas of the Pacific and Indian Oceans between the western coast of North America and India (see **Figure 1**), the Indo-Pacific region hosts more than 375,000 U.S. military personnel using at least 66 distinct defense sites.[1] The 2022 National Security Strategy describes the Indo-Pacific as the "epicenter of 21st century geopolitics," and the 2022 National Defense Strategy identifies attempts by the People's Republic of China (PRC) to "refashion the Indo-Pacific region" as part of "the most comprehensive and serious challenge to U.S. national security."[2] Secretary of Defense Lloyd Austin has described Indo-Pacific defense infrastructure as "provid[ing] us with the ability to position our troops forward in theater, so that we can deter much further forward."[3]

Given the role of defense infrastructure in undergirding U.S. military presence and power projection in the region, Congress has devoted considerable attention to Indo-Pacific defense infrastructure issues, and may choose to do so in the future. This report

- defines the fundamental elements of infrastructure policy and basing posture;
- describes the historical development of Indo-Pacific defense infrastructure;
- characterizes the strategic and operational roles of Indo-Pacific defense sites;
- describes the current U.S. basing posture in Alaska, Washington, California, Hawaii, Wake Island, Guam, the Northern Mariana Islands, the Marshall Islands, Japan, the Republic of Korea, the Philippines, Singapore, Australia, and the British Indian Ocean Territory (Diego Garcia); and
- analyzes selected issues for congressional consideration.[4]

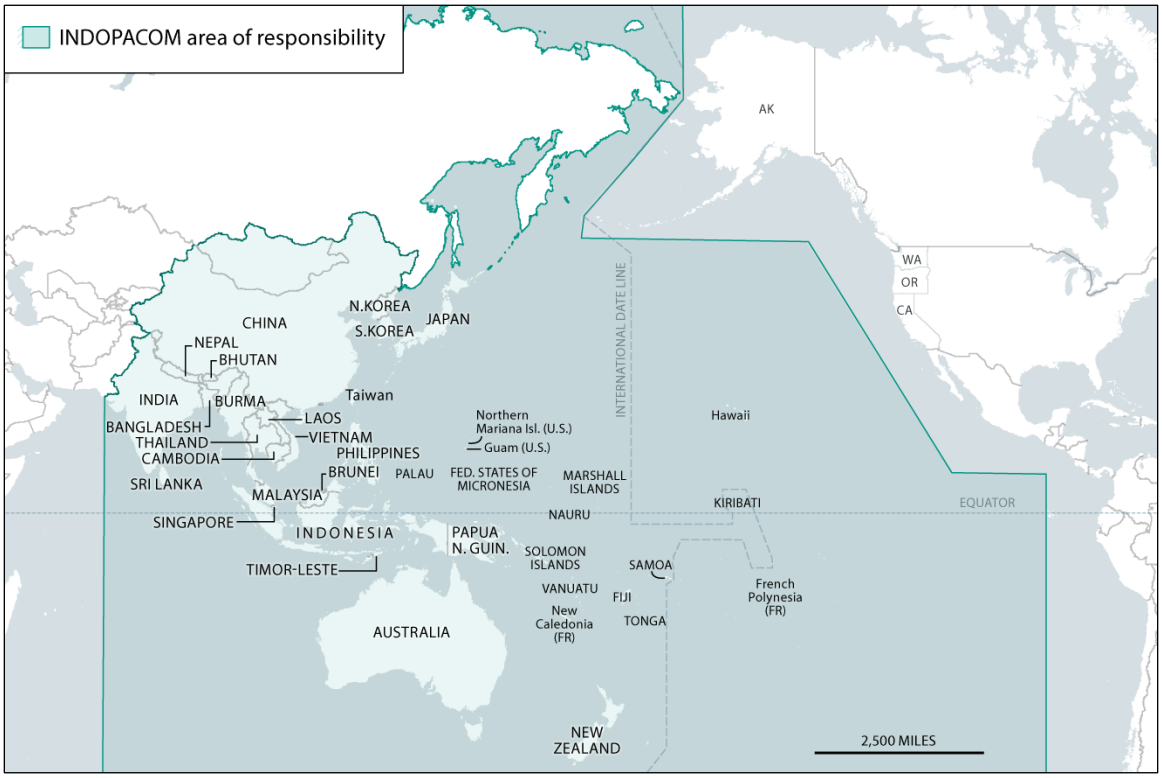
[1] The nomenclature and boundaries of the Indo-Pacific have changed over time. Previous presidential administrations and Congresses have used the terms 'Asia-Pacific,' the 'East Asia-Pacific', and the 'Asian Pacific Rim' in reference to regions which have sometimes excluded India and the west coast of North America. However, the 2022 Indo-Pacific Strategy of the United States broadly describes the Indo-Pacific as "stretch[ing] from [North America's] Pacific coastline to the Indian Ocean," and this report adopts this definition. Personnel figure from "About U.S. INDOPACOM," U.S. INDOPACOM, at https://www.pacom.mil/About-usindopacom/; installations figure from CRS analysis of a variety of DOD documents, including the "FY2022 Base Structure Report."

[2] "National Security Strategy", The White House, October 2022, p. 37, available at https://www.whitehouse.gov/wp-content/uploads/2022/10/Biden-Harris-Administrations-National-Security-Strategy-10.2022.pdf; and "National Defense Strategy", Department of Defense, October 2022, p. 4. available at https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-national-defense-strategy-npr-mdr.pdf.

[3] Secretary Lloyd Austin, quoted in "House Appropriations Subcommittee on Defense Hearing on Fiscal Year 2024 Request for the Department of Defense," March 23, 2023, available at https://appropriations.house.gov/legislation/hearings/budget-hearing-fiscal-year-2024-request-department-defense.

[4] All information in this report is derived from unclassified and publicly available sources.

Figure 1. The Indo-Pacific Region



Source: "U.S. INDOPACOM Area of Responsibility," https://www.pacom.mil/About-USINDOPACOM/USPACOM-Area-of-Responsibility/.

Notes: The continental United States, Canada, Mexico, and surrounding waters to a distance of 500 nautical miles from shore fall within the U.S. Northern Command AOR. See https://www.northcom.mil/About.

Background

Defining Defense Infrastructure

Defense infrastructure consists of the buildings, permanent facilities, fixed systems, real property, and related assets owned, operated, or used by a nation's government for military purposes. For DOD, the basic 'unit' of infrastructure is the *installation*, defined statutorily as any "base, camp, post, station, yard, center, or other activity under the jurisdiction…[or] operational control of the Secretary of a military department or the Secretary of Defense."[5] An installation or group of installations may serve as a *base*, which DOD defines as "a locality from which operations are projected or supported."[6] DOD classifies its overseas bases into two categories: *enduring*

[5] Title 10, *United States Code* §2801. Available at https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title10-section2801&num=0&edition=prelim.

[6] DOD also offers two additional definitions for *base*: 1) "An area or locality containing installations which provide logistics or other support"; 2) "Home airfield or home carrier". See *DOD Dictionary of Military and Associated Terms*, Department of Defense, February 2023, p. 21.

locations, which support ongoing activities and interests on a permanent basis; and *contingency locations*, which provide temporary support for contingency operations.[7]

Each military department (MILDEP) manages its infrastructure through its own organizational structures, policies, and programs, while the Under Secretary of Defense for Acquisition and Sustainment sets policy and exercises oversight of infrastructure-related matters across DOD.[8] The construction of new facilities is funded through Military Construction (MILCON) appropriations, while other infrastructure-related functions such as facilities sustainment, restoration, and modernization (FSRM) and base operations are funded through Operation and Maintenance (O&M) appropriations.

Within the Indo-Pacific region, this report identifies and describes 66 military bases. Of these, 26 are located to the east of the International Date Line (IDL), and 40 are located to the west of the IDL (see **Figure 2**). The majority of sites are within the U.S. Indo-Pacific Command (INDOPACOM) Area of Responsibility (AOR); also included are select locations in Alaska, Washington, and California that fall within the U.S. Northern Command (NORTHCOM) AOR but are located in the Indo-Pacific region as defined above and provide substantial support for regionally focused operations.

Defense infrastructure in the Indo-Pacific performs or supports an array of military functions, including

- **Basing of personnel and weapons systems**. The most fundamental function of military installations is to provide space for servicemembers, weapons systems, and the resources necessary for their operation (e.g., food, fuel, munitions). Installations serve as work sites during both peacetime and wartime, enabling activities ranging from routine office work to launching combat missions. Larger installations often include housing for defense personnel and dependents, as well as morale, welfare and recreation (MWR) facilities.
- **Domain awareness and area defense.** Beyond their role in hosting combat forces, fixed sites and facilities play a key role in detecting and countering threats to U.S. and allied forces and territory. Elements of Indo-Pacific defense infrastructure performing or supporting this mission include radar sites intended to detect incoming missiles or aircraft (e.g., Shariki Communications Site, Japan) and ground-based interceptor sites intended to neutralize incoming missiles (e.g., Ft. Greely, AK).[9]
- **Maintenance and repair.** The complexity of major weapons systems often requires specialized facilities and equipment to conduct maintenance, repair, and overhaul activities. These may include vehicle maintenance facilities, aircraft maintenance hangars, and naval shipyards. Examples of Indo-Pacific facilities performing maintenance and repair functions include the U.S. Naval Ship Repair

[7] Enduring locations are categorized based on the degree of U.S. presence and include main operating bases, forward operating sites, and cooperative security locations; contingency locations are categorized by intended use period and include initial (immediate need), temporary (1-24 months), and semipermanent (24-60 months) locations. See "Joint Publication 4-04, Contingency Basing," Chairman of the Joint Chiefs of Staff, January 2019, pp. vii-ix. Available at https://www.jcs.mil/Portals/36/Documents/Doctrine/pubs/jp4_04.pdf.

[8] For more information on installation management, see CRS In Focus IF11263, *Defense Primer: Military Installations Management*.

[9] See Jason Cutshaw, "Shariki Soldiers Defend Homeland, Allies," U.S. Army, October 8, 2019, at https://www.army.mil/article/227673/shariki_soldiers_defend_homeland_allies and "U.S. Army Garrison Alaska – Fort Greely," updated July 5, 2022, at https://home.army.mil/alaska/index.php/fort-greely.

Facility and Japan Regional Maintenance Center (part of Fleet Activities Yokosuka and Fleet Activities Sasebo, Japan).[10]

- **Training and exercises.** U.S. and allied forces rely on regional training and exercise areas to maintain and enhance readiness, test operational plans and concepts, and demonstrate and improve interoperability. Examples of Indo-Pacific sites used for training and exercises include the Jungle Warfare Training Center at Camp Gonsalves in Okinawa, Japan and the Black Rapids Training Site in Black Rapids, AK.[11]
- **Storage, prepositioning, and distribution of equipment and supplies.** To ensure logistical preparedness and enable rapid contingency responses, the U.S. military stores equipment and supplies at locations across the Indo-Pacific. These stocks are maintained in a variety of ways, including aboard regionally based maritime prepositioning ships (such as those homeported in Diego Garcia) and at facilities such as the Defense Logistics Agency's Distribution Yokosuka in Japan.[12]
- **Research, development, test, and evaluation (RDT&E).** DOD uses a number of Indo-Pacific sites to develop and test new technologies and weapon systems, especially those requiring large amounts of air or ocean space. Examples of major RDT&E sites in the region include the Pacific Missile Range Facility, Barking Sands in Hawaii and the Ronald Reagan Ballistic Missile Defense Test Site in the Marshall Islands.[13]

Strategic and Operational Role

Infrastructure and National Strategy

A review of planning and policy documents issued by the White House and the Department of Defense since 2020 illustrates the importance of Indo-Pacific defense infrastructure to contemporary U.S. strategy. The 2021 Global Posture Review identified a need to "seek greater regional access for military partnership activities" and "enhance infrastructure in Australia and the Pacific Islands" to accomplish DOD's goals of "contribut[ing] to regional stability and deter[ring] potential Chinese military aggression and threats from North Korea."[14] The 2022 Indo-Pacific Strategy articulates four security-related U.S. objectives in the region: advancing a free and open region, building connections to and among regional partners, bolstering regional

[10] See "U.S. Naval Ship Repair Facility and Japan Regional Maintenance Center," U.S. Navy, at https://www.srf.navy.mil/.

[11] See "Jungle Warfare Training Center," 3rd Marine Division, at https://www.3rdmardiv.marines.mil/Units/Jungle-Warfare-Training-Center/ and Staff Sgt. Christopher Dennis, "Northern Warfare Training Center preparing Soldiers to become Arctic Experts," U.S. Army, November 24, 2021 at https://www.army.mil/article/252226/northern_warfare_training_center_preparing_soldiers_to_become_arctic_experts.

[12] See "Maritime Prepositioning Ships," U.S. Navy, updated October 13, 2021, at https://www.navy.mil/Resources/Fact-Files/Display-FactFiles/Article/2223033/maritime-prepositioning-ships-t-ak-t-akr-and-t-aot/ and "DLA Distribution Yokosuka," Defense Logistics Agency, at https://www.dla.mil/Distribution/Locations/Yokosuka/.

[13] See "Pacific Missile Range Facility Barking Sands," Commander, Navy Region Hawaii, at https://cnrh.cnic.navy.mil/Installations/PMRF-Barking-Sands/ and "Ronald Reagan Ballistic Missile Defense Test Site Fact Sheet," U.S. Army Space and Missile Defense Command Public Affairs, at https://www.smdc.army.mil/Portals/38/Documents/Publications/Fact_Sheets/RTS.pdf.

[14] "DOD Concludes 2021 Global Posture Review," Department of Defense, November 29, 2021, at https://www.defense.gov/News/Releases/Release/Article/2855801/dod-concludes-2021-global-posture-review/.

security, and building resilience to transnational threats.[15] Both the 2022 National Security Strategy (NSS) and National Defense Strategy (NDS) characterize PRC attempts to reshape the Indo-Pacific and the broader international order as the most acute military threat to U.S. interests, and DOD officials have stated in congressional testimony that "a Taiwan contingency is the pacing scenario" for U.S. planners.[16] The NSS identifies a "strong and consistent defense presence" as a key contributor to regional peace and stability, while the NDS states that DOD will "reinforce and build out a resilient security architecture in the Indo-Pacific region."[17] The NDS also identifies the following four "top-level defense priorities."

- Defending the homeland, paced to the growing multi-domain threat posed by the PRC.
- Deterring strategic attacks against the United States, allies, and partners.
- Deterring aggression, while being prepared to prevail in conflict when necessary.
- Building a resilient Joint Force and defense ecosystem.[18]

Although only the Global Posture Review explicitly mentions defense infrastructure, the Indo-Pacific Strategy, NSS, and NDS all emphasize the strategic centrality of a sustained, significant forward U.S. military presence; such a presence would rely heavily on a network of regional defense sites. The six broad functions of Indo-Pacific infrastructure described above—basing of personnel and weapons systems, domain awareness and area defense, maintenance and repair, support for training and exercises, storage, prepositioning, and distribution of equipment and supplies, and support for RDT&E activities—are essential enablers of the regional presence and operation of the U.S. military. This is especially true for naval and air forces, which require extensive and specialized facilities for storage, operation, maintenance, and repair.

Indo-Pacific defense infrastructure also supports the four top-level defense priorities identified in the NDS. Sites in Japan, Alaska, California, and elsewhere host detection and defense capabilities intended to protect the U.S. homeland from both conventional and nuclear attack. To deter strategic attacks on the United States or its allies, DOD relies on Indo-Pacific sites to enable the "forward deployment of strategic bombers, dual-capable fighter aircraft, and nuclear weapons to region and globally… including ballistic missile submarine port visits and strategic bomber missions."[19] A robust regional basing posture may also help deter aggression by signaling enduring U.S. commitment to the region. Alternatively, some analysts have suggested that a large U.S. military footprint may intensify the security dilemma and thus make aggressive state behavior more likely).[20] Finally, the scale and diversity of functions performed or supported by

[15] "Indo-Pacific Strategy of the United States," The White House, February 2022, p. 7, at https://www.whitehouse.gov/wp-content/uploads/2022/02/U.S.- Indo-Pacific-Strategy.pdf.

[16] "Senate Foreign Relations Committee Hearing on the Future of U.S. Policy on Taiwan," December 8, 2021, p. 10. Committee print available at https://www.congress.gov/117/chrg/CHRG-117shrg47712/CHRG-117shrg47712.pdf.

[17] "2022 National Security Strategy", p. 38 https://www.whitehouse.gov/wp-content/uploads/2022/10/Biden-Harris-Administrations-National-Security-Strategy-10.2022.pdf and *2022 National Defense Strategy*, p. 14 https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.PDF.

[18] "2022 National Defense Strategy", Department of Defense, October 2022 p. 7. Available at https://media.defense.gov/2022/oct/27/2003103845/-1/-1/1/2022-national-defense-strategy-npr-mdr.pdf.

[19] "2022 Nuclear Posture Review," Department of Defense, October 2022, p. 15. Available at https://media.defense.gov/2022/oct/27/2003103845/-1/-1/1/2022-national-defense-strategy-npr-mdr.pdf.

[20] For one interpretation of the role of overseas bases in deterring adversaries and assuring allies, see Raphael Cohen, "Why Overseas Bases Continue to Make Sense for the U.S.," *War on the Rocks,* January 14, 2021, available at https://warontherocks.com/2021/01/why-overseas-military-bases-continue-to-make-sense-for-the-united-states/. For more on basing and the security dilemma, see "Placement" in the "Issues for Congress" section of this report.

Indo-Pacific defense infrastructure contributes to the broader priority of "building a resilient Joint Force and broader defense ecosystem."[21]

Infrastructure in a Contested Environment

The operational role of defense infrastructure is susceptible to change should significant geopolitical shifts occur. Under current peacetime conditions, concentrating infrastructure near operational areas can yield a number of advantages. Clustering military facilities in a smaller number of sites is cheaper and creates organizational and logistical efficiencies, while locating bases near operational areas shortens transit and allows units to spend more time on station (this is particularly important for aircraft, given their range limitations).[22]

However, in the event of a conflict between the United States and a regional power with significant air and missile capabilities, this same concentration and proximity would expose U.S. forces and facilities west of the International Date Line—especially those within the First and Second Island Chains—to a higher likelihood of successful adversary attack. Some analysts argue the most acute threat to U.S. infrastructure in the Indo-Pacific stems from the PRC's missile capabilities, which the DOD's 2022 Missile Defense Review characterizes in the following manner:

> Over the past two decades, the PRC has dramatically advanced its development of conventional and nuclear-armed ballistic and hypersonic missile technologies and capabilities, through intense and focused investment, development, testing, and deployments… In many areas such as conventional ballistic and hypersonic missile technologies, the PRC continues to close the gap with the United States, and will likely continue to develop and expand its missile capabilities. Increasingly sophisticated and proliferated space-based Intelligence, Surveillance, and Reconnaissance (ISR) networks, and improved Command and Control (C2) systems, have greatly improved the precision and accuracy of missile systems the PRC would employ to deter and counter U.S. forward presence and operations, especially in the Western Pacific region.[23]

Although North Korean air and missile strike capabilities are considerably less developed than those of the PRC, DOD assesses that "North Korea continues to improve, expand, and diversify its conventional and nuclear missile capabilities, posing an increasing risk to the U.S. homeland and U.S. forces in theater, as well as regional allies and partners."[24]

To meet the demands of a contested environment, the Air Force, Army, Navy, and Marine Corps have all developed concepts for more distributed and diversified combat and logistical operations. The Air Force's Agile Combat Employment (ACE), the Army's Multi-Domain Operations (MDO), the Navy's Distributed Maritime Operations (DMO), and the Marine Corps' Expeditionary Advanced Basing Operations (EABO) all represent attempts to reduce the vulnerability of air, naval, and ground forces and increase their effectiveness against an adversary able to credibly disrupt, contest, or deny U.S. control of the battlespace.[25] Although some aspects

[21] "2022 National Defense Strategy," p. 7.

[22] For a more detailed discussion of aircraft range and basing considerations, see "Placement" in the "Issues for Congress" section of this report.

[23] "2022 Missile Defense Review," Department of Defense, October 2022, p. 2. Available at https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-national-defense-strategy-npr-mdr.pdf.

[24] Ibid., p. 3.

[25] For an analysis of regional ground forces that includes a more comprehensive description of the Army's role, see CRS Report R47096, *U.S. Ground Forces in the Indo-Pacific: Background and Issues for Congress*, by Andrew Feickert.

of these three concepts are globally applicable, they are particularly oriented around potential Indo-Pacific contingencies.

These distributed operational concepts represent a break from previous planning paradigms, and will make accordingly different use of defense infrastructure. The most radical change may come in the air domain. The Air Force describes ACE as a means of "shift[ing] operations from centralized physical infrastructures to a network of smaller, dispersed locations that can complicate adversary planning and provide more options for joint force commanders."[26] Some analysts have characterized this as a 'hub-and-spokes' approach, with an enduring location (e.g., an existing U.S. or allied airbase) serving as a hub for a number of contingency locations (e.g., civilian airports) between which aircraft can be shifted and from which sorties may be launched.[27]

Although the infrastructure implications of the Army's MDO and the Navy's DMO are less sweeping, both entail decreasing the concentration of logistics and supply infrastructure. As part of MDO, the Army seeks to "disperse deployment and sustainment," partly through "dispersed supply nodes operated by forward presence units;" while the Navy's vision of a larger, more dispersed fleet operating over a wider area could increase the need for forward, distributed logistics and maintenance sites (including what the Navy terms "distributed expeditionary shore infrastructure" to provide forward damage repair, mobile construction, cargo handling, and medical services).[28] From a ground forces perspective, the Marine Corps' EABO similarly envisions the "employment of mobile, low-signature, persistent… naval expeditionary forces from a series of austere, temporary locations ashore or inshore within a contested or potentially contested maritime area."[29] Given the novel character of these operational concepts, their implementation may carry significant implications for regional basing posture, resourcing, and management.

Current U.S. Basing Posture

Within the Indo-Pacific region, the United States currently utilizes at least 66 significant defense sites spread across four U.S. states, three U.S. territories, eight countries, and one British overseas territory (see the map of U.S. defense sites provided in **Figure 2** below; a more detailed description of each regional defense site is also provided in the **Appendix A**). These sites include

- installations that are owned and operated by DOD (this arrangement is the norm in U.S. states and territories);
- installations that are operated by DOD but located in host nations (this arrangement is the norm in South Korea, Japan, and the British Indian Ocean Territory); and

[26] See "Agile Combat Employment," U.S. Air Force, pp. 3-4, at https://www.doctrine.af.mil/portals/61/documents/afdn_1-21/afdn%201-21%20ace.pdf.

[27] See Patrick Mills, et al., *Building Agile Combat Support Competencies to Enable Evolving Adaptive Basing Concepts*, (Santa Monica: RAND Corporation, 2020), p. 23, available at https://www.rand.org/content/dam/rand/pubs/research_reports/rr4200/rr4200/rand_rr4200.pdf.

[28] See "The U.S. Army in Multi-Domain Operations 2028," U.S. Army Training and Doctrine Command, December 6, 2018, p. 37, at https://www.army.mil/article/243754/the_u_s_army_in_multi_domain_operations_2028; and "CNO Releases Navigation Plan 2022," U.S. Navy Press Release, July 26, 2022, p. 10, available at https://media.defense.gov/2022/jul/26/2003042389/-1/-1/1/navigation%20plan%202022_signed.pdf.

[29] See *Tentative Manual for Expeditionary Advanced Base Operations*, Department of the Navy, Headquarters, U.S. Marine Corps, February 2021, pp. 1-3 and 1-4. Available at https://mca-marines.org/wp-content/uploads/tm-eabo-first-edition-1.pdf.

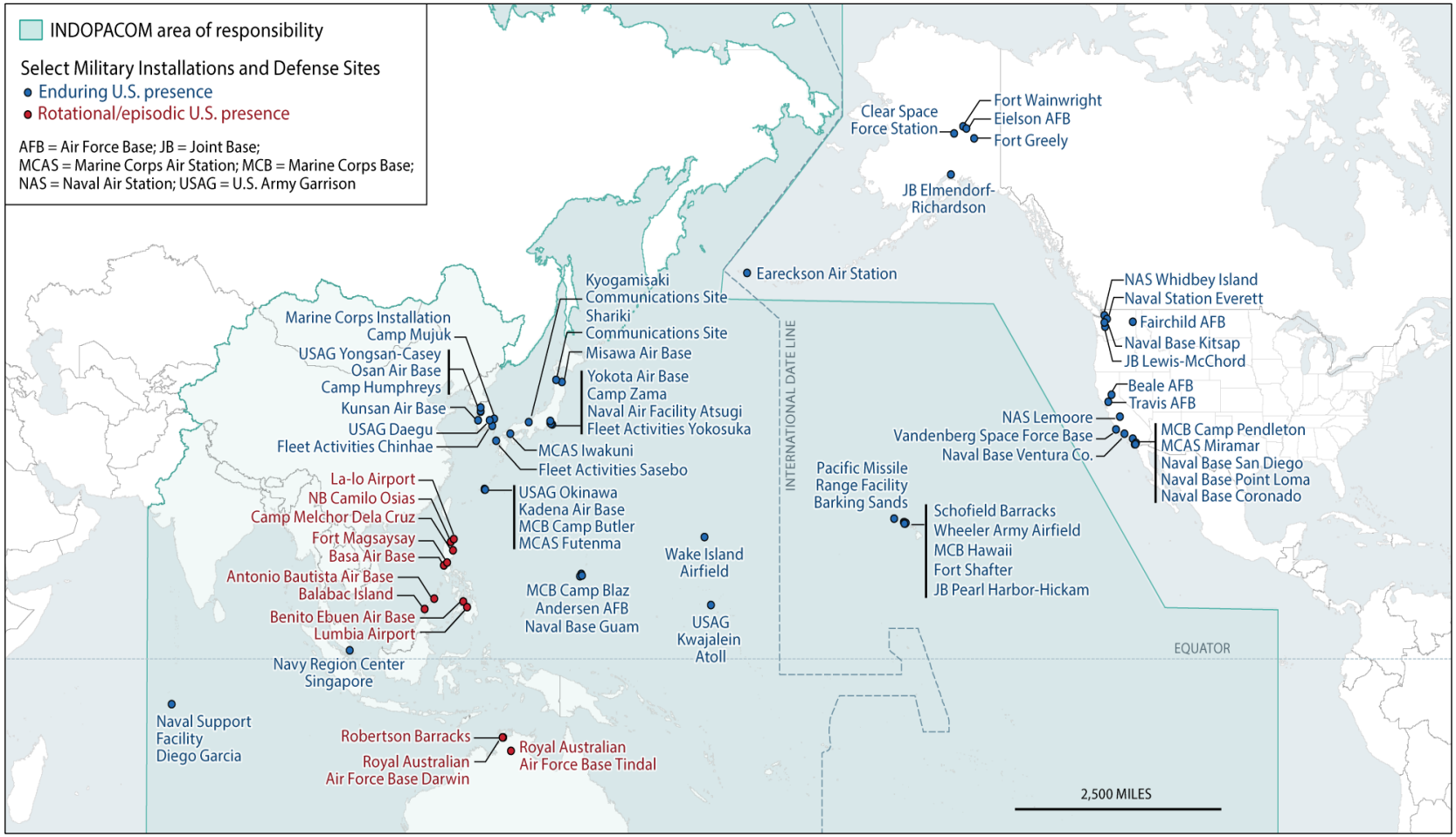
- installations that are used by DOD but owned and operated by host nations (this arrangement is the norm in the Philippines, Singapore, and Australia).

Some analysts and policymakers also divide regional defense sites between those located east of the International Date Line (i.e., bases in Alaska, Washington, California, and Hawaii) and those located west of the International Date Line.[30] This division is analytically useful because sites west of the International Date Line (IDL) may be within range of adversaries' conventional strike capabilities and would likely be used to directly support forward combat operations in a contingency, while those east of the IDL would likely be less susceptible to opponents' conventional strike capabilities.[31] Moreover, because the majority of sites west of the IDL are located outside of the United States, their use entails diplomatic and management considerations (e.g., relations with host nation governments, the applicability of foreign legal regimes to land use) that do not exist for sites east of the IDL.

[30] See, for instance, the language establishing the Pacific Deterrence Initiative, which directs that activities improve force design and posture "primarily west of the International Date Line." Section 1251, William M. (Mac) Thornberry FY2021 National Defense Authorization Act (P.L. 116-283).

[31] For more on the ranges and capabilities of adversary weapons, see discussion under "Placement" in the "Issues for Congress" section of this report.

Figure 2. U.S. Defense Sites in the Indo-Pacific



Source: CRS graphic based on analysis of DOD information, including the "FY2022 Base Structure Report," installation and unit web pages, and related documentation.

Notes: Naval Communications Station Harold E. Holt (located near Exmouth, Australia) is not depicted due to space constraints.

Geographic Overview

Most of the Indo-Pacific region falls within the U.S. INDOPACOM AOR. This COCOM accordingly exercises oversight and theater-level direction over the strategic and operational functions of theater infrastructure (installations located in Alaska, Washington, and California fall within the U.S. NORTHCOM AOR).

All of DOD's uniformed service branches operate installations in the region. The Army, Navy, Marine Corps, and Air Force operate installations in the INDOPACOM AOR.

Major Army installations are mainly concentrated in Alaska, Washington, Hawaii, South Korea, Japan, and the Republic of the Marshall Islands. These installations provide basing for ground units, missile detection and defense capabilities, and facilities for training, exercises, RDT&E activities, and logistical support.

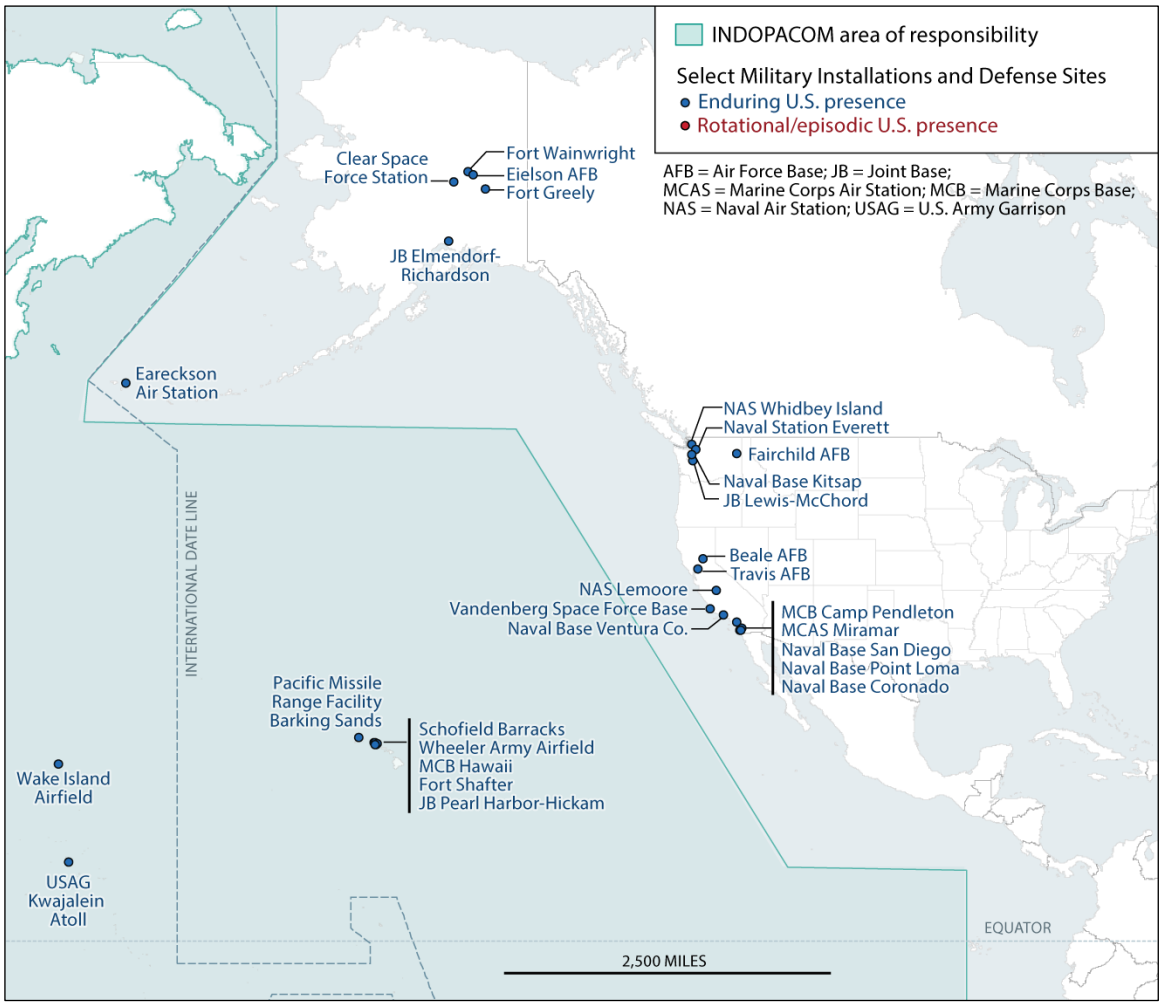
Major Navy installations are concentrated in Washington, California, Hawaii, Guam, Japan, and Diego Garcia. These installations provide basing and maintenance and repair capabilities for ships and aircraft, as well as facilities for training, exercises, RDT&E activities, and logistical support. Major Marine Corps installations are concentrated in California, Hawaii, Guam, and Japan. These installations provide basing for ground units and aircraft as well as facilities for training, exercises, and logistical support.

Major Air Force installations are concentrated in Alaska, Washington, California, Hawaii, Guam, South Korea, and Japan. These installations provide aircraft basing and maintenance and repair capabilities, missile detection and defense capabilities, and facilities for logistical support. Space Force installations are located in Alaska and California. These installations provide space domain awareness, missile detection and defense, and space launch capabilities.

East of the International Date Line

This report identifies 26 bases east of the IDL that support Indo-Pacific defense functions (see **Figure 3** below).

Figure 3. U.S. Defense Sites, East of the International Date Line



Source: CRS graphic based on analysis of DOD information, including the "FY2022 Base Structure Report," installation and unit web pages, and related documentation.

Notes: Given space and scope constraints, this map, and the **Appendix – Key Sites and Facilities**, does not include several major installations located in California (e.g., Edwards AFB) because their functions are not directly or specifically oriented around support for operations in the Indo-Pacific theater.

Alaska

Alaska hosts Indo-Pacific-focused Army, Air Force, and Space Force installations, including Fort Wainwright, Joint Base Elmendorf-Richardson, Eielson Air Force Base, and Clear Space Force station. These sites are used to base Army ground units (including the headquarters of the 11th Airborne Division and two of its combat brigades), Army aviation units (including two aviation battalions and Air Force aircraft (including fighter, command and control, and airlift squadrons). DOD also uses defense infrastructure in Alaska to detect and intercept missile threats to the continental United States and provide specialized training for cold weather and mountain

environments.[32] Several open source press reports have also highlighted the role smaller Alaskan airfields may play in a regional contingency.[33]

Washington

Washington hosts Indo-Pacific-focused Army, Navy, and Air Force installations, including Joint Base Lewis-McChord, Naval Base Kitsap, and Fairchild Air Force Base. These sites are used to base Army units (including the 7th Infantry Division), Navy vessels (including two aircraft carriers, three submarine squadrons, and seven destroyers), and Navy and Air Force aircraft (including Navy electronic attack, maritime patrol, and reconnaissance squadrons and Air Force airlift and refueling squadrons). DOD also uses defense infrastructure in Washington to maintain and repair naval vessels, store and maintain submarine-based nuclear weapons, store and distribute fuel, and train ground and air units.[34]

California

California hosts Indo-Pacific-focused Navy, Marine Corps, Air Force, and Space Force installations, including Naval Base San Diego, Marine Corps Base Camp Pendleton, Travis Air Force Base, and Vandenberg Space Force Base. These sites are used to base Navy vessels and specialized units (including most of the Naval Surface Force, U.S. Pacific Fleet, one submarine squadron, four Sea-Air-Land (SEAL) teams, and the 30th Naval Construction Regiment), Marine Corps ground units (including the 1st Marine Division and the 1st Marine Logistics Group), Navy, Marine Corps, and Air Force aircraft (including Navy fighter, command and control, and helicopter squadrons; Marine Corps fighter, tiltrotor, and helicopter squadrons; and Air Force reconnaissance, refueling, and airlift squadrons), and a Space Force Delta. DOD also uses defense infrastructure in California for training and large-scale RDT&E activities, to conduct space launches, and provide ballistic missile defense.[35]

Hawaii

Hawaii hosts Army, Navy, Marine Corps, and Air Force installations, including Schofield Barracks, Joint Base Pearl Harbor-Hickam, and Marine Corps Base Hawaii. These sites are used to base Army ground units (including the 25th Infantry Division), Navy vessels (including destroyers, cruisers, and attack submarines), Marine Corps ground units (including the 3rd Marine Littoral Regiment), and Marine Corps, and Air Force aircraft (including Air Force fighter and airlift squadrons and Marine Corps helicopter, tiltrotor, and UAV squadrons). DOD also uses sites in Hawaii to conduct training and large-scale RDT&E activities and store and distribute fuel.[36] Defense infrastructure in Hawaii has been the subject of attention from policymakers and analysts in part because of a highly publicized leak from the Red Hill Bulk Fuel Facility in November 2021. Subsequent to the reported leak and defueling plan, the condition of facilities in the state

[32] For more information and sources, see **Appendix A – Key Sites and Facilities**, "Alaska."

[33] See Tyler Rogoway, "Special Ops Train To Defend Strategic Aleutian Islands Radar Outpost During All-Out War," *The Drive,* October 18, 2021, at https://www.thedrive.com/the-war-zone/42783/special-ops-train-to-defend-strategic-radar-outpost-in-the-aleutian-islands-during-all-out-war and David Axe, "The U.S. Air Force has a Base Right Next to Russia," *Forbes,* October 23, 2021, at https://www.forbes.com/sites/davidaxe/2021/10/23/the-us-air-force-has-a-base-right-next-to-russia-it-just-sent-f-16s-to-visit/.

[34] For more information and sources, see **Appendix A – Key Sites and Facilities**, "Washington."

[35] For more information and sources, see Ibid., "California."

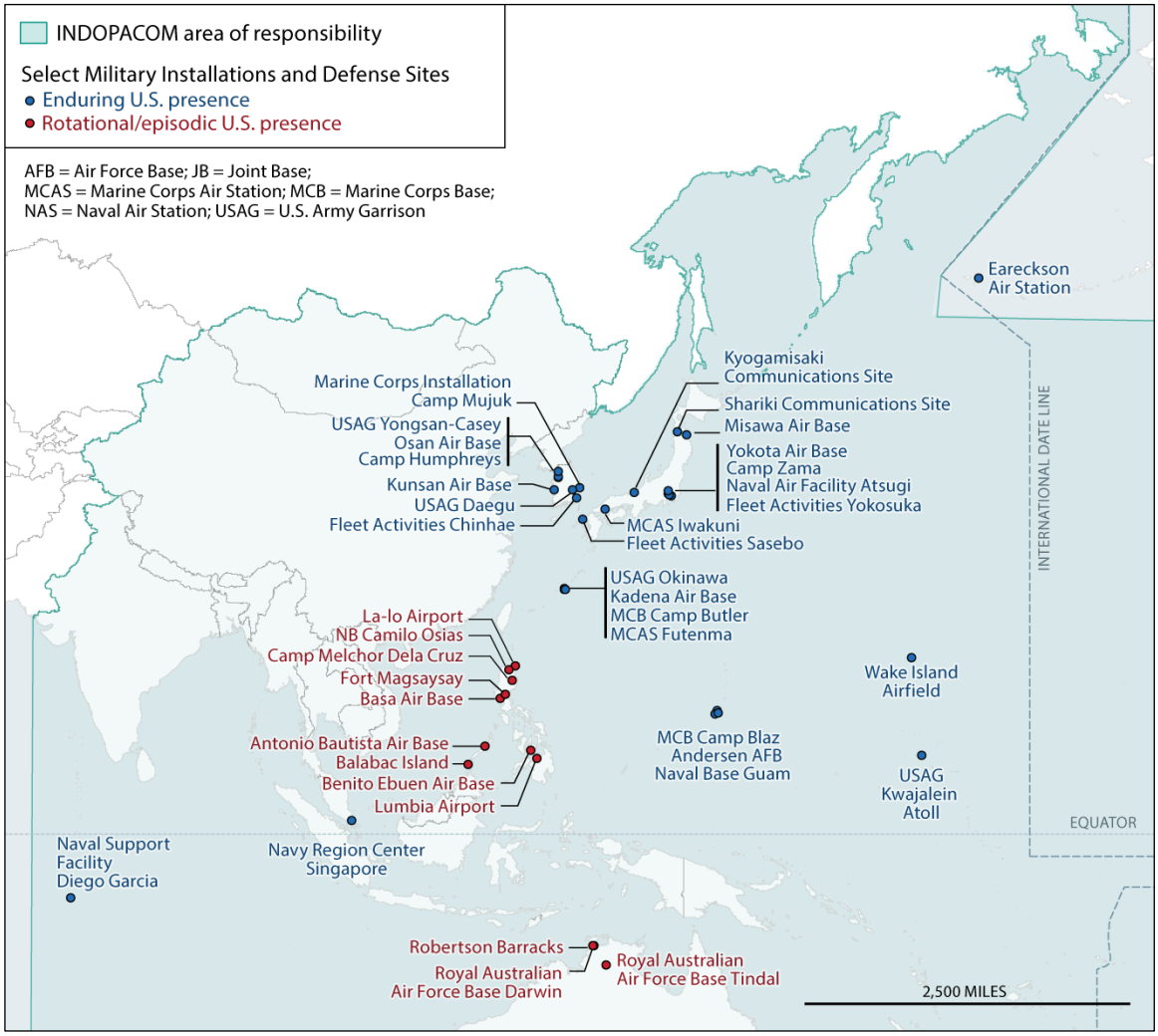
[36] For more information and sources, see Ibid., "Hawaii." Hawaii's fuel storage functions are currently undergoing major shifts as the Red Hill Bulk Storage Facility is defueled (see "Red Hill Bulk Fuel Storage Site in Hawaii," Environmental Protection Agency, at https://www.epa.gov/red-hill).

has featured in a November 2022 report on Army infrastructure by the Congressional Budget Office (CBO).[37]

West of the International Date Line

This report identifies 40 bases west of the IDL that support Indo-Pacific defense functions (see **Figure 4** below).

Figure 4. U.S. Defense Sites, West of the International Date Line



Source: CRS graphic based on analysis of DOD information, including the "FY2022 Base Structure Report," installation and unit web pages, and related documentation.

Notes: Naval Communications Station Harold E. Holt is not depicted due to space constraints.

[37] CBO assessed the Army's deferred maintenance backlog and found that "Fort Bragg in North Carolina and U.S. Army Garrison Hawaii accounted for significantly higher amounts of deferred maintenance costs than other Army bases." See "The Army's Costs to Eliminate Its Deferred Maintenance Backlog and to Renovate and Modernize Its Buildings," Congressional Budget Office, November 2022, p. 11, available at https://www.cbo.gov/publication/58830.

Wake Island

Wake Island (an unincorporated U.S. territory) hosts Wake Island Airfield, an Air Force installation that supports trans-Pacific military air traffic as well as missile test activities.[38]

Guam and the Northern Mariana Islands

Guam (an unincorporated U.S. territory) hosts Navy, Marine Corps, and Air Force installations, including Naval Base Guam, Marine Corps Base Camp Blaz, and Andersen Air Force Base (all managed jointly as Joint Region Marianas). These sites are used to base Army and Marine Corps ground units (including an Army Terminal High Altitude Area Defense Battery and future Marine ground units), Navy vessels (including one submarine squadron), and rotational deployments of Air Force bomber aircraft.[39] Since 2011, Guam has attracted a considerable amount of attention from policymakers and analysts as a strategic hub for U.S. military operations in the Indo-Pacific. DOD's infrastructure investments have undergone a significant increase over the past decade.[40]

The Northern Mariana Islands (a U.S. commonwealth and unincorporated territory) hosts a number of sites that are used to support training and exercise activities, including the Marianas Island Range Complex and Tinian International Airport.[41] DOD is also constructing new infrastructure to allow increased usage of the Northern Mariana Islands in support of ACE and related requirements.[42]

The Marshall Islands, Micronesia, and Palau

The Marshall Islands, Micronesia, and Palau (commonly referred to as the Compacts of Free Association, or COFA, states) host an Army installation used for missile defense-focused RDT&E activities (Army Garrison-Kwajalein Atoll) and a site to support the planned installation of an Air Force radar system.[43] Some defense analysts and policymakers hold that the importance of the COFA states is increasing, due to their strategic location and potential to support U.S. capabilities in the event of a regional contingency.[44]

[38] For more information and sources, see **Appendix A – Key Sites and Facilities**, "Wake Island."

[39] For more information and sources, see **Appendix A – Key Sites and Facilities**, "Guam and the Northern Marianas."

[40] See "Military Construction" in the "Issues for Congress" section of this report.

[41] See reporting on recent military exercises on Tinian in Damien Cave, "An Anxious Asia Arms for a War It Hopes to Prevent," *New York Times*, March 25, 2023 and Chris Gordon, "F-22s Deploy to Tinian for First Time as Part of ACE Exercise," *Air & Space Forces Magazine*, March 3, 2023 at https://www.airandspaceforces.com/photos-f-22s-deploy-to-tinian-for-first-time-as-part-of-ace-exercise/.

[42] In FY2023, Congress appropriated approximately $150 million for military construction in the Northern Mariana Islands. See "Military Construction" in the "Issues for Congress" section of this report.

[43] The Compacts of Free Association establish relationships between these three nations and the United States. They provide for, among other things, U.S. responsibilities for COFA states' external defense and the establishment of U.S. military bases within COFA states' territories. For more information on the COFA relationships, see CRS In Focus IF12194, *The Compacts of Free Association*, by Thomas Lum. For more information and sources on defense infrastructure, see **Appendix A – Key Sites and Facilities**, "Marshall Islands, Micronesia, and Palau."

[44] See, for instance, Angela Smith, "US Compacts of Free Association Are Key to Deterring a Taiwan Contingency," *The Diplomat*, August 9, 2022 at https://thediplomat.com/2022/08/us-compacts-of-free-association-are-key-to-deterring-a-taiwan-contingency/ and Jay Price, "As its relationship with China worsens, the US is making deals with smaller Pacific nations," *KPBS*, March 13, 2023, at https://www.kpbs.org/news/national/2023/03/13/relationship-china-worsens-us-making-deals-smaller-pacific-nations.

Japan (Mainland)

Mainland Japan hosts Army, Navy, Marine Corps, and Air Force installations, including Camp Zama, Fleet Activities Yokosuka, Marine Corps Air Station Iwakuni, and Yokota Air Base. These sites are used to base and support Army ground and aviation units, Navy vessels (including an aircraft carrier, destroyers, cruisers, and amphibious assault ships), and Navy, Marine Corps, and Air Force fighter, electronic attack, command and control, tanker, and airlift aircraft. DOD also uses defense infrastructure in mainland Japan to detect and intercept missile threats, maintain and repair surface warships and submarines, and conduct training and exercises.[45]

Japan (Okinawa)

Okinawa is a Japanese prefecture consisting of approximately 49 inhabited islands located about 400 miles southwest of mainland Japan.[46] It hosts Army, Marine Corps, and Air Force installations, including Army Garrison Okinawa, Marine Corps Base Camp Butler, and Kadena Air Base. These sites are used to base and support Marine Corps units (including the III Marine Expeditionary Force) and Marine Corps and Air Force fighter, tilt-rotor, rotary wing, airlift, and aerial refueling aircraft. DOD also uses sites on Okinawa to conduct training and exercises specific to jungle environments and support fuel storage and distribution functions.[47] DOD installations on Okinawa also represent the closest U.S.-operated bases to Taiwan and the South China Sea, both possible operational areas in a potential conflict with the PRC.[48]

According to the Okinawan Prefectural Government, as of 2018 approximately 70% of the "areas exclusively used by U.S. forces" in Japan were located on Okinawa.[49] The large U.S. defense infrastructure footprint on Okinawa has generated significant controversy among sections of the Okinawan public, and—pursuant to an agreement between the U.S. and Japanese governments—DOD is in the process of shifting thousands of Marines from bases in Okinawa to Guam's Marine Corps Camp Blaz.[50]

Republic of Korea

The Republic of Korea (ROK; also referred to as South Korea) hosts Army, Navy, Marine Corps, and Air Force installations, including Camp Humphreys, Fleet Activities Chinhae, Marine Corps Installation Camp Mujuk, and Osan Air Base. These sites are used to base and support Army units (including the 2nd Infantry Division/ROK-U.S. Combined Division) and Air Force fighter, reconnaissance, and attack aircraft. As noted above, following a 2004 bilateral agreement between the ROK and U.S. governments, DOD installations are mainly concentrated around two

[45] For more information and sources, see **Appendix A – Key Sites and Facilities**, "Japan (Mainland)."

[46] The Okinawan Prefectural Government reports that the prefecture spans 563,647 acres, representing only 0.6% of Japan's total land area.

[47] For more information and sources, see **Appendix A – Key Sites and Facilities**, "Japan (Okinawa)."

[48] From an operational perspective, this is particularly important for the employment of air power. See discussion in "Placement" in the "Issues for Congress" section of this report.

[49] "What Okinawa Wants You to Understand about the U.S. Military Bases," Okinawa Prefectural Government, March 2018, available at https://dc-office.org/wp-content/uploads/2018/03/E-all.pdf.

[50] See "Agreement between the Government of Japan and the Government of the United States of America Concerning the Implementation of the Relocation of III Marine Expeditionary Force Personnel and Their Dependents From Okinawa to Guam," 2009, available at https://www.mofa.go.jp/region/n-america/us/security/agree0902.pdf. See also CRS In Focus IF10672, *U.S. Military Presence on Okinawa and Realignment to Guam*. For a recent press report covering this dynamic, see Rachel Oswald, "As China threatens Taiwan, Okinawa braces for war," *Roll Call*, October 19, 2022, at https://rollcall.com/2022/10/19/as-china-threatens-taiwan-okinawa-braces-for-war/.

'hubs': the first centers on the city of Pyeongtaek and includes Camp Humphreys and Osan Air Base, while the second centers on Daegu and includes USAG-Daegu, Fleet Activities Chinhae, and MCI Camp Mujuk.[51] Unlike in other locations west of the IDL, U.S. basing posture in South Korean is primarily organized around deterring and resisting potential DPRK aggression.

The Philippines

The Philippines allows the U.S. DOD to deploy military forces at nine Philippine defense sites spread across the country. This access is governed by the Enhanced Defense Cooperation Agreement (EDCA), a bilateral agreement between the Philippines and the United States initially signed in 2014 and expanded in 2023.[52] Per the EDCA text, U.S. access is authorized "on a rotational basis, as mutually determined;" authorized activities U.S. forces may conduct include "security cooperation exercises; joint and combined training activities; humanitarian assistance and disaster relief activities; and such other activities as may be agreed upon."[53] The increasing U.S. defense presence in the Philippines has generated some controversy among the Philippine public and certain elected officials (particularly the extent to which it is perceived to be directed against the PRC).[54]

Singapore

Singapore allows the U.S. DOD to maintain a small presence known as Navy Region Center Singapore primarily to provide logistical support for visiting surface warships. This access is governed by the 1990 Memorandum of Understanding Regarding United States Use of Facilities in Singapore, a bilateral agreement between Singapore and the United States initially signed in 1990 and renewed in 2019.[55] Changi Naval Base and Sembawang shipyard are the largest Singaporean support facilities to which the U.S. Navy has access, while Paya Lebar Air Base hosts rotational U.S. Air Force personnel and aircraft.[56]

Australia

Australia allows the U.S. DOD to rotationally deploy a number of ground and air forces to bases within the country, including a rotational U.S. Marine Air Ground Task Force known as Marine Rotational Force-Darwin (at Royal Australian Air Force Base Darwin and Robertson Barracks) and rotational deployments of U.S. Air Force bombers and fighters under the Enhanced Air Cooperation (EAC) initiative.[57] Additionally, as part of the Australia-United Kingdom-U.S.

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[51] See "Current U.S. Basing Posture" section of this report. Terence Roehrig, "South Korea: An Alliance in Transition," in Lord and Erickson (ed.) *Rebalancing U.S. Forces,* pp. 74-75. For more information and sources, see **Appendix A – Key Sites and Facilities**, "Republic of Korea."

[52] For more information and sources, see **Appendix A – Key Sites and Facilities**, "The Philippines."

[53] "Agreement between the Government of the United States of America and the Government of the Republic of the Philippines on Enhanced Defense Cooperation," signed April 28, 2014, available at https://www.state.gov/wp-content/uploads/2019/02/14-625-Philippines-Defense-Cooperation.pdf.

[54] See, for instance, Richard Heydarian, "U.S.-Philippines Defence Cooperation Hits Turbulence Amid Domestic Opposition," *South China Morning Post,* April 10, 2023, at https://www.scmp.com/comment/opinion/article/3216217/us-philippines-defence-cooperation-hits-turbulence-amid-domestic-opposition. See also further discussion in the "Placement" subsection of this report's "Issues for Congress" section.

[55] "U.S. Security Cooperation With Singapore," U.S. Department of State, March 28, 2023, at https://www.state.gov/u-s-security-cooperation-with-singapore/.

[56] For more information and sources, see **Appendix A – Key Sites and Facilities**, "Singapore."

[57] See "United States Force Posture Initiatives," Australian Department of Defence, at https://www.defence.gov.au/programs-initiatives/united-states-force-posture-initiatives.

(AUKUS) pact, U.S. and U.K. nuclear-powered submarines will begin rotational deployments to Australia's HMAS *Stirling* naval base in 2027 (U.S. submarines will also reportedly increase the frequency of visits to this base beginning in 2023).[58] DOD's increasing presence in Australia is widely seen as a response to worsening relations between U.S.-aligned countries and the PRC.[59]

British Indian Ocean Territory (Diego Garcia)

The British Indian Ocean Territory (commonly referred to as Diego Garcia; a British Overseas Territory) hosts Naval Support Facility Diego Garcia, a U.S. Navy-operated installation that primarily provides logistical support for U.S. and allied forces operating in and around the Persian Gulf and Indian Ocean. The site that would become Naval Support Facility Diego Garcia was established by a secret bilateral agreement reached between the U.S. and British governments in 1966; it has been the subject of some controversy owing to the claims of indigenous Chagos Islanders forcibly displaced during the base's construction.[60]

Other Indo-Pacific Sites

In addition to the locations described above, DOD has used a number of other sites west of the International Date Line to base and support military forces. For example, Thailand's location and relations with the United States have led U.S. forces to use a number of Thai defense sites on a rotational basis (e.g., U-Tapao Royal Thai Navy Air Field).[61] U.S. Navy vessels also routinely conduct visits at a wide array of Indo-Pacific regional ports.[62] Some analysts have also speculated that, in the event of PRC military action against Taiwan, the United States may base significant forces in Taiwan.[63]

[58] David Weber, "AUKUS deal: Jim Chalmers announces $8 billion HMAS Stirling naval base expansion," *Australian Broadcasting Corporation*, March 14, 2023 https://www.abc.net.au/news/2023-03-14/aukus-deal-jim-chalmers-hmas-stirling-expansion-perth-wa/102092058.

[59] For more information and sources, see **Appendix A – Key Sites and Facilities**, "Australia."

[60] See "Exchange of Notes Constituting an Agreement concerning the Availability for Defence Purposes of the British Indian Ocean Territory," December 30, 1966, available online at https://treaties.un.org/doc/Publication/UNTS/Volume%20866/volume-866-I-8737-English.pdf. For a recent summary of Chagossian claims against the U.S. and UK governments, see "That's When the Nightmare Started: UK and US Forced Displacement of the Chagossians and Ongoing Colonial Crimes," Human Rights Watch, February 15, 2023, at https://www.hrw.org/report/2023/02/15/thats-when-nightmare-started/uk-and-us-forced-displacement-chagossians-and. For more information and sources, see **Appendix A – Key Sites and Facilities**, "British Indian Ocean Territory."

[61] See Jim Garamone, "U.S., Thai Defense Leaders Look to Future in Indo-Pacific," Department of Defense, May 13, 2022, at https://www.defense.gov/News/News-Stories/Article/Article/3030852/us-thai-defense-leaders-look-to-future-in-indo-pacific/.

[62] See "CNO: Port visits expanding across Asia-Pacific," *Navy Times*, September 24, 2014, at https://www.navytimes.com/news/your-navy/2014/09/24/cno-port-visits-expanding-across-asia-pacific/.

[63] As of this writing, DOD is reportedly planning to increase the number of U.S. military personnel in Taiwan from approximately 30 to 100-200. Nancy Youssef and Gordon Lubold, "U.S. to Expand Troop Presence in Taiwan for Training Against China Threat," *Wall Street Journal*, February 23, 2023 at https://www.wsj.com/articles/u-s-to-expand-troop-presence-in-taiwan-for-training-against-china-threat-62198a83. For advocacy of U.S. defense sites in Taiwan, see Dominick Shortall and Jesse Johns, "Once unimaginable, some now debating return of U.S. forces to Taiwan," *Japan Times*, October 28, 2020, at https://www.japantimes.co.jp/news/2020/10/28/asia-pacific/us-forces-taiwan-china/.

Issues for Congress

Indo-Pacific Basing Posture

Congress may consider the degree to which the current U.S. basing posture—that is, the geographical and functional distribution of bases in the Indo-Pacific region—supports strategic priorities and operational requirements, under both peacetime and wartime conditions. Despite considerable geopolitical, technological, and doctrinal change in recent years, much of DOD's basing posture remains, at least in part, the product of decisions made decades previously. According to some observers, this has led to a misalignment between regional defense infrastructure and the demands of the current and future threat environment. As one analyst framed the problem in a 2022 editorial

> After more than a decade of promising to improve the survivability of U.S. forces in the Indo-Pacific, the department has little to show for it. In part, ongoing wars in the Middle East have inhibited efforts to rebalance the American military footprint to the Pacific, as has the need to obtain the consent of nations that host American forces. Additionally, the services prefer to fund their priority weapons, and their reticence to spend money on supporting infrastructure is compounded when uncertainty about future base access is factored in. Finally, the Defense Department has yet to break with its past approach to power projection and to fully flesh out new operational concepts and ways of fighting.[64]

The basing posture issues for Congress may be divided into three distinct but related questions:

1. Where should U.S. bases be maintained or established?
2. To what extent should DOD distribute—or consolidate—regional basing functions?
3. How resilient do U.S. bases need to be, and how can DOD improve infrastructure resilience (to the extent it falls short of congressional goals)?

Placement

A fundamental question with respect to basing posture is that of placement—to achieve national strategic aims and meet attendant operational requirements, where in the Indo-Pacific should the United States operate military bases? In addressing this question, Congress may weigh the tradeoffs between the advantages that proximity to likely operational areas could create for U.S. combat forces (especially air and naval), on the one hand, and the vulnerability such proximity could produce for U.S. forces and infrastructure, on the other. Congress may also consider factors such as the political and military reliability of countries hosting U.S. bases, as well as the potential for significant posture changes to affect regional stability.

Although the President, as Commander-in-Chief, is ultimately responsible for the establishment and disestablishment of military bases, Congress may legislate requirements, restrictions, and other guidance (for instance, Congress has played a major role in shaping the Base Realignment and Closure, or BRAC, process).[65] Historically, this has tended to occur as part of the annual defense authorization and appropriations processes.

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[64] Stacie Pettyjohn, "Spiking the Problem: Developing a Resilient Posture in the Indo-Pacific," *War on the Rocks*, January 2022, at https://warontherocks.com/2022/01/spiking-the-problem-developing-a-resilient-posture-in-the-indo-pacific-with-passive-defenses/.

[65] See CRS Report R45705, *Base Closure and Realignment (BRAC): Background and Issues for Congress* and CRS (continued...)

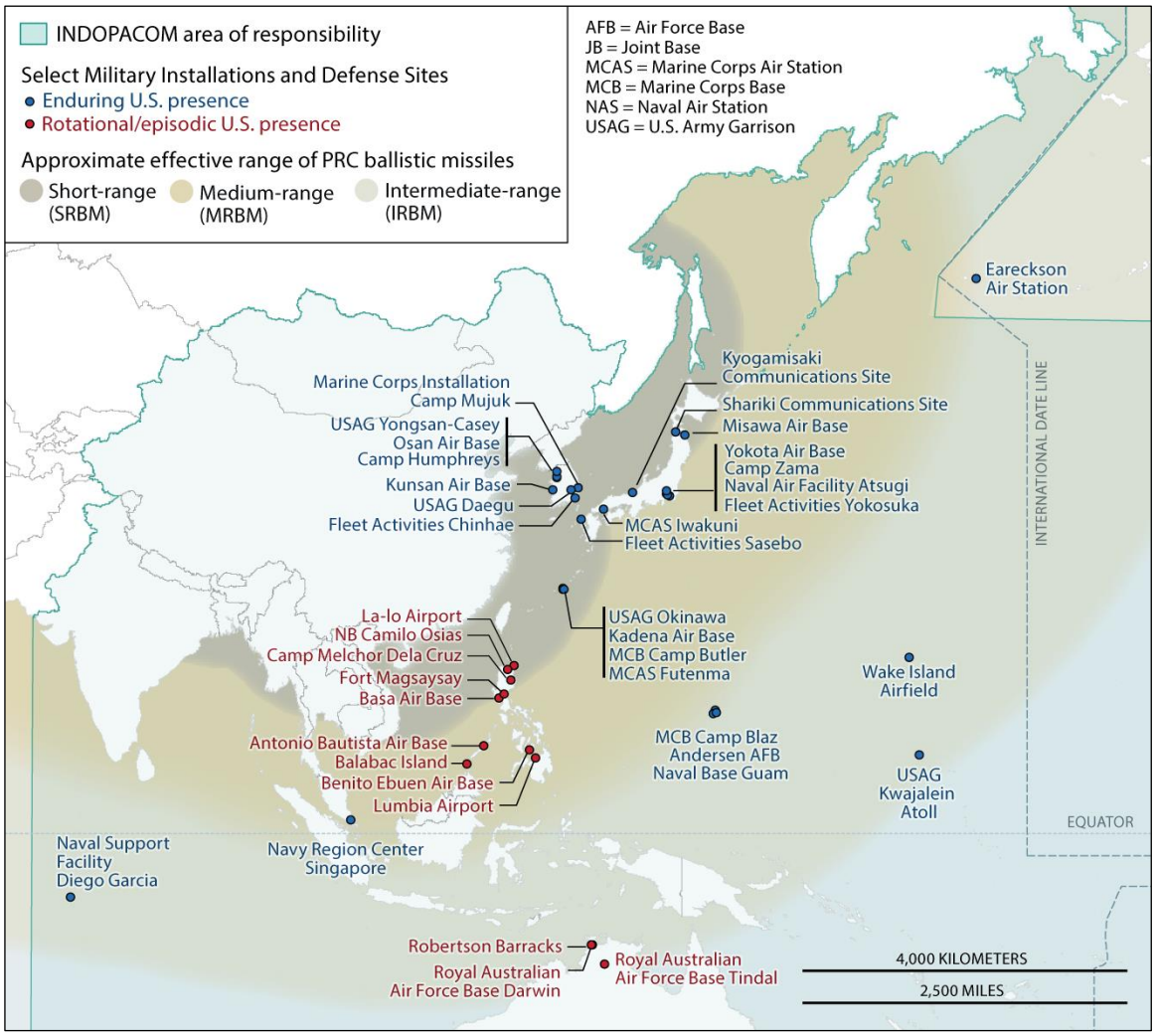
As described above, locating military bases close to likely operational areas reduces the transit time and resources required for U.S. forces to conduct combat operations in those areas. This is especially significant for fighter and bomber aircraft, as their combat radii (the effective distance an aircraft can fly, fight, and return) are constrained by the amount of fuel they can carry.[66] Thus, sites such as Okinawa's Kadena Air Base (located approximately 400 miles from Taiwan, well within the combat radius of relevant U.S. fighter and bomber aircraft) may be attractive to military planners as convenient bases for air operations. However, the geography of the Indo-Pacific is such that proximity to the areas of a prospective contingency—Taiwan being the most prominent, but also areas of the South China Sea, the Korean peninsula, and parts of the Indian Ocean—entails proximity to adversary air and missile strike capabilities. As **Figure 5** below illustrates, South Korea, most of Japan, and the northern portions of the Philippines may be within range of PRC and DPRK short or medium-range ballistic missiles, while Guam and parts of Japan, the Philippines, and Australia may be within range of PRC intermediate-range ballistic missiles.

Report R43102, *"Fast Track" Legislative Procedures Governing Congressional Consideration of a Defense Base Closure and Realignment (BRAC) Commission Report*, by Christopher M. Davis for more information.

[66] Combat radii differ by aircraft and mission type. For example, according to *DVIDS*, the F-35A has a combat radius of 590 nautical miles, while an Air Force fact sheet reports that "in an air-to-surface role, the F-16 [radius is] more than 500 miles." See "F-35A Combat Radius Lightning Flash Fact," *Defense Visual Information Distribution Service*, May 10, 2022, at https://www.dvidshub.net/video/846194/f-35a-combat-radius-lightning-flash-fact# and "F-16 Fighting Falcon," U.S. Air Force at https://www.af.mil/About-Us/Fact-Sheets/Display/Article/104505/f-16-fighting-falcon/.

Figure 5. Regional Missile Threat

Notional ranges of PRC ballistic missiles and U.S. regional defense sites



Source: CRS graphic based on PRC missile data and analysis from "Missiles of China," Center for Strategic and International Studies Missile Threat Project, April 12, 2021, at https://missilethreat.csis.org/country/china and CRS analysis of DOD basing data.

Notes: Ranges are notional.

Some of the consequences of regional infrastructure placement for U.S. military performance are explicitly examined in two studies of a hypothetical U.S.-China war. In an August 2022 report ("Can China Take Taiwan? Why No One Really Knows"), Brookings Institute analyst Michael O'Hanlon evaluated whether the PRC could successfully conquer Taiwan. Using open-source data and estimates on Chinese and U.S. orders of battle, weapons capabilities and inventories, and doctrine, O'Hanlon modelled two scenarios for a U.S.-China conflict over Taiwan: "a maritime fight centered on submarines" (Scenario 1); and "a broader subregional war" (Scenario 2). In both scenarios, regional U.S. bases play a role. In Scenario 1, O'Hanlon speculates that air bases in Japan may be used to host anti-submarine (ASW) and fighter aircraft for use against Chinese maritime and air platforms enforcing a blockade of Taiwan, while in Scenario 2, O'Hanlon models the use of U.S. and allied bases in Japan and Guam to launch air and naval operations against Chinese maritime, air, and ground platforms, personnel, and infrastructure in and around

Taiwan and mainland China.[67] Given their role in enabling U.S. combat operations, these bases would likely come under Chinese attack—especially in a situation resembling O'Hanlon's Scenario 2, which sees aircraft and land-based missiles striking U.S. installations in mainland Japan, Okinawa, and Guam, with a high probability of destroying or damaging most infrastructure targets.[68]

In a January 2023 report, three analysts at the Center for Strategic and International Studies (CSIS) summarized the results and implications of a wargame simulating the initial phases of a U.S.-China war precipitated by an invasion of Taiwan.[69] Using open-source data and estimates, CSIS developed and ran 24 iterations of a wargame under "base case," "pessimistic," and "optimistic" parameters. As in the Brookings study described above, the U.S. sought to support air and naval operations in and around Taiwan and mainland China from bases in Japan and Guam, and the PRC sought to deny the use of those bases through kinetic attacks. In most of the "pessimistic" and "base case" iterations, U.S. air bases in mainland Japan, Okinawa, and Guam were subjected to effective Chinese missile attacks, damaging infrastructure and causing the majority of U.S. combat aircraft losses.[70]

The debate over basing fighter aircraft at Kadena Air Base (AB) on Okinawa provides another illustration of this dynamic. In October 2022, the Air Force announced that it would begin a phased withdrawal of two F-15C and D fighter squadrons formerly based at Kadena AB.[71] The withdrawal, to be accomplished in phases over a two-year period, faced criticisms from some analysts concerned the move might undermine regional deterrence (several Members of Congress delivered a letter to the Secretary of Defense alleging the move would create a "tangible reduction in American forward combat power").[72] However, others have defended the move, arguing that Chinese strike capabilities make Kadena "uniquely ill-positioned for permanently basing large numbers of American aircraft" and instead advocating for a more geographically dispersed and rotational approach to regional basing.[73]

Congress may assess the tradeoffs between the proximity of defense sites to likely operational areas and the resultant vulnerability to adversary attack. This assessment could in turn inform congressional direction to DOD regarding the implementation of basing posture, as well as congressional prioritization of defense outlays.

In considering the question of base placement, Congress may also note that DOD's regional basing posture—along with its broader force posture—has remained broadly consistent over the

[67] Michael O'Hanlon, "Can China Take Taiwan? Why No One Really Knows," Brookings Institute, August 2022, pp. 24-26, at https://www.brookings.edu/research/can-china-take-taiwan-why-no-one-really-knows/?amp.

[68] O'Hanlon also argues that the escalation of a crisis from the limited maritime conflict envisioned in Scenario 1 to the expanded war envisioned in Scenario 2 might come about as a result of PRC attacks on U.S. bases: "If [China's] leaders saw the United States using air bases in places like Okinawa to fly sorties (for example, with P-3 and P-8 aircraft) that were killing Chinese submariners and to establish air dominance (for example, with F-22 fighters)…there would be powerful incentives to strike at the origins of those flights." O'Hanlon, "Can China Take Taiwan," p. 20.

[69] Mark Cancian, Matthew Cancian, and Eric Heginbotham, *The First Battle of the Next War* (Washington, DC: Center for Strategic and International Studies, 2023) available at https://csis.org/analysis/first-battle-next-war-wargaming-chinese-invasion-taiwan.

[70] Ibid. pp. 83-115.

[71] Stephen Losey, "Air Force to replace Kadena F-15 squadrons," *Defense News*, October 27, 2022, at https://www.defensenews.com/air/2022/10/27/air-force-to-replace-kadena-f-15-squadrons-with-rotational-fighters.

[72] Letter available at https://www.rubio.senate.gov/public/_cache/files/afe5d67d-0f67-42e3-ac04-a2a23ecbb685/D9D9779A4044CC4A162EC74FD42454A9. 11.01.22—rubio-et-al-letter-to-secdef-re-okinawa-f-15s.pdf.

[73] Stacie Pettyjohn, Andrew Metrick, and Becca Wasser. "The Kadena Conundrum," *War on the Rocks*, December 1, 2022, at https://www.warontherocks.com/2022/12/the-kadena-conundrum-developing-a-resilient-indo-pacific-posture.

past three decades.[74] As the Brookings Institute's Andrew Yeo and Michael O'Hanlon observe in a February 2023 report

> Broadly speaking, the U.S. force posture in the Pacific looks very much like it did in the mid-1990s, with the preponderance of America's 100,000-strong troop presence there concentrated in Japan and South Korea. Since that time, the only major changes involving thousands of forces have been the reduction in the U.S. Army presence in South Korea by about 10,000 in the early 2000s and the more recent gradual shift of about half of the 18,000 U.S. Marines on Okinawa to Guam.[75]

Although the number and distribution of DOD-operated installations has remained broadly consistent since the mid-1990s, one way that the United States has sought to expand its regional infrastructure footprint has been through the negotiation of access to bases operated by allied or partner governments (an approach sometimes termed 'places not bases').[76] Since 2011, DOD has increased regional deployments to Australian sites (particularly in the Northern Territory and Queensland) and, under the U.S.-Philippines Enhanced Defense Cooperation Agreement (EDCA), secured access on a rotational basis to nine Philippine military bases (mainly on the northern islands of Luzon and Palawan).[77] Despite this expansion, some observers have identified areas of the Indo-Pacific where U.S. presence and access could be increased. Yeo and O'Hanlon write that "a particularly large hole in U.S. force posture exists in Southeast and South Asia where basing access agreements remain limited," and identify the pursuit of basing rights in the area as a potential option for policymakers.[78]

A related issue for congressional consideration is the degree to which the United States may rely upon countries hosting U.S. military bases to allow access in the event of a contingency. For example, the importance of Philippine bases to U.S. plans for a potential conflict has grown considerably over the past decade—so much so that, as former PACOM commander Admiral (Ret.) Harry Harris stated in 2023 before the House Armed Services Committee, "it's hard to imagine a fight with the PRC without being able to use bases on the Philippines."[79] Statements by Philippine officials in 2022 and 2023—including President Ferdinand Marcos Jr.—suggest that permission for U.S. forces to operate from these bases would be granted only under certain circumstances, and that DOD will not be permitted to undertake "offensive action" from EDCA sites.[80]

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[74] Although neither "force posture" nor "basing posture" are statutorily or doctrinally defined, "force posture" is used in this report to denote the distribution and disposition of all elements of military power, while "basing posture" is used to denote the distribution and disposition of fixed facilities owned, operated, or used by DOD for military purposes.

[75] Andrew Yeo and Michael E. O'Hanlon, "Geostrategic Competition and Overseas Basing in East Asia and the First Island Chain," Brookings Institute, February 2023, p. 2, at https://www.brookings.edu/research/geostrategic-competition-and-overseas-basing-in-east-asia-and-the-first-island-chain/.

[76] See Colonel Michael W. Pietrucha, "Making Places, Not Bases a Reality," *U.S. Naval Institute Proceedings,* Vol. 141, October 2015, at https://www.usni.org/magazines/proceedings/2015/october/making-places-not-bases-reality.

[77] See David Vergun, "New EDCA Sites Named in the Philippines," Department of Defense, April 3, 2023, at https://www.defense.gov/News/News-stories/article/article/3350297/new-edca-sites-named-in-the-philippines/.

[78] Yeo and O'Hanlon also outline the drawbacks such expansion might entail, discussed later in this subsection. "Geostrategic Competition and Overseas Basing in East Asia," p. 3.

[79] "House Armed Services Committee Holds Hearing on Chinese Threats to U.S. National Defense," February 7, 2023. Available online at https://armedservices.house.gov/hearings/full-committee-hearing-pressing-threat-chinese-communist-party-us-national-defense.

[80] See Kristina Maralit, "Marcos rules out offensive actions from new EDCA sites," *The Manila Times,* April 11, 2023. It should also be noted that the Philippine ambassador to the U.S. said in September 2022 that the Philippines would allow U.S. forces to operate from EDCA bases "only if it is important for us, for our own security," Ryo Nakamura and Yuichi Shiga, "Philippines may allow U.S. military access during Taiwan crisis," *Nikkei Asia,* September 5, 2022 at https://asia.nikkei.com/Editor-s-Picks/Interview/Philippines-may-allow-U.S.-military-access-during-Taiwan-crisis.

Although this concern may be especially pronounced for countries that now host U.S. forces at non-DOD-operated facilities (such as the Philippines and Singapore), some commentators have also posited that even countries that have hosted DOD-operated facilities for decades, such as South Korea or Japan, may impose limits on U.S. usage of bases to avoid provoking Chinese attacks.[81] Congress may consider the appropriate balance of risk, as well as direct planning for alternate basing options in the event of such a situation. Congress may also consider the appropriate level of infrastructure investment in sites to which future DOD access may be uncertain.[82]

Finally, Congress may consider how changes in basing posture affect broader geopolitical developments in the Indo-Pacific. Among international relations scholars, the concept of the *security dilemma*—a problem in which states, by taking measures to improve their own security, may threaten others—occupies a central role. Some commentators have argued that this dynamic exists in the contemporary Indo-Pacific, and that U.S. basing is a factor:

> The same dynamic [i.e., the security dilemma] is operating in Asia. Not surprisingly, China regards America's long position of regional influence—and especially its network of military bases and its naval and air presence—as a potential threat. As it has grown wealthier, Beijing has quite understandably used some of that wealth to build military forces that can challenge the U.S. position… Each side's efforts to deal with what it regards as a potential security problem merely reinforced the other side's own security fears, thereby triggering a response that strengthened the former's original concerns. Each side sees what it is doing as purely defensive reaction to the other side's behavior, and identifying "who started it" soon becomes effectively impossible.[83]

PRC officials have strongly criticized recent U.S. moves to expand its regional defense infrastructure footprint, alleging that measures such as the addition of new sites to the U.S.-Philippines EDCA "are part of U.S. efforts to encircle and contain China" and will "endanger regional peace and stability."[84] On the other hand, some policymakers and analysts have argued that establishing additional bases could strengthen U.S. deterrence of PRC aggression and thereby

[81] See, for instance, Denny Roy, "South Korea will stay out of a Taiwan Strait War," *The Diplomat*, March 21, 2023, at https://thediplomat.com/2023/03/south-korea-will-stay-out-of-a-taiwan-strait-war/; and Gabriel Dominguez, "Crucial Role: Defense of Taiwan hinges on Japan's support," *Japan Times*, January 23, 2023, at https://www.japantimes.co.jp/news/2023/01/23/national/japan-role-us-taiwan-conflict/.

[82] Per testimony given by INDOPACOM Commander Admiral Aquilino in an April 2023 hearing before the House Armed Services Committee, "There are identified projects [in the Philippines] that that we would like to build out in the current sites, that they've agreed with that, we have started work on." "House Armed Services Committee Holds Hearing on Indo-Pacific National Security Challenges," April 18, 2023, transcript available via *CQ* at https://plus.cq.com/doc/congressionaltranscripts-7718539?5.

[83] Stephen M. Walt, "Does Anyone Still Understand the 'Security Dilemma'?" *Foreign Policy*, July 26, 2022 at https://foreignpolicy.com/2022/07/26/misperception-security-dilemma-ir-theory-russia-ukraine/.

[84] "Statement of the Spokesperson of the Chinese Embassy in the Philippines," Embassy of the PRC in the Republic of the Philippines, March 12, 2023, at http://ph.china-embassy.gov.cn/eng/sgdt/202303/t20230312_11039384.htm.

decrease the likelihood of a crisis.[85] In weighing whether to establish additional bases, Congress may consider potential effects on Indo-Pacific stability.[86]

Organization

Aside from the question of where to maintain or seek basing more generally, Congress may also consider issues relating to base organization and operation. Historically, DOD has created larger, consolidated installations in the Indo-Pacific, clustering many defense functions within mainly DOD-operated sites. However, as described above, the Army, Air Force, Navy, and Marine Corps have each begun to develop and implement new concepts for more distributed combat and logistical operations. These operational concepts propose a different use of infrastructure, one in which larger, permanent, and concentrated bases are supplemented by—and, in some cases, replaced or used interchangeably with—smaller, temporary, non-U.S.-operated, or distributed facilities.[87]

As an example of how these shifts may affect regional basing posture, CSIS senior fellow Bonny Lin offered the following characterization of Indo-Pacific infrastructure in a February 2023 Senate Armed Services Committee hearing:

> Our infrastructure in the Indo-Pacific, particularly the fact that we are now investing in more resilient and dispersed basing is absolutely critical, particularly as we look at the range of [PRC] missiles…The range of missiles that China can bring to bear means that in any fight over Taiwan, we will need to be able to disperse our assets so we're not reliant on any particular base. And in order to be able to maintain that… we need to harden our infrastructure. We also need to work with our allies and partners to make sure that we have the capabilities to quickly repair, for example, runways and other facilities.[88]

To some extent, this conceptual perspective is manifested in DOD doctrine for—and investments in—regional infrastructure. For example, in a March 2023 interview, the commander of Pacific Air Forces (PACAF) stated that "from the Agile Combat Employment standpoint, what we're spending our dollars on this year is expanding the number of places that we can go to, and of the places that we're already at [sic], expanding the capability at those places."[89]

However, some analysts have identified potential drawbacks to a more distributed basing posture. A January 2023 report by the RAND Corporation found that operating from more dispersed air bases could pose significant sustainment and communication challenges, and cautioned that such bases "may not be more survivable than those closer to the threat if the farther bases can be

[85] See, for instance, CNAS analyst Stacie Pettyjohn's argument that the U.S. should "gain access to more bases" in "Spiking the Problem: Developing a Resilient Posture in the Indo-Pacific," *War on the Rocks,* January 10, 2022 (available at https://warontherocks.com/2022/01/spiking-the-problem-developing-a-resilient-posture-in-the-indo-pacific-with-passive-defenses/ and Senator Roger Wicker's statement that DOD "cannot successfully deter Xi with a brittle basing and logistics infrastructure," in "Senate Armed Services Committee Holds Hearing on Fiscal Year 2024 Budget Request for the Department of Defense", March 28, 2023, available at https://plus.cq.com/doc/congressional transcripts-7700800?7.

[86] In addition to effects stemming from PRC responses, Congress may wish to consider effects that may be produced by Russian and DPRK responses to significant shifts in U.S. regional basing posture. See discussion under the "Strategic and Operational Role" section of this report

[87] See discussion under the "Strategic and Operational Role" section of this report.

[88] Senate Armed Services Committee Hearing on Global Security Challenges and Strategy, February 15, 2023. Transcript available at https://plus.cq.com/doc/congressionaltranscripts-7667132?18.

[89] General Kenneth Wilsbach, quoted in Sean Carberry, "Forget Hardened Bases, Pacific Conflict Requires Agile Combat Employment, Commander Says," *National Defense,* March 8, 2023 at https://www.nationaldefensemagazine.org/articles/2023/3/8/forget-hardened-bases-pacific-conflict-requires-agile-combat-employment-commander.

brought down by a small number of missiles" due to their smaller size or a lack of protective systems and infrastructure.[90]

Congress may consider the costs and benefits of a more distributed approach to regional basing functions, assess the extent to which DOD is implementing such an approach, and deliberate on the desirability of additional investments to modify the concentration or distribution of base facilities.

Resilience

Another aspect of posture Congress may consider is the resilience—broadly defined as the ability to resist, adapt to, and recover from disruption—of Indo-Pacific installations.[91] Given the regional environment described above, DOD has tended to structure its resilience efforts around the threat of kinetic attack, particularly by PRC air and missile capabilities.

When it comes to protecting bases from air and missile attacks, analysts typically distinguish between active and passive defenses. Active defenses are measures that seek to neutralize incoming threats before they are able to strike their targets—whether by kinetic interception, as with the THAAD or PATRIOT missile defense systems, or through the use of newer technologies like directed energy and microwave-based countermeasures.[92] Passive defenses are measures intended to decrease the damage, disruption, and general impact of adversary attacks, and may include the construction of protective physical structures (e.g., hardened aircraft shelters), the development of repair and damage control capabilities, and practices such as the dispersal or concealment of vulnerable assets.[93]

The appropriate balance between active and passive defenses has been the subject of debate among policymakers and commentators. Some analysts, such as the Hudson Institute's Rebeccah Heinrichs, emphasize the centrality of active defenses:

> While passive defenses including tactics intended to deceive an adversary and fortification of military infrastructure to sustain an attack are important, there is no substitute for a layered active defense. To achieve cost-effectiveness, some budget offices may be tempted to over-rely on passive defenses, but that would be a grave mistake. The US military must have the ability to blunt the impact of a fast PRC attack, and that means preventing missiles from hitting key targets.[94]

Other analysts maintain that active defenses, while useful, can be expensive and vulnerable to attack. A January 2023 study by the RAND Corporation argues that

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[90] Christopher Lynch, Rachel Costello, Jacob L. Heim, et al. "Operational Imperative: Investing Wisely to Bolster U.S. Air Bases Against Chinese and Russian Attacks." RAND Corporation, January 2023, p. 4.

[91] A more specific definition of resilience is offered by the RAND Corporation: "the capacity of a force to withstand attack, adapt, and generate sufficient combat power to achieve campaign objectives in the face of continued, adaptive enemy action." Hagen, Jeff, Forrest E. Morgan, Jacob L. Heim, and Matthew Carroll, "The Foundations of Operational Resilience—Assessing the Ability to Operate in an Anti-Access/Area Denial Environment," available at https://www.rand.org/pubs/research_reports/RR1265.html.

[92] For more on directed energy technologies, see CRS In Focus IF11882, *Defense Primer: Directed-Energy Weapons*, by Kelley M. Sayler.

[93] The *DOD Dictionary of Military and Associated Terms* defines *active defense* as "the employment of limited offensive action and counterattacks to deny a contested area or position to the enemy" and *passive defense* as "measures taken to reduce the probability of and to minimize the effects of damage caused by hostile action without the intention of taking the initiative." *DOD Dictionary of Military and Associated Terms,* Department of Defense, February 2023, pp. 7 and 151.

[94] Rebeccah Heinrichs, "Introduction," in Rebecca Heinrichs (editor), *Defending Guam* (Washington, DC: Hudson Institute, 2022), p. 9. Available at https://s3.amazonaws.com/media. hudson.org/Defending+Guam+July+2022.pdf.

> the most-cost-effective ways to improve air base resilience are robust, passive defenses…[including] hardened shelters for aircraft; dispersal of aircraft; redundant fuel supplies; prepositioned munitions; rapid runway repair capabilities; and tailored forms of camouflage, concealment, and deception.[95]

The publicly available studies and wargames that examine a potential conflict with a strategic competitor suggest that the resilience of Indo-Pacific installations—particularly air bases—may be a factor in such a conflict's outcome.[96]

Congress may assess the desirability and efficacy of additional investments in resilience-building measures at Indo-Pacific bases, and weigh the respective benefits of active and passive defenses.

Resourcing Regional Defense Infrastructure

Congress funds the establishment and sustainment of defense infrastructure through the Military Construction and Operation and Maintenance appropriations titles. In addition, beginning in FY2021, Congress has authorized a particular set of Indo-Pacific defense infrastructure appropriations as part of the Pacific Deterrence Initiative (PDI), a group of regionally-focused defense investments and activities typically included as part of the annual National Defense Authorization Act (NDAA).

Military Construction

Military construction (MILCON) appropriations fund construction, development, conversion, or extension activities carried out with respect to a military installation, as well as any DOD acquisitions of real property (for more information on MILCON authorities and activities, see CRS Report R44710, *Military Construction: Authorities and Processes*).

Over the past four fiscal years, annual military construction appropriations for Indo-Pacific sites have ranged from a low of $1.37 billion to a high of $3.54 billion (see **Table 1** below).

[95] Christopher Lynch, Rachel Costello, Jacob L. Heim, et al. "Operational Imperative: Investing Wisely to Bolster U.S. Air Bases Against Chinese and Russian Attacks." RAND Corporation, January 2023, p. 4.

[96] For two examples, see O'Hanlon, *Can China Take Taiwan* and Cancian et al., *The First Battle of the Next War*.

Table 1. Military Construction Appropriations, FY2020-FY2023

($ in thousands)

FY	Appropriations for military construction, worldwide[a]	Appropriations for military construction, Indo-Pacific region[b]	Appropriations for Indo-Pacific military construction as a percentage of global military construction
2020	$8,228,813[c]	$1,812,956	22.0%
2021	$5,599,209	$1,368,810	24.4%
2022	$9,033,782	$2,267,292	25.1%
2023	$12,194,728	$3,542,995	29.1%
Total	**$35,056,532**	**$8,992,053**	

Source: CRS Analysis of Military Construction, Veterans Affairs, and Related Agencies Appropriations Acts, 2020-2023 and accompanying Joint Explanatory Statements.

Notes:

a. Figures for "Appropriations for Military Construction, Worldwide" include all appropriations for Army, Navy and Marine Corps, Air Force, Defense-wide, Army National Guard, Air National Guard, Army Reserve, Navy Reserve, and Air Force Reserve Military Construction. They do not include NATO Security Investment, DOD Base Closure Account, Family Housing Construction, Family Housing O&M, Family Housing Improvement Fund, or Military Unaccompanied Housing Improvement Fund monies.

b. Figures for "Indo-Pacific MILCON appropriations" include appropriations for projects in: Alaska; Washington; California; Hawaii; Guam and the Marianas; the Republic of the Marshall Islands, Palau, and Micronesia; Japan; South Korea; the Philippines; Singapore; Diego Garcia; and Australia.

c. The FY2020 MILCON appropriation also included $10 million for "Defense-Wide planning and design for emergent requirements in INDOPACOM" (See *Congressional Record,* Vol. 165, No. 204-Book III, p. H11378).

As **Table 1** illustrates, the proportion of MILCON appropriations funding projects at Indo-Pacific sites has every fiscal year since FY2020. In FY2023, selected Indo-Pacific bases with projects receiving MILCON appropriations included[97]

- **Fort Wainwright, Alaska** ($99 million for a physical fitness center annex);
- **Joint Base Elmendorf-Richardson** ($63 million for an aircraft maintenance hangar);
- **Clear Space Force Station, Alaska** ($68 million for a new dormitory);
- **Joint Base Elmendorf-Richardson, Alaska** ($100 million to extend runway 16/34);
- **Naval Air Station Whidbey Island, Washington** ($68.1 million for airfield pavement improvements);
- **Camp Pendleton, California** ($85.2 million for Basilone Road Realignment);
- **Twentynine Palms** ($120.4 million for a range simulation training and operations facility);

[97] This list is not comprehensive; rather, it represents an attempt to identify high-value regional projects with significant regional warfighting and readiness relevance. For a complete list of projects receiving FY2023 MILCON appropriations, see "Joint Explanatory Statement for Consolidated Appropriations Act, 2023 – Division J, Military Construction, Veterans Affairs, and Related Agencies," Senate Appropriations Committee, pp. 94-114, available at https://www.appropriations.senate.gov/imo/media/doc/Division%20J%20-%20Mil%20Con%20Statement%20FY23.pdf.

- **Naval Air Station Lemoore, California** ($201.3 million for F-35C maintenance hangar and airfield pavement);
- **Vandenberg Space Force Base, California** ($89 million for consolidated maintenance facility);
- **Naval Base Coronado, California** ($75.7 million for a SOF operations support facility);
- **Schofield Barracks, Hawaii** ($111 million for the construction of company operations facilities);
- **Joint Base Pearl Harbor-Hickam, Hawaii** ($621.2 million for the replacement of Dry Dock 3 and $103.4 million for the construction of missile magazines);
- **Marine Corps Base Hawaii, Hawaii** ($87.9 million for bachelor enlisted quarters);
- **Naval Base Guam, Guam** ($131.6 million for 9th Engineer Support Battalion equipment and maintenance facility and $149.3 million ground combat element infantry battalion 1 and 2 facilities);
- **Tinian, Northern Mariana Islands** ($58 million for airfield development and $92 million for fuel tanks);
- **Army Garrison-Kwajalein Atoll, Marshall Islands** ($69 million for a medical clinic);
- **Kadena Air Base, Japan** ($94.1 million for Marine Corps bachelor enlisted quarters, $101.3 million for a Marine Corps barracks complex, $71 million for a helicopter operations maintenance hangar, and $77 million for a theater a/c corrosion control center);
- **Marine Corps Air Station Iwakuni, Japan** ($85 million for bulk fuel storage tanks);
- **Yokota Air Base, Japan** ($72.2 million for operations and warehouse facilities); and
- **Royal Australian Air Force Base Darwin, Australia** ($72.4 million for aircraft parking apron).

Although Indo-Pacific military construction appropriations have increased in both absolute and proportional terms since FY2020, some analysts and Members of Congress argue that regional MILCON activities have been insufficient to meet U.S. requirements. In the joint explanatory statement accompanying the FY2023 Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, the Committees expressed concern that "the Services have not properly prioritized projects within INDOPACOM in recent fiscal years, instead choosing to fund projects that are specifically beneficial to the Service and not necessarily the joint mission."[98] Some commentators attribute what they consider insufficient MILCON funding to structural factors. In a 2022 piece for *War on the Rocks*, for example, three analysts at the Center for a New American Security argued that Indo-Pacific infrastructure upgrades "have been habitually shortchanged because the services prefer to invest in force structure and Congress does not like spending money overseas."[99]

[98] "Division J – Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2023," p. 4, available at https://www.appropriations.senate.gov/imo/media/doc/Division%20J%20-%20Mil%20Con%20Statement%20FY23.pdf.

[99] Pettyjohn, "The Kadena Conundrum."

Congress may consider assessing whether the level of funding for Indo-Pacific military construction projects provided in recent appropriations acts is adequate (in both absolute terms and as a proportion of overall MILCON spending) to meet current and future military requirements, particularly if significant changes to basing posture are anticipated.

Facilities Sustainment, Restoration, and Modernization

A number of analysts, DOD officials, and Members of Congress have expressed concern about the condition of Indo-Pacific defense infrastructure. In a February 2023 Senate Armed Services Committee hearing, for example, Senator Mazie Hirono (HI) offered the following characterization of the challenges facing DOD infrastructure:

> "Clearly, there are many demands on our resources—that is an understatement—and I would consider a foundational concern to be the need to invest in our infrastructure, which is not only a matter of geopolitical competition, but also the readiness of the forces… In the last year, there have been numerous issues with the military's infrastructure in Hawaii—from water main breaks to toxic chemical leaks and spills endangering our groundwater. And I know that these kinds of events are not particular to Hawaii. Across the country, we need to better maintain and modernize our DOD infrastructure to take care of our people, get our systems out of maintenance on time, and be able to support national security."[100]

Although the Indo-Pacific region has experienced several high-visibility infrastructure problems (e.g., the Red Hill Bulk Fuel Storage Facility leak), the issue of poor infrastructure condition is not unique to the region.[101] In a 2022 report, the Government Accountability Office found that DOD had a deferred maintenance backlog that would require at least $130 billion to eliminate, creating "significant risk to [the Department's] objective of maintaining facilities in good working order to meet working requirements."

Facilities sustainment, restoration, and modernization (FSRM) activities on military installations are funded by Operation and Maintenance (O&M) appropriations. Unlike MILCON spending, FSRM funding information—as documented in DOD budget requests and congressional authorization and appropriation legislation—is not typically disaggregated by specific locations or installations, making it difficult to assess the level of funding by site or region.[102] In FY2023, Congress appropriated approximately $16.8 billion for FSRM activities across DOD, with the Army (approximately $5.1 billion), Air Force (approximately $4.4 billion), and Navy (approximately $4 billion) receiving the largest amounts, respectively.[103]

Given the strategic and operational importance of Indo-Pacific defense sites, Congress may assess the extent to which more detailed budget reporting by DOD, adjustments to FSRM funding, or further studies of related infrastructure issues may be necessary to meet military requirements.

[100] "Senate Armed Services Committee Hearing on Global Security Challenges and Strategy", February 15, 2023. Sen. Hirono statement available at https://www.hirono.senate.gov/news/press-releases/video-hirono-highlights-importance-of-infrastructure-updates-pacific-allies-to-us-national-security.

[101] For more information on Red Hill, see "Red Hill Bulk Fuel Storage Site in Hawai'I," Environmental Protection Agency, at https://www.epa.gov/red-hill.

[102] For more information on this and military construction appropriations more generally, see CRS Report R44710, *Military Construction: Authorities and Processes*.

[103] CRS analysis of information provided in the Joint Explanatory Statement for the Department of Defense Appropriations Act, 2023.

Pacific Deterrence Initiative

In FY2021, Congress established the Pacific Deterrence Initiative (PDI), a set of prioritized defense investments and activities intended to "enhance the United States deterrence and defense posture in the Indo-Pacific region, assure allies and partners, and increase capability and readiness in the Indo-Pacific region."[104] PDI is not a separate funding source; rather, its purpose is to "focus resources on capability gaps" and "enhance budgetary transparency and oversight" by identifying and collating Indo-Pacific-focused spending and programs from the broader DOD budget.[105]

In FY2022 and FY2023, activities authorized under PDI were divided into five categories:

- Presence and Posture ($4.1 billion authorized in FY2022, $6.46 billion authorized in FY2023);
- Logistics and Prepositioning of Equipment ($360 million authorized in FY2022, $500 million authorized in FY2023);
- Exercises, Training, and Experimentation ($696 million authorized in FY2022, $2 billion authorized in FY2023);
- Defense and Security Capabilities of Allies and Partners ($489 million authorized in FY2022, $732 million authorized in FY2023); and
- Infrastructure Improvements ($1.5 billion authorized in FY2022, $1.8 billion authorized in FY2023)

The Infrastructure Improvements category includes authorizations for projects funded through both military construction (MILCON) and operation and maintenance (O&M) appropriations. Examples of authorized PDI projects under this category include

- Bulk storage tanks at MCAS Iwakuni (FY2023, $85 million, MILCON);
- Aircraft parking apron at RAAF Base Darwin, Australia (FY2023, $72.4 million, MILCON);
- Fuel tanks with pipeline and hydrant system on Tinian, Northern Mariana Islands (FY2023, $92 million, MILCON);
- Japan vehicle maintenance shop (FY2023, $80 million, MILCON);
- Air Force infrastructure improvements (FY2022 and FY2023, $404.3 million and $412.4 million, O&M);
- Marine Corps FSRM (FY2022 and FY2023, $112.1 million and $127.2 million, O&M);
- Corrosion control hangar for C-130J at Yokota Air Base (FY2022 and FY2023, $67 million and $10 million, MILCON);
- Joint Communication Upgrade at Naval Base Guam (FY2022, $84 million, MILCON); and
- Extended runway at JBE-R (FY2022, $79 million, MILCON).[106]

[104] See Section 1251 of the William M. (Mac) Thornberry FY2021 National Defense Authorization Act (P.L. 116-283).

[105] See S.Rept. 116-236, p. 3; for more information on PDI, see CRS In Focus IF12303, *The Pacific Deterrence Initiative: A Budgetary Overview*.

[106]" Joint Explanatory Statement accompanying James M. Inhofe National Defense Authorization Act for Fiscal Year 2023," p. 302, available at https://rules.house.gov/sites/republicans. rules118. house.gov/files/BILLS-117HR7776EAS-RCP117-70-JES.pdf#page=302.

With respect to PDI generally, some analysts and Members of Congress have contended that DOD implementation of PDI priorities has been misaligned with congressional intent.[107] In the National Defense Authorization Acts (NDAAs) for FY2022 (P.L. 117-81) and FY2023 (P.L. 117-263), PDI authorizations differed significantly from DOD requests, with Congress redistributing or adding billions of dollars in proposed PDI investments. The FY2023 House Appropriations Committee report (H.Rept. 117-388) expressed "concern that DOD has failed to provide adequate accounting for the funding requested" under PDI, and directed DOD to augment the budgetary and programmatic descriptions of PDI activities in its FY2024 budget documentation.

With respect to infrastructure more specifically, there were also considerable discrepancies between

- the FY2023 spending DOD requested under the "Infrastructure Improvements" category **($1.21 billion)**;
- the FY2023 spending INDOPACOM requested under the "Infrastructure, Responsiveness, and Resilience" category as part of a congressionally mandated report separate from DOD's formal budget request **($726 million)**; and[108]
- the FY2023 spending Congress authorized for PDI in the FY2023 NDAA **($1.8 billion)**.

Additionally, the criteria according to which DOD categorizes infrastructure activities in its budget requests are unclear. Although there is an "Infrastructure Improvements" category, in its FY2023 PDI budget documentation DOD requested funding for infrastructure-related activities (i.e., MILCON and FSRM) under four of the six PDI categories.[109] As an example, a combined $129 million of MILCON funding was requested for bulk fuel storage tanks at Marine Corps Air Station Iwakuni and Yokota Air Base under the "Improved Logistics, Maintenance, and Prepositioning" category, while $39 million of MILCON funding was requested for missile defense infrastructure under the "Modernized and Strengthened Presence" category.

Congress may consider whether modifications to PDI are desirable to: clarify the purpose and intent of activity categories; increase the detail that DOD provides in its congressional documentation; and ensure that infrastructure activities are aligned with strategic aims and military requirements (especially those created by the implementation of new operational concepts).

[107] See, for example, Dustin Walker, "Show Me the Money: Boost the Pacific Deterrence Initiative," *War on the Rocks*, June 29, 2022, at https://warontherocks.com/2022/06/show-me-the-money-boost-the-pacific-deterrence-initiative/ and the "Joint Explanatory Statement to Accompany the National Defense Authorization Act for Fiscal Year 2022," pp. 280-281, available at https://rules.house.gov/sites/republicans.rules118.house.gov/files/17S1605-RCP117-21-JES-U1.pdf.

[108] INDOPACOM report available via *Defense One* at https://www.defenseone.com/policy/2022/05/report-seize-initiative/366380/.

[109] The categories under which DOD submitted its PDI request differed from those under which Congress authorized funding in the enacted NDAA. DOD categories were: 1) Modernized and Strengthened Presence; 2) Improved Logistics, Maintenance, and Prepositioning; 3) Exercises, Training, Experimentation, and Innovation; 4) Infrastructure Improvements; 5) Building the Defense and Security Capabilities, Capacity and Cooperation of Allies and Partners; and 6) Improved Capabilities Available to U.S. Indo-Pacific Command (joint and enabling headquarters capabilities. Infrastructure spending was requested under the first four categories.

Appendix A. Key Sites and Facilities

This appendix provides descriptions of key sites and facilities covered by this report, as well as a consolidated list of major Indo-Pacific bases (see **Table A-1** below).

Alaska

Fort Wainwright. Fort Wainwright is an Army installation located in Fairbanks, AK. It occupies approximately 756,530 acres, and hosts the 1st Infantry Brigade, 11th Airborne Division (an infantry brigade combat team) as well as the 1st Battalion, 25th Aviation Regiment (an AH-64 Apache attack reconnaissance battalion) and the 1st Battalion, 52nd Aviation Regiment (a general support aviation battalion with UH-60 Blackhawks, CH-47 Chinooks, and UH-60 medevac support).[110]

Fort Greely. Fort Greely is an Army installation located about 100 miles southeast of Fairbanks, AK. It occupies approximately 7,200 acres, and supports midcourse missile defense.[111] It hosts the Ground-Based Midcourse Defense anti-ballistic missile interception system, the 49th Missile Defense Battalion, 100th Missile Defense Brigade (which operates and secures the ground-based midcourse defense system), the 59th Signal Battalion (which conducts strategic signal operations for missile command), and the Cold Regions Test Center (which tests materiel and equipment in cold weather conditions).[112]

Joint Base Elmendorf-Richardson (JBER). JBER is a joint Army-Air Force installation located near Anchorage, AK. It occupies approximately 73,000 acres, and hosts the Army's 2nd Infantry Brigade, 11th Airborne Division, (an airborne brigade combat team), as well as the Air Force's 11th Air Force and 3rd Wing, which consists of two F-22 fighter squadrons, one E-3 command and control squadron, and one mixed C-17/C-12 airlift squadron. In addition, JBER is also home to the Alaska Air National Guard's 176th Wing, which includes three HH-60 and HC-130 rescue squadrons and two C-17 airlift squadrons.[113]

Eielson Air Force Base. Eielson Air Force Base is an Air Force installation located near Fairbanks, Alaska. It occupies approximately 24,900 acres, and hosts the 354th Operations Group, which includes two F-35 fighter squadrons and one F-16 squadron.[114]

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[110] Note that not all of this acreage may be in active use. "FY2022 Base Structure Report," Office of the Assistant Secretary of Defense for Sustainment, available for download at https://www.acq.osd.mil/eie/BSI/BEI_Library.html. "1st Infantry Brigade, 11th Airborne Division," 11th Airborne Division, at https://11thairbornedivision.army.mil/Units/1st-Infantry-Brigade/; "1-25 Attack/Reconnaissance Battalion," U.S. Army Alaska, at https://home.army.mil/alaska/index.php/USARAK-units/1-25-arb; and "1-52 General Support Aviation Battalion," U.S. Army Alaska, at https://home.army.mil/alaska/index.php/USARAK-units/1-52d-gsab.

[111] "FY2022 Base Structure Report." Midcourse missile defense refers to the destruction of incoming ballistic missiles while they are outside the atmosphere at the highest point in their trajectory (the 'midcourse'); see "Ground-Based Interception," Center for Strategic and International Studies, at https://missilethreat.csis.org/defsys/gbi/ for more information.

[112] "49th Missile Defense Battalion," U.S. Army Alaska, at https://home.army.mil/alaska/index.php/fort-greely/unitstenants/49th-missile-defense-battalion; "59th Signal," U.S. Army Alaska, at https://home.army.mil/alaska/index.php/fort-greely/unitstenants/59th-signal-nec; "Cold Regions Test Center," U.S. Army Test and Evaluation Command, at https://www.atec.army.mil/crtc/.

[113] "FY2022 Base Structure Report." "3rd Wing Units," 3rd Wing, at https://www.jber.jb.mil/Units/3wg/ and "176th Wing Units," 176th Wing, at https://www.176wg.ang.af.mil/Units/.

[114] "FY2022 Base Structure Report," and "354th Operations Group," Eielson Air Force Base, at https://www.eielson.af.mil/About-Us/Units/354th-Operations-Group/.

Clear Space Force Station. Clear Space Force Station is a Space Force installation located about 75 miles southwest of Fairbanks, AK. It occupies approximately 11,400 acres, and hosts the 13th and 213th Space Warning Squadrons, which provide missile warning and defense as well as space domain awareness.[115]

Other sites. In addition to the five installations detailed above, Alaska is home to the Northern Warfare Training Center, an Army training site in Black Rapids, AK that provides training for cold weather and mountain environments; the COBRA DANE L-band missile defense radar site located in Shemya, AK; and several auxiliary airfields, including Eareckson Air Station in Shemya, AK.[116]

Washington

Joint Base Lewis-McChord (JBLM). JBLM is a joint Army-Air Force installation, consisting of a main base area, located about nine miles southwest of Tacoma, WA and the Yakima Training Center, located near Yakima, WA. The main base area occupies approximately 87,000 acres, while the Yakima Training Center occupies approximately 323,000 acres.[117] JBLM serves as the headquarters for the Army's I Corps, which encompasses about 44,000 soldiers in the Indo-Pacific region. Army units based at JBLM include the 7th Infantry Division, the 1st Multi-Domain Task Force, and the 5th Security Force Assistance Brigade.[118] JBLM also hosts the Air Force's 62nd and 446th Airlift Wings (Reserve), which together include six C-17 airlift squadrons, as well as the Western Air Defense Sector, a Washington Air National Guard unit responsible for regional air defense operations.[119] JBLM's Yakima Training Center provides a large, versatile training area in a high desert environment, including 25 separate ranges.[120]

Naval Base Kitsap. Naval Base Kitsap is a Navy installation on the Kitsap Peninsula in Washington. It occupies approximately 12,000 acres and hosts a wide array of facilities and tenant commands.[121] Significant units and capabilities at Naval Base Kitsap include two *Nimitz*-class aircraft carriers (USS *Nimitz* and USS *Theodore Roosevelt*); three submarine squadrons (two ballistic and guided missile squadrons comprised of *Ohio*-class submarines and one development

[115] "FY2022 Base Structure Report," and Senior Master Sgt. Julie Avey,"Alaska welcomes newest Space Force Station in Renaming of Clear," 168th Wing Public Affairs, June 16, 2021, at https://ak.ng.mil/Media/News/Article/2661907/alaska-welcomes-newest-space-force-station-in-renaming-of-clear/.

[116] "Northern Warfare Training Center," U.S. Army Alaska, at https://home.army.mil/alaska/index.php/USARAK-units/USARAK-ASC/NWTC; "Cobra Dane," CSIS Missile Defense Project, June 7, 2021 at https://missilethreat.csis.org/defsys/cobra-dane/; 2nd Lt Andrew Harris, "Tail End of the Chain, Tip of the Sword: Eareckson Air Station," at https://www.jber.jb.mil/News/News-Articles/Article/291929/tail-end-of-the-chain-tip-of-the-sword-eareckson-as/.

[117] "FY2022 Base Structure Report." "History," Joint Base Lewis-McChord, at https://home.army.mil/lewis-mcchord/index.php/about/history.

[118] "I Corps," U.S. Army, at https://www.army.mil/icorps#org-about. "7th Infantry Division," U.S. Army, at https://www.army.mil/7thid#org-about. Thomas Brading, "1st Multi-Domain Task Force," U.S. Army News Service, February 1, 2021 at https://www.army.mil/article/242849/first_multi_domain_task_force_plans_to_be_centerpiece_of_army_modernization, and Thomas Brading, "5th SFAB: More missions, fixed Indo-Pacific presence ahead," February 25, 2021 at https://www.army.mil/article/243702/5th_sfab_more_missions_fixed_indo_pacific_presence_ahead.

[119] "62nd Airlift Wing," U.S. Air Force, at https://www.mcchord.af.mil/Units/ "446th Airlift Wing," U.S. Air Force, at https://www.446aw.afrc.af.mil/Units/446th-AW-Units/, and "Western Air Defense Sector – About Us," Western Air Defense Sector, at https://www.wads.ang.af.mil/About-Us/.

[120] "Yakima Training Center," Joint Base Lewis-McChord, at https://home.army.mil/lewis-mcchord/index.php/units-tenants/yakima-training-center.

[121] "Naval Base Kitsap," Commander, Navy Region Northwest, at https://cnrnw.cnic.navy.mil/Installations/NAVBASE-Kitsap/.

squadron comprised of *Seawolf*-class submarines); one unmanned undersea vehicle (UUV) development squadron; the Puget Sound Naval Shipyard and Intermediate Maintenance Facility (a Navy-owned and operated shipyard that maintains, upgrades, and retires naval vessels; the shipyard also includes Trident Refit Facility Bangor, which maintains and upgrades Indo-Pacific-based ballistic missile submarines); Strategic Weapons Facility Pacific (a facility that stores, maintains, and upgrades submarine-based nuclear weapons); and Manchester Fuel Depot (the largest underground DOD fuel storage facility on the West Coast, with an average annual throughput of 2.3 million barrels of fuel).[122]

Naval Station Everett. Naval Station Everett is a Navy installation located in Everett, WA. The main base occupies approximately 217 acres, but the installation also includes the following noncontiguous areas: Naval Radio Station Jim Creek (responsible for communication with submarines operating in the Pacific); Naval Facility Pacific Beach (a training facility for naval aviators); and Naval Family Support Complex Smokey Point (a facility for family and morale, welfare, and recreation activities).[123] Naval Station Everett is the homeport for seven *Arleigh Burke*-class guided missile destroyers and two Coast Guard vessels (a coastal patrol boat and a buoy tender).[124]

Naval Air Station Whidbey Island. Naval Air Station Whidbey Island is a Navy installation located near Oak Harbor, WA. It occupies approximately 7,200 acres, and hosts thirteen EA-18 electronic attack squadrons, five P-8 maritime patrol squadrons, two P-3 maritime patrol squadrons, and one EP-3 reconnaissance squadron.[125]

Fairchild Air Force Base. Fairchild Air Force Base is an Air Force installation located about 12 miles west of Spokane, WA. It occupies approximately 4,300 acres, and hosts the Air Force's 92nd Air Refueling Wing and the Washington Air National Guard's 141st Air Refueling Wing, which operate KC-135 refueling aircraft.[126]

[122] Ibid., "Submarine Group 19", Commander, Submarine Force, U.S. Pacific Fleet, at https://www.csp.navy.mil/css19/; "Submarine Development Squadron 5", Commander, Submarine Force, U.S. Pacific Fleet, at https://www.csp.navy.mil/csds5/Submarines/ "Strategic Weapons Facility Pacific," U.S. Navy, at https://www.ssp.navy.mil/about/locations.html "Fleet Logistics Center Puget Sound," Naval Supply Systems Command, at https://www.navsup.navy.mil/NAVSUP-Enterprise/NAVSUP-FLC-Puget-Sound/About-FLC-Puget-Sound/.

[123] "FY2022 Base Structure Report," and "Naval Station Everett," Commander, Navy Region Northwest, at https://cnrnw.cnic.navy.mil/Installations/NS-Everett/About/Installation-Guide/.

[124] "Homeported Ships," Commander, Navy Region Northwest, at https://cnrnw.cnic.navy.mil/Installations/NS-Everett/About/Homeported-Ships/.

[125] "FY 2022 Base Structure Report," "Patrol and Reconnaissance Wing 10," Commander, Navy Region Northwest, at https://cnrnw.cnic.navy.mil/Installations/NAS-Whidbey-Island/About/Aviation-Commands/Patrol-And-Reconnaissance-Wing-10/ and "Electronic Attack Wing," Commander, Navy Region Northwest, at https://cnrnw.cnic.navy.mil/Installations/NAS-Whidbey-Island/About/Aviation-Commands/Electronic-Attack-Wing/, and "P-3C Orion," Naval Air Systems Command, at https://www.navair.navy.mil/product/P-3C-Orion.

[126] "FY2022 Base Structure Report," "Units," Fairchild Air Force Base, at https://www.fairchild.af.mil/About/Units/.

California[127]

Naval Air Station Lemoore. Naval Air Station Lemoore is a Navy installation located about 30 miles south of Fresno, CA. It occupies approximately 40,000 acres, and hosts three F-35 fighter squadrons and thirteen F/A-18 fighter squadrons.[128]

Naval Base Ventura County. Naval Base Ventura County is a Navy installation located approximately 55 miles west of Los Angeles in Ventura County, CA. It is comprised of the three operating areas of Point Mugu, Port Hueneme, and San Nicolas Island, which together occupy approximately 19,400 acres. Significant units, facilities, and capabilities at Naval Base Ventura County include four E-2/D command and control squadrons, the 30th Naval Construction Regiment (the Pacific 'Seabees'), Unmanned Surface Vessel (USV) Division One, and the Point Mugu Sea Range (a 36,000 square mile area for testing missiles, free-fall weapons, and electronic warfare systems).[129]

Naval Base Coronado. Naval Base Coronado is a Navy installation in San Diego, CA. It is comprised of eight constituent sites: Naval Air Station North Island, Coronado; Naval Amphibious Base, Coronado; Naval Outlying Landing Field, Imperial Beach; Naval Auxiliary Landing Field, San Clemente Island; Silver Strand Training Complex-South; Camp Michael Monsoor Mountain Warfare Training Center; Camp Morena; and the Remote Training Site, Warner Springs. Together, these occupy over 57,000 acres and host a wide array of units and tenant commands, including sixteen helicopter squadrons, two fixed-wing squadrons, two *Nimitz*-class aircraft carriers, four Sea-Air-Land (SEAL) teams, and Commander, Naval Special Warfare Command (SPECWAR).[130]

Naval Base San Diego. Naval Base San Diego is a Navy installation in San Diego, CA. It occupies approximately 1,600 acres, and serves as the homeport for most of the Naval Surface Force, U.S. Pacific Fleet (SURFPAC).[131] In addition to 56 SURFPAC vessels (including destroyers, cruisers, littoral combat ships, amphibious transport docks, and other warships) Naval Base San Diego is also the homeport of the hospital ship USNS *Mercy*.

Naval Base Point Loma. Naval Base Point Loma is a Navy installation in San Diego, CA. It occupies approximately 1,100 acres and hosts several significant units and tenant commands. These include one submarine squadron (which includes four *Los Angeles*-class attack submarines), a floating dry dock (used to service submarines and smaller vessels), Commander

[127] Owing to the unique scale and diversity of defense infrastructure in California (and in keeping with the definition of the Indo-Pacific region adopted by this report), several major installations that do not directly or specifically support operations in the Indo-Pacific region have been excluded from this section (e.g., Edwards Air Force Base, Naval Air Weapons Station China Lake).

[128] "Naval Air Station Lemoore," Commander, Navy Region Southwest, at https://cnrsw.cnic.navy.mil/Installations/NAS-Lemoore/.

[129] "Naval Base Ventura County," Commander, Navy Region Southwest, at https://cnrsw.cnic.navy.mil/Installations/NAVBASE-Ventura-County/About/; "Navy Cuts Ribbon on Unmanned Vehicle Testing Facilities," Naval Sea Systems Command, at https://www.navsea.navy.mil/Media/News/Article/2872980/navy-cuts-ribbon-on-unmanned-vehicle-testing-facilities-at-port-hueneme/; "Point Mugu," Naval Air Systems Command, at https://www.navair.navy.mil/PtMugu.

[130] "Naval Base Coronado," Commander, Navy Region Southwest, at https://cnrsw.cnic.navy.mil/Installations/NAVBASE-Coronado/.

[131] "Naval Base San Diego," Commander, Navy Region Southwest, at https://cnrsw.cnic.navy.mil/Installations/NAVBASE-San-Diego/.

U.S. 3rd Fleet, Naval Information Warfare Systems Command (formerly known as SPAWAR), and Naval Mine and Anti-Submarine Warfare Command.[132]

Marine Corps Air Station Miramar. Marine Corps Air Station Miramar is a Marine Corps installation in San Diego, CA. It occupies approximately 22,880 acres and hosts the 3rd Marine Aircraft Wing's Marine Aircraft Groups 11 and 16, which together include two F/A-18C fighter squadrons, one F-35C fighter squadron, one KC-130 tactical aerial refueling squadron, four V-22 squadrons, and four CH-53 heavy helicopter squadrons.[133]

Marine Corps Base Camp Pendleton. Marine Corps Base Camp Pendleton is a Marine Corps installation located approximately 38 miles north of San Diego, CA. It occupies approximately 125,000 acres, and serves as the headquarters of I Marine Expeditionary Force (MEF). I MEF subordinate commands and units based at Camp Pendleton include the 1st Marine Division, the 1st Marine Logistics Group, and the 3rd Marine Aircraft Wing's Marine Aircraft Group 39 (which includes four attack helicopter squadrons and two V-22 squadrons).[134]

Beale Air Force Base. Beale Air Force Base is an Air Force installation located approximately 45 miles north of Sacramento, CA. It occupies approximately 22,450 acres, and hosts the 9th Reconnaissance Wing (which operates U-2 reconnaissance aircraft and RQ-4 reconnaissance unmanned aerial vehicles) and the Air Force Reserve's 940th Air Refueling Wing (which includes a squadron of KC-135R aerial refueling aircraft).[135] Beale Air Force Base is also home to the Space Force's 7th Space Warning Squadron, which operates an Upgraded Early Warning Radar system to detect and characterize sea-launched or intercontinental ballistic missile launches targeting North America.[136]

Travis Air Force Base. Travis Air Force Base is an Air Force installation located approximately three miles east of Fairfield, CA. It occupies approximately 6,440 acres, and handles more cargo and passenger traffic than any other air base in the United States.[137] It hosts the 60th Air Mobility Wing (which includes one C-17 airlift squadron, one C-5 airlift squadron, and two KC-10 refueling squadrons) and the Air Force Reserve's 349th Air Mobility Wing (which includes one C-17 airlift squadron, one C-5 airlift squadron, and two KC-10 refueling squadrons).[138]

Vandenberg Space Force Base. Vandenberg Space Force Base is a Space Force installation located in Santa Barbara County, CA. It occupies approximately 99,600 acres, and provides space launch and range capabilities for DOD, other U.S. government agencies, and commercial partners. Vandenberg Space Force Base is the home of Space Launch Delta 30, which operates

[132] "FY2022 Base Structure Report," "History – Naval Base Point Loma," Commander, Navy Region Southwest, at https://cnrsw.cnic.navy.mil/Installations/NAVBASE-Point-Loma/About/History/; and https://www.navy.mil/Press-Office/News-Stories/Article/3134642/css-11-welcomes-peruvian-submarine-to-san-diego/.

[133] "FY2022 Base Structure Report," and "3rd Marine Aircraft Wing," 3rd Marine Aircraft Wing, at https://www.3rdmaw.marines.mil/.

[134] "Introduction," MCB Camp Pendleton, at https://www.pendleton.marines.mil/Main-Menu/Introduction/; and "Marine Aircraft Group 39," 3rd Marine Aircraft Wing, at https://www.3rdmaw.marines.mil/Units/MAG-39/.

[135] "FY2022 Base Structure Report" "Units," Beale Air Force Base, available at https://www.beale.af.mil/Library/Units/.

[136] "7th Space Warning Squadron Fact Sheet," Beale Air Force Base, available at https://www.beale.af.mil/Library/Fact-Sheets/Display/Article/279997/7th-space-warning-squadron/.

[137] "FY2022 Base Structure Report," and "Travis Air Force Base," U.S. Air Force, at https://www.travis.af.mil/Information/.

[138] "FY2022 Base Structure Report," and "Travis Air Force Base," U.S. Air Force, at https://www.travis.af.mil/Information/; and "349th Air Mobility Wing Fact Sheet," 349th Air Mobility Wing, at https://www.349amw.afrc.af.mil/About-Us/Fact-Sheets/Display/Article/690252/349th-air-mobility-wing-afrc/.

sixteen on-site launch facilities and complexes.[139] Vandenberg Space Force Base also hosts ground-based interceptors to provide midcourse ballistic missile defense for western North America.[140]

Hawaii

Joint Base Pearl Harbor-Hickam (JBPH-H). JBPH-H is a joint Navy-Air Force installation located on Oahu, HI. It occupies approximately 27,000 acres, and serves as the headquarters for U.S. Indo-Pacific Command, U.S. Pacific Fleet, U.S. Pacific Air Forces, and Defense Logistics Agency-Indo-Pacific.[141] JBPH-H is the homeport for approximately 25 Navy vessels (including ten destroyers and cruisers and thirteen attack submarines); it also hosts the Air Force's 15th Wing (which includes one C-17 airlift squadron, one C-37 airlift squadron, and one F-22 fighter squadron) and the Hawaii Air National Guard's 154th Wing (which includes one F-22 fighter squadron, one KC-135 refueling squadron, and one C-17 airlift squadron).[142] Other significant facilities and capabilities at JBPH-H include the Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility (a Navy-owned and operated shipyard that maintains, upgrades, and retires naval vessels), the 613th Air Operations Center (which provides command and control for Air Force operations throughout the Indo-Pacific region), and the Red Hill Bulk Fuel Facility (a large underground fuel storage facility which DOD is currently defueling in response to the JBPH-H Drinking Water Emergency).[143]

Schofield Barracks. Schofield Barracks is an Army installation located in Honolulu, HI. It occupies approximately 16,000 acres, and is the home of the Army's 25th Infantry Division.[144]

Fort Shafter. Fort Shafter is an Army installation located in Honolulu, HI. It occupies approximately 585 acres, and is the headquarters of U.S. Army Pacific (ARPAC). Other significant units and facilities at Fort Shafter include the U.S. Army Corps of Engineers Pacific Ocean Division, the 94th Army Air and Missile Defense Command, and the 8th Theater Sustainment Command.[145]

Wheeler Army Airfield. Wheeler Army Airfield is an Army installation located in Honolulu, HI. It occupies approximately 1,400 acres, and hosts the Army Garrison Hawaii headquarters as well as the Hawaii Air National Guard's 298th Air Defense Group.[146]

Pacific Missile Range Facility (PMRF) Barking Sands. PMRF Barking Sands is a Navy installation located approximately five miles outside of Kekaha on the island of Hawaii, HI. It

[139] "Vandenberg Space Force Base," Vandenberg Space Force Base, at https://www.vandenberg.spaceforce.mil/About-Us/History/.

[140] "Vandenberg Launches GBI," Vandenberg Space Force Base, at https://www.afspc.af.mil/News/Photos/igphoto/2000398793/.

[141] "About," Commander, Navy Region Hawaii, at https://cnrh.cnic.navy.mil/Installations/JB-Pearl-Harbor-Hickam/About/.

[142] "Fleet Information," Commander, Navy Region Hawaii, at https://cnrh.cnic.navy.mil/About/Fleet-Information/; "15th Wing Fact Sheet," 15th Wing, at https://www.15wing.af.mil/About-Us/Fact-Sheets/Display/Article/376262/15th-wing/.

[143] "613th Air Operations Center," Pacific Air Forces, at https://www.pacaf.af.mil/Info/Fact-Sheets/Display/Article/909886/613th-air-operations-center/.

[144] "FY2022 Base Structure Report", "25th Infantry Division," U.S. Army Hawaii, at https://home.army.mil/hawaii/index.php/units-tenants/25thID.

[145] "FY2022 Base Structure Report." "Tenant Units," U.S. Army Hawaii, at https://home.army.mil/hawaii/index.php.

[146] "Wheeler Field," State of Hawaii Aviation, at https://aviation.hawaii.gov/airfields-airports/oahu/wheeler-field/. "Tenant Units," U.S. Army Hawaii, at https://home.army.mil/hawaii/index.php.

occupies approximately 2,500 acres of land on Hawaii, but the range encompasses over 1,100 square miles of instrumented ocean and 42,000 square miles of controlled airspace. PMRF Barking Sands is the world's largest instrumented sea range, supporting training and RDT&E activities involving surface, undersea, air, and space-based weapons systems.[147]

Marine Corps Base Hawaii. Marine Corps Base Hawaii is a Marine Corps installation located approximately 12 miles northeast of downtown Honolulu, HI. It occupies approximately 3,200 acres, and hosts the 3rd Marine Littoral Regiment, 1st Battalion 12th Marines, 3rd Radio Battalion III MEF, and Marine Aircraft Group 24 (which includes one light attack helicopter squadron, two MV-22 squadrons, and one UAV squadron).[148]

Wake Island

Wake Island Airfield. Wake Island Airfield is an Air Force installation located on Wake Atoll (an unincorporated U.S. territory approximately 2,100 nautical miles west of Honolulu, HI). It occupies approximately 2,600 acres and hosts 11th Air Force, Detachment 1-Pacific Air Forces Regional Support Center. Wake Island Airfield primarily supports trans-pacific military air traffic and missile test activities.[149]

Guam and the Northern Mariana Islands

Naval Base Guam. Naval Base Guam is a Navy installation located in Guam. As with other DOD sites in Guam and the Northern Mariana Islands, Naval Base Guam is managed as part of Joint Region Marianas.[150] Naval Base Guam encompasses six noncontiguous sites across the island: Barrigada, North Finegayan, Ordnance Annex, Orote Point, Polaris Point, and Tenjo and Sasa Valley. The installation hosts one submarine squadron (consisting of five *Los Angeles*-class attack submarines), two submarine tenders, and Navy Expeditionary Forces Command Pacific (CTF-75).[151]

Marine Corps Base Camp Blaz. Marine Corps Camp Blaz is a Marine Corps installation located in Guam and managed as part of Joint Region Marianas. It is the Marine Corps' newest installation, and will host Marine Corps forces currently stationed at Okinawa beginning in the mid-2020s (expected to include a Marine Expeditionary Brigade (MEB) command element, a Marine Infantry Regiment, a Combat Logistics Battalion, and an Air Combat Element). Camp Blaz currently hosts an Army Terminal High Altitude Area Defense (THAAD) battery.[152]

Andersen Air Force Base. Andersen Air Force Base is an Air Force installation located in Guam and managed as part of Joint Region Marianas. It hosts the 36th Wing, which supports rotational

[147] "FY 2022 Base Structure Report." "PMRF Barking Sands," Commander, Navy Region Hawaii, at https://cnrh.cnic.navy.mil/Installations/PMRF-Barking-Sands/.

[148] "FY2022 Base Structure Report." "Mission," Marine Corps Base Hawaii, at https://www.mcbhawaii.marines.mil/Unit-Home/Mission/.

[149] "Wake Island," 15th Wing, at https://www.15wing.af.mil/Units/11th-AF-Det-1-Wake-Island/. "FY2022 Base Structure Report."

[150] "Joint Region Marianas," Joint Region Marianas, at https://jrm.cnic.navy.mil/.

[151] "Submarine Squadron 15," Commander, Submarine Forces, U.S. Pacific Fleet, at https://www.csp.navy.mil/css15/.

[152] Wyatt Olson, "Guam's THAAD Missile Defense Battery will relocate to new Marine Corps Base," *Stars and Stripes*, May 10, 2022 at https://www.stripes.com/theaters/asia_pacific/2022-05-10/guam-us-army-thaad-missile-defense-battery-marine-corps-camp-blaz-5952276.html.

bomber deployments (B-1 and B-52 aircraft) and regional contingency responses, as well as the Navy's Helicopter Sea Combat Squadron 25 (consisting of MH-60S helicopters).[153]

The Marshall Islands, Micronesia, and Palau

U.S. Army Garrison-Kwajalein Atoll. U.S. Army Garrison-Kwajalein Atoll is an Army installation located on Kwajalein Atoll in the Republic of the Marshall Islands. Its main site occupies approximately 1,360 acres, and hosts the Ronald Reagan Ballistic Missile Defense Test Site, a Major Range and Test Base Facility (MRTBF) supporting RDT&E activities for ballistic missile defense systems, strategic systems, and space tracking systems.[154]

Tactical Mobile Over-the-Horizon Radar (Republic of Palau). The Air Force is constructing a site in the Republic of Palau to support the installation of a Tactical Mobile Over-the-Horizon Radar system. Construction should conclude in 2026.[155]

Japan (Mainland)

Camp Zama (including Sagami General Depot and Yokohama North Dock). Camp Zama is an Army installation located about 25 miles southwest of Tokyo, Japan. It occupies approximately 578 acres, and serves as the headquarters for U.S. Army Japan, U.S. Army Garrison Japan, I Corps (Forward), and the U.S. Army Corps of Engineers Japan District.[156] It also hosts Army Aviation Battalion Japan (which operates UH-60L helicopters and UC-35 fixed-wing aircraft), the 38th Air Defense Artillery Brigade, the 35th Combat Sustainment Support Battalion, the 78th Signal Battalion, the 311th Military Intelligence Battalion, the 403rd Logistics Readiness Center, and the 836th Transportation Battalion.[157]

Shariki and Kyogamisaki Communications Sites. Shariki Communications Site and Kyogamisaki Communications Site are Army installations, located respectively in northern and western Honshu, Japan. Each hosts an Army Navy Transportable Radar Surveillance and Control Model 2 (AN/TPY-2) system, used to detect and track ballistic missile threats to the Indo-Pacific and the continental United States.[158]

Fleet Activities Yokosuka. Fleet Activities Yokosuka is a Navy installation located about 43 miles south of Tokyo, Japan. It occupies approximately 568 acres, and hosts a number of surface warships, including a *Nimitz*-class aircraft carrier (the USS *Ronald Reagan*, currently the Navy's only forward deployed carrier), a destroyer squadron (consisting of nine *Arleigh Burke*-class guided-missile destroyers), and three *Ticonderoga*-class guided missile cruisers.[159] The

[153] "Units," Andersen Air Force Base, at https://www.andersen.af.mil/Units/.

[154] "Mission," U.S. Army Garrison – Kwajalein Atoll, at https://home.army.mil/kwajalein/index.php/about/mission.

[155] See "Contracts for Dec. 28, 2022," Department of Defense, at https://www.defense.gov/News/Contracts/Contract/Article/3255710/.

[156] "FY2022 Base Structure Report."

[157] "Honshu," U.S. Army Japan, at https://www.usarj.army.mil/misc/map_honshu/.

[158] Jason Cutshaw, "Shariki Soldiers Defend Homeland, Allies," U.S. Army, October 8, 2019, at https://www.army.mil/article/227673/shariki_soldiers_defend_homeland_allies; Charlie Maib, "Kyogamisaki Communications Site," U.S. Army, March 7, 2022, at https://www.army.mil/article/254485/kyogamisaki_communications_site_knife_edge_of_freedom.

[159] "Destroyer Squadron 15," Naval Surface Force, U.S. Pacific Fleet, at https://www.surfpac.navy.mil/cds15/; "Ships," Naval Surface Force, U.S. Pacific Fleet, at https://www.surfpac.navy.mil/Ships/.

installation is also home to the U.S. Naval Ship Repair Facility and Japan Regional Maintenance Center.[160]

Fleet Activities Sasebo. Fleet Activities Sasebo is a Navy installation located in western Kyushu, Japan. It occupies approximately 150 acres, and hosts a number of surface warships, including an amphibious squadron (consisting of one *America*-class amphibious assault ship, two *San Antonio*-class amphibious transport docks, and two *Whidbey Island*-class dock landing ships) and a mine countermeasure squadron (consisting of four *Avenger*-class mine countermeasure ships).[161]

Naval Air Facility Atsugi. Naval Air Facility Atsugi is a joint U.S. Navy-Japan Maritime Self Defense Force installation located about 20 miles southwest of Tokyo, Japan. It occupies approximately 1,234 acres, and serves as a support base for certain Carrier Air Wing Five aircraft (including a helicopter maritime strike squadron and a helicopter sea combat squadron).[162]

Marine Corps Air Station Iwakuni. Marine Corps Air Station Iwakuni is a Marine Corps installation located in southern Honshu, Japan. It occupies approximately 7,100 acres, and hosts two F-35 fighter squadrons and one KC-130 aerial refueling squadron. It also serves as a support base for most Carrier Air Wing 5 aircraft (including four F/A-18 fighter squadrons, one EA-18 electronic attack squadron, and one E-2D command and control squadron).[163]

Yokota Air Base. Yokota Air Base is a joint U.S. Air Force and Japan Air Self-Defense Force installation located in the greater Tokyo metropolitan area, Japan. It occupies approximately 1,750 acres, and serves as the headquarters for U.S. Forces Japan and the Fifth Air Force.[164] Yokota Air Base also hosts the 374th Airlift Wing, which includes one C-130J squadron and one squadron operating UH-1N helicopters and C-12J aircraft.[165]

Misawa Air Base. Misawa Air Base is an Air Force installation located in northern Honshu, Japan. It occupies approximately 3,860 acres, and hosts the 35th Fighter Wing, which includes two F-16 fighter squadrons.[166]

Japan (Okinawa)

Army Garrison Okinawa. Army Garrison Okinawa encompasses a number of noncontiguous Army installations on the island of Okinawa, including Torii Station, Fort Buckner, Tengan Pier, Kuwae Depot Chimuwan, White Beach Fuel Tank Farms, and Naha Military Port. The garrison supports logistical functions (particularly fuel storage and distribution) and can provide regional contingency support.[167]

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[160] "U.S. Naval Ship Repair Facility and Japan Regional Maintenance Center," U.S. Navy, at https://www.srf.navy.mil/.

[161] "History," Commander, Fleet Activities Sasebo, at https://cnrj.cnic.navy.mil/Installations/CFA-Sasebo/About/History/.

[162] "FY2022 Base Structure Report", and "Carrier Air Wing 5 – Squadrons," Naval Air Force, U.S. Pacific Fleet at https://www.airpac.navy.mil/Organization/Carrier-Air-Wing-CVW-5/Squadrons/.

[163] "History of the Iwakuni Air Station," U.S. Marine Corps, p. 2, at https://www.mcasiwakuni.marines.mil/Portals/112/Docs/about/About_Iwakuni.pdf?ver=2020-03-04-205157-940. Note that the acreage given on the official MCAS Iwakuni website differs from that given by the "FY2022 Base Structure Report," which lists 7,110.64 acres for the installation. A number of other sources agree with a figure of 1,300-1,400 acres (including *Military One Source* at https://installations.militaryonesource.mil/in-depth-overview/marine-corps-air-station-iwakuni).

[164] "FY2022 Base Structure Report."

[165] "Units," Yokota Air Base, at https://www.yokota.af.mil/About-Us/Units/.

[166] "FY2022 Base Structure Report". "35th Fighter Wing," Misawa Air Base, at https://www.misawa.af.mil/About-Us/Fact-Sheets/Display/Article/773149/35th-fighter-wing/.

[167] "History," U.S. Army Garrison Okinawa, at https://home.army.mil/okinawa/index.php/about/history.

Marine Corps Base Camp Butler. Marine Corps Base (MCB) Camp Butler encompasses contiguous and noncontiguous Marine Corps installations (including Camps Foster, Lester, Courtney, McTureous, Kinser, Hansen, Schwab, and Gonsalves) that together occupy approximately 40,000 acres on the island of Okinawa.[168] MCB Camp Butler hosts the III Marine Expeditionary Force (III MEF), a Marine Air-Ground Task Force and the only permanently forward-deployed Marine Expeditionary Force. Subordinate units of III MEF stationed at MCB Camp Butler include the 3rd Marine Division, 1st Marine Aircraft Wing, 3rd Marine Logistics Group, 3rd Marine Expeditionary Brigade, 31st Marine Expeditionary Unit and III MEF Information Group. Other significant facilities and capabilities located at MCB Camp Butler include the Jungle Warfare Training Center and other training areas and live fire ranges.[169]

Marine Corps Air Station Futenma. Marine Corps Air Station (MCAS) Futenma is a Marine Corps installation located in southern Okinawa. It occupies approximately 1,200 acres, and hosts two medium tilt-rotary squadrons (operating CH-53E heavy-lift helicopters, AH-1Z Viper attack helicopters, and UH-1Y utility helicopters as well as MV-22 tiltrotor aircraft) and support from Marine Aircraft Group 36.[170]

Kadena Air Base. Kadena Air Base is an Air Force installation located near Okinawa City, Okinawa, Japan. It occupies approximately 4,900 acres, and hosts the 18th Wing, subordinate units of which include a KC-135 refueling squadron, an E-3 AWACS airborne air control squadron, and an HH-60 rescue squadron.[171] Until November 2022, Kadena also hosted two F-15D/D fighter squadrons; as of this writing, the Air Force is rotationally deploying F-22 fighter aircraft from Joint Base Elmendorf-Richardson, Alaska.[172]

Republic of Korea

Camp Humphreys. Camp Humphreys is an Army installation located in Pyeongtaek, South Korea (about 40 miles south of Seoul). Camp Humphreys occupies approximately 3,500 acres, and serves as the headquarters for U.S. Forces Korea, the Eighth Army, and U.S. Marine Corps Forces Korea. [173] Camp Humphreys also hosts the 2nd Infantry Division/Republic of Korea-U.S. Combined Division, the Army's only permanently forward-stationed division (major units include a rotational armored brigade combat team, two field artillery brigades, and a combat aviation brigade).[174]

U.S. Army Garrison Daegu (Camps Henry, Walker, George and Carroll; Busan Pier 8). U.S. Army Garrison Daegu encompasses five significant Army installations in eastern South Korea: Camps Henry, Walker, and George (located in the Daegu metropolitan area); Camp Carroll (located in North Gyeongsan province); and Busan Pier 8 (located in the Busan metropolitan

[168] "Introduction – Marine Corps Base Camp Butler," DOD Environment, Safety & Occupational Health Network and Information Exchange, at https://www.denix.osd.mil/awards/denix-files/sites/12/2018/03/CRM-LI-USMC-Butler-Narrative-508C.pdf. Note that the FY2022 Base Structure Report does not provide information for the entire MCB Camp Butler site.

[169] "Marine Corps Camp Butler," Marine Corps Camp Butler, at https://www.mcbbutler.marines.mil/.

[170] "About," 1st Marine Air Wing, at https://www.1stmaw.marines.mil/Unit-Home/About/.

[171] "FY2022 Base Structure Report", and "18th Wing Fact Sheet," U.S. Air Force, at https://www.5af.pacaf.af.mil/About-Us/Fact-Sheets/Display/Article/1483830/18th-wing/.

[172] https://www.stripes.com/branches/air_force/2022-11-22/air-force-kadena-f22-raptor-rotations-8144899.html.

[173] "History, Camp Humphreys, at https://home.army.mil/humphreys/index.php/about/history.

[174] "2nd Infantry Division (2ID)-Korea," 2nd Infantry Division, at https://www.2id.korea.army.mil/.

area). Significant units and capabilities include the 19th Sustainment Command (Expeditionary), the 403rd Army Field Support Brigade-Korea, and Material Supply Center-Korea.[175]

U.S. Army Garrison Yongsan-Casey (K-16, Yongsan Garrison, and Camp Casey). U.S. Army Garrison Yongsan-Casey encompasses installations in the Seoul metropolitan area of South Korea: the K-16 airfield, Yongsan Garrison, and Camp Casey. In accordance with the terms of two bilateral agreements, DOD is gradually returning these sites to the South Korean government, with many former functions and units moving to Camp Humphreys.[176]

Fleet Activities Chinhae. Fleet Activities Chinhae is a Navy installation in Changwon City, South Korea. The only Navy installation in Korea, Fleet Activities Chinhae hosts U.S. Naval Forces, Detachment Chinhae, a small detachment of approximately 300 sailors which coordinates operations, exercises, and other institutional cooperation between the U.S. and ROK Navies.[177]

Marine Corps Installation Camp Mujuk. Marine Corps Installation Camp Mujuk is a Marine Corps installation located in Pohang, South Korea. The only Marine Corps installation in Korea, Camp Mujuk supports rotational Marine Corps units and combined U.S.-ROK training exercises.[178]

Osan Air Base. Osan Air Base is an Air Force installation located about 20 miles south of Seoul, South Korea. It occupies approximately 1,500 acres, and serves as the headquarters of the Seventh Air Force. Osan Air Base also hosts the 51st Fighter Wing (which includes one A-10 attack squadron and one F-16 fighter squadron) and one U-2 reconnaissance squadron from the 9th Reconnaissance Wing.[179]

Kunsan Air Base. Kunsan Air Base is an Air Force installation located about 7 miles west of Gunsan City. It occupies approximately 2,549 acres, and hosts the 8th Fighter Wing (which includes two F-16 fighter squadrons).[180]

The Philippines

Nine Enhanced Defense Cooperation Agreement (EDCA) Sites. Under the Enhanced Defense Cooperation Agreement, the U.S. military has rotational access to nine defense sites across the Philippines. Five of these installations were agreed upon in 2014 (Antonio Bautista Air Base in Palawan, Basa Air Base in Pampanga, Fort Magsaysay in Nueva Ecija, Lumbia Airport in Cagayan de Oro, Benito Ebuen Air Base in Cebu), while the remaining four were agreed upon in 2023 (Naval Base Camilo Osias in Sta Ana, Cagayan; Lal-lo Airport in Lal-lo, Cagayan; Camp Melchor Dela Cruz in Gamu, Isabela and Balabac Island in Palawan).[181]

[175] "About," U.S. Army Garrison Gaegu, at https://www.army.mil/daegu#org-about.

[176] These agreements are the 2002 Land Partnership Plan (available at https://2001-2009.state.gov/documents/organization/98126.pdf) and the 2004 Yongsan Relocation Plan (available at https://2001-2009.state.gov/documents/organization/95894.pdf).

[177] "Commander, Fleet Activities Chinhae" Commander, Navy Region Korea, at https://cnrk.cnic.navy.mil/Installations/CFA-Chinhae/.

[178] "MCI Camp Mujuk," Marine Corps, at https://www.mcipac.marines.mil/Installations/Camp-Mujuk.

[179] "Osan Air Base," Pacific Air Forces, https://www.pacaf.af.mil/Info/Fact-Sheets/Display/Article/909898/osan-air-base/.

[180] "FY2022 Base Structure Report," and "8th Fighter Wing," Kunsan Air Base, available at kunsan.af.mil/About-Us/Fact-Sheets/Article/412731/8th-fighter-wing/.

[181] "U.S., Philippines Cut the Ribbon on Enhanced Defense Cooperation Project," U.S. Embassy in the Philippines, at https://www.pacom.mil/Media/News/News-Article-View/Article/1744271/us-philippines-cut-the-ribbon-on-enhanced-
(continued...)

Singapore

Navy Region Center Singapore. The U.S. Navy maintains a presence in Singapore primarily to manage and provide logistical support for visiting surface warships (mainly at Changi Naval Base and Sembawang shipyard). In addition, Paya Lebar Air Base hosts rotational Air Force personnel and aircraft. Other DOD activities present in Singapore and managed through Navy Region Center Singapore include Logistics Group Western Pacific, Naval Supply Systems Command Fleet Logistics Center Yokosuka Site Singapore, Military Sealift Command Far East, and Defense Contract Management Agency Singapore.[182]

Australia

Royal Australian Air Force (RAAF) Base Darwin and Robertson Barracks. RAAF Base Darwin and Robertson Barracks are two Australian military installations located in the Northern Territory. Since 2011, they have hosted a rotational U.S. Marine Air Ground Task Force known as Marine Rotational Force-Darwin (MRF-D). MRF-D rotations are typically six months and involve combined exercises and training with the Australian military and other regional partners.[183]

RAAF Base Tindal. RAAF Base Tindal is an RAAF installation in Australia's Northern Territory that hosts rotational deployments of U.S. aircraft and personnel and supports the Enhanced Air Cooperation (EAC) initiative between the RAAF and U.S. Air Force. To support its usage of the base (which includes the rotational deployment of B-52 bomber aircraft), the United States is currently funding construction of a new bulk fuel facility.[184]

Naval Communication Station Harold E. Holt. Naval Communication Station Harold E. Holt is a naval installation jointly operated by the Royal Australian Navy (RAN) and the U.S. Navy. The site occupies approximately 5,100 acres, and broadcasts communications to Australian and U.S. submarines using Very Low Frequency (VLF) communications.[185]

Other Sites. As part of the Australia-United Kingdom-U.S. (AUKUS) pact, the Royal Australian Navy's (RAN) HMAS Stirling naval base (located in Perth, Western Australia) will host

defense-cooperation-agreement-project/, "Philippines, U.S. Announce Four New EDCA Sites," Department of Defense, February 1, 2023, ar https://www.defense.gov/News/Releases/Release/Article/3285566/philippines-us-announce-four-new-edca-sites/, and "4 Additional EDCA Sites," Presidential Communications Office, April 2, 2023 at https://pco.gov.ph/news_releases/palace-4-additional-edca-sites-to-boost-ph-humanitarian-relief-operations-in-disasters/.

[182] "Tenant Commands," Commander, Navy Region Japan, at https://cnrj.cnic.navy.mil/Installations/Singapore-Area-Coordinator/About/Tenant-Commands/.

[183] See Capt. Joseph DiPietro, "Marine Rotational Force-Darwin 22 Arrives in Darwin," U.S. Indo-Pacific Command, March 17, 2022 at https://www.pacom.mil/Media/News/News-Article-View/Article/2970258/marine-rotational-force-darwin-22-arrives-in-darwin/.

[184] See Seth Robson, "U.S. military's footprint is expanding in northern Australia to meet a rising China," *Stars and Stripes*, September 8, 2022, at https://www.stripes.com/theaters/asia_pacific/2022-09-08/australia-military-construction-projects-china-7251762.html, and the "Military Construction" in the "Issues for Congress" section of this report.

[185] "FY2022 Base Structure Report"; 'open-source' information about NCS Harold E Holt is not widely available, but for a basic overview, see "Raytheon Australia Commences Operations at the Naval Communications Station, Harold E. Holt," Raytheon Australia, November 4, 2011 https://raytheon.au.mediaroom.com/news-release-archive? item=78.

rotational deployments of U.S. and U.K. nuclear-powered submarines beginning in 2027. U.S. submarines will also increase the frequency of visits to HMAS Stirling beginning in 2023.[186]

British Indian Ocean Territory (Diego Garcia)

Naval Support Facility Diego Garcia. Naval Support Facility Diego Garcia is a Navy installation located on Diego Garcia, an atoll in the British Indian Ocean Territory. It occupies approximately 6,200 acres, and its primary function is to provide logistical support for forces operating in and around the Persian Gulf and Indian Ocean. Significant units and capabilities based at Diego Garcia include a maritime pre-positioning squadron and detachments from the U.S. Fleet and Industrial Supply Center, Air Mobility Command, Pacific Air Force, and the 21st and 22nd Space Operations Squadrons (providing space domain awareness and satellite control, respectively).[187]

Table A-1. U.S. Defense Sites in the Indo-Pacific

U.S.-owned, -operated, or -utilized sites included in this report

No.	Site Name	Location	Service	U.S. territory?	DOD-operated?
1	Fort Wainwright	Alaska	Army	Yes	Yes
2	Fort Greely	Alaska	Army	Yes	Yes
3	Joint Base Elmendorf-Richardson	Alaska	Joint (Army and Air Force)	Yes	Yes
4	Eielson Air Force Base	Alaska	Air Force	Yes	Yes
5	Eareckson Air Station	Alaska	Air Force	Yes	Yes
6	Clear Space Force Station	Alaska	Space Force	Yes	Yes
7	Joint Base Lewis-McChord	Washington	Joint (Army and Air Force)	Yes	Yes
8	Naval Base Kitsap	Washington	Navy	Yes	Yes
9	Naval Station Everett	Washington	Navy	Yes	Yes
10	Naval Air Station Whidbey Island	Washington	Navy	Yes	Yes
11	Fairchild Air Force Base	Washington	Air Force	Yes	Yes
12	Naval Base Ventura County	California	Navy	Yes	Yes
13	Naval Base Coronado	California	Navy	Yes	Yes
14	Naval Base San Diego	California	Navy	Yes	Yes
15	Naval Base Point Loma	California	Navy	Yes	Yes
16	Marine Corps Air Station Miramar	California	Marine Corps	Yes	Yes
17	Marine Corps Base Camp Pendleton	California	Marine Corps	Yes	Yes

[186] David Weber, "AUKUS deal: Jim Chalmers announces $8 billion HMAS Stirling naval base expansion," *Australian Broadcasting Corporation,* March 14, 2023 https://www.abc.net.au/news/2023-03-14/aukus-deal-jim-chalmers-hmas-stirling-expansion-perth-wa/102092058.

[187] "About Diego Garcia," Commander, Navy Region Japan, at https://cnrj.cnic.navy.mil/Installations/NSF-Diego-Garcia/About/About-Diego-Garcia/.

No.	Site Name	Location	Service	U.S. territory?	DOD-operated?
18	Beale Air Force Base	California	Air Force	Yes	Yes
19	Travis Air Force Base	California	Air Force	Yes	Yes
20	Vandenberg Space Force Base	California	Air Force	Yes	Yes
21	Schofield Barracks	Hawaii	Army	Yes	Yes
22	Fort Shafter	Hawaii	Army	Yes	Yes
23	Wheeler Army Airfield	Hawaii	Army	Yes	Yes
24	Joint Base Pearl Harbor-Hickam	Hawaii	Joint (Navy and Air Force)	Yes	Yes
25	Pacific Missile Range Facility, Barking Sands	Hawaii	Navy	Yes	Yes
26	Marine Corps Base Hawaii	Hawaii	Marine Corps	Yes	Yes
27	Wake Island Airfield	Wake Island	Air Force	Yes	Yes
28	Naval Base Guam	Guam	Navy	Yes	Yes
29	Marine Corps Base Camp Blaz	Guam	Marine Corps	Yes	Yes
30	Andersen Air Force Base	Guam	Air Force	Yes	Yes
31	Army Garrison-Kwajalein Atoll	Republic of the Marshall Islands	Army	No	Yes
32	Camp Zama	Japan (Mainland)	Army	No	Yes
33	Shariki Communications Site	Japan (Mainland)	Army	No	Yes
34	Kyogamisaki Communications Site	Japan (Mainland)	Army	No	Yes
35	Fleet Activities Yokosuka	Japan (Mainland)	Navy	No	Yes
36	Fleet Activities Sasebo	Japan (Mainland)	Navy	No	Yes
37	Naval Air Facility Atsugi	Japan (Mainland)	Navy	No	Yes
38	Marine Corps Air Station Iwakuni	Japan (Mainland)	Marine Corps	No	Yes
39	Yokota Air Base	Japan (Mainland)	Air Force	No	Yes
40	Misawa Air Base	Japan (Mainland)	Air Force	No	Yes
41	Army Garrison Okinawa	Japan (Okinawa)	Army	No	Yes
42	Marine Corps Base Camp Butler	Japan (Okinawa)	Marine Corps	No	Yes
43	Marine Corps Air Station Futenma	Japan (Okinawa)	Marine Corps	No	Yes
44	Kadena Air Base	Japan (Okinawa)	Air Force	No	Yes
45	Camp Humphreys	Republic of Korea	Army	No	Yes
46	Army Garrison Daegu	Republic of Korea	Army	No	Yes
47	Army Garrison Yongsan-Casey	Republic of Korea	Army	No	Yes
48	Fleet Activities Chinhae	Republic of Korea	Navy	No	Yes
49	Marine Corps Installation Camp Mujuk	Republic of Korea	Marine Corps	No	Yes
50	Osan Air Base	Republic of Korea	Air Force	No	Yes

No.	Site Name	Location	Service	U.S. territory?	DOD-operated?
51	Kunsan Air Base	Republic of Korea	Air Force	No	Yes
52	Antonio Bautista Air Base	The Philippines	N/A	No	No
53	Basa Air Base	The Philippines	N/A	No	No
54	Fort Magsaysay	The Philippines	N/A	No	No
55	Lumbia Airport	The Philippines	N/A	No	No
56	Benito Ebuen Air Base	The Philippines	N/A	No	No
57	Naval Base Camilo Osias	The Philippines	N/A	No	No
58	Lal-lo Airport	The Philippines	N/A	No	No
59	Camp Melchor Dela	The Philippines	N/A	No	No
60	Balabac Island	The Philippines	N/A	No	No
61	Navy Region Center Singapore	Singapore	Navy	No	No
62	Royal Australian Air Force Base Darwin	Australia	N/A	No	No
63	Robertson Barracks	Australia	N/A	No	No
64	Royal Australian Air Force Base Tindal	Australia	N/A	No	No
65	Naval Communications Station Harold E. Holt	Australia	Navy	No	Yes (jointly w/ RAN)
66	Naval Support Facility Diego Garcia	British Indian Ocean Territory (Diego Garcia)	Navy	No	Yes

Source: CRS analysis of DOD information.

Appendix B. Historical Overview of Indo-Pacific Defense Infrastructure

U.S. defense infrastructure in what is now termed the Indo-Pacific region dates to the early 19th century. Although only in use for four months, Fort Clatsop, the winter encampment established by the U.S. Army's Corps of Discovery in 1805, was the first U.S. defense facility on North America's Pacific coast.[188] As U.S. expansion and settlement accelerated, the Army established a number of permanent outposts in what are now the states of Oregon, Washington, and California beginning in the 1840s and 1850s.[189] The U.S. Navy also began to operate in the Pacific during this period, although the lack of development in coastal areas (particularly prior to the 1848 acquisition of California) meant that American vessels relied mainly on foreign ports for provisioning and repair.[190]

Between the end of the Mexican-American War (1848) and the Spanish-American War (1898), the U.S. purchased Alaska (1867) and took possession of Midway Atoll (1867).[191] In 1898, expansionist sentiment and victory over Spain led to the U.S. annexation of the Republic of Hawaii and the formerly Spanish territories of the Philippines and Guam. From an infrastructure perspective, each of these areas quickly acquired significance. A major rationale for the annexation of Hawaii was its importance as a refueling and supply stop for vessels transiting the Pacific, and in 1899 the Navy established a naval station at Pearl Harbor.[192] In the Philippines, the U.S. military built or expanded a wide array of installations, including a naval base and coastal fortifications at Subic Bay and a number of Army outposts throughout the territory.[193] In Guam, the Department of the Navy established a naval station and a Marine barracks.[194]

[188] Fort Clatsop was established at the mouth of the Columbia River, close to what is now Astoria, OR. See "Fort Clatsop," National Park Service, at https://www.nps.gov/places/fort-clatsop-or.htm.

[189] Examples include Camp Vancouver/Vancouver Barracks in what is now Washington and Fortress Alacatraz in what is now California. See "Vancouver Barracks," National Park Service, at https://www.nps.gov/fova/learn/historyculture/vb.htm and "Fortress Alcatraz," National Park Service, at https://www.nps.gov/alca/learn/historyculture/fortress-alcatraz.htm.

[190] This led to U.S. policy commitments such as the Tyler Doctrine (1842), which expanded the Monroe Doctrine to cover the then-independent Kingdom of Hawai'i in part due to its importance for "the refitment and provisioning of American vessels". See Michael Green, *By More Than Providence: Grand Strategy and American Power in the Asia-Pacific since 1783* (New York: Columbia University Press, 2017), p. 31.

[191] The Army operated a number of small forts along Alaska's southern coast, while an initial attempt to build a coaling station on Midway was abandoned by 1870. See Captain Richard Packer, "150 years of the Army in Alaska" *Defense Visual Information Distribution Service (DVIDS)*, October 31, 2017, https://www.dvidshub.net/news/253683/150-years-army-alaska; and "A Brief History of Midway Atoll," Papahānaumokuākea Marine National Monument, https://www.papahanaumokuakea.gov/maritime/midway.html.

[192] As one Senator put it during the annexation debate, "the Pacific is so wide that battleships cannot cross it from any foreign naval station to the Pacific coast without recoaling, and there is no place to recoal except Hawaii." Quoted in Green, *By More than Providence*, p. 88. See also "Development of the Naval Establishment in Hawaii," Naval History and Heritage Command, at https://www.history.navy.mil/research/library/online-reading-room/title-list-alphabetically/u/the-us-navy-and-hawaii-a-historical-summary/development-of-the-naval-establishment-in-hawaii.html.

[193] Early U.S. installations in the Philippines included Fort Stotsenburg (which would become Clark Air Base) and Fort Santiago, the headquarters of the Army's Philippine Department. See David L. Rosmer, *An Annotated Pictorial History of Clark Air Base* (Washington, DC: Thirteenth Air Force Office of History, 1986), p. 38.

[194] "History – Naval Base Guam," Joint Region Marianas, at https://jrm.cnic.navy.mil/Installations/NAVBASE-Guam/About/History/.

Given the centrality of the European theater to World War I (1914-18), the role played by U.S. Indo-Pacific defense infrastructure was minimal.[195] However, many of the war's military innovations and geopolitical consequences influenced regional infrastructure developments in the 1920s and 30s.[196] For U.S. planners, Pacific defense sites during the interwar period played two major roles: they enabled the Navy to operate in the region; and they offered a degree of protection to U.S. territories and commercial interests. As conflict with Japan became more plausible in the late 1930s and early 1940s, the U.S. military increased the resources and attention devoted to Pacific defense infrastructure, constructing new air and naval facilities at Midway Atoll and Wake Island.[197]

Japan's surprise attacks on the United States in December 1941 targeted Pearl Harbor as well as other key regional defense sites, including bases on the Philippines and Wake Island. Allied prosecution of the ensuing Pacific War relied heavily on both the existing infrastructure and significant new construction. Military bases, training areas, depots, arsenals, and port facilities along the West Coast and in Hawaii played important roles in staging and sustaining the projection of U.S. military forces westward into the Pacific. Dozens of West Coast shipyards—primarily located in the Puget Sound, Portland, San Francisco Bay, and Los Angeles areas—built warships and cargo vessels for the U.S. Navy and merchant marine, and Southern California became one of the country's major centers of aircraft manufacturing.[198] In the Pacific theater itself, military engineers—particularly naval construction battalions (known as 'Seabees')—made possible operations in remote and austere environments by building dozens of advance bases to support naval vessels, aircraft, and ground forces.[199]

By 1945, the United States oversaw a vast infrastructure network spanning from the West Coast to mainland Asia. In the immediate aftermath of World War II, the U.S. military requisitioned and built installations in Japan (and its former territories in Korea and Micronesia) to support postwar occupation and reconstruction activities.[200] As tensions with the Soviet Union intensified, U.S. planners shifted their focus, reorienting America's regional basing posture around deterring communist attacks on U.S.-aligned governments, enabling the rapid buildup and supply of forces

[195] However, the first engagement between U.S. and German forces occurred in Apra Harbor, Guam, where a German commerce raider was in port when the United States entered the war. See "History," Joint Region Marianas/Department of the Navy, at https://jrm.cnic.navy.mil/About/History/.

[196] The newly demonstrated effectiveness of airpower, for instance, led the Army and Navy to build a number of airfields, while U.S. ratification of the postwar Washington Naval Treaty precluded the construction of new defensive fortifications in the Pacific until the agreement lapsed in 1936. See Green, *By More than Providence,* pp. 140-142.

[197] Construction of a naval air station and submarine base on Wake Island began in early 1941, while Naval Air Station Midway Islands was established in August 1941. See "Wake Island," Naval History and Heritage Command, available at https://www.history.navy.mil/research/histories/ship-histories/danfs/w/wake-island.html, and Charity Roberts, "The 'Other' Battle of Midway," National Museum of the Pacific War, October 11, 2022 at https://www.pacificwarmuseum.org/about/news/the-pacific-medals-of-honor-the-other-battle-of-midway-first-lieutenant-george-h-cannon-u-s-marine-corps.

[198] See Arthur Herman, *Freedom's Forge: How American Business Produced Victory in World War II* (New York: Random House, 2012) pp. 130-144 and 176-191 and Jacob Vander Meulen, "West Coast Labor and the Military Aircraft Industry, 1935-1941" *Pacific Northwest Quarterly,* Vol. 88, No. 2 (Spring, 1997), available at https://www.jstor.org/stable/40492294.

[199] "The Logistics of Advance Bases," Naval History and Heritage Command, available at https://www.history.navy.mil/research/library/online-reading-room/title-list-alphabetically/l/the-logistics-of-advance-bases.html.

[200] In addition to facilities for occupying forces, the military carried out $400 million worth of civilian infrastructure projects to aid Japan's postwar reconstruction. See "Military Reconstruction in Japan," *U.S. Army Corps of Engineers,* updated March 2021. Available at https://www.usace.army.mil/About/History/Historical-Vignettes/Military-Construction-Combat/074-Military-Reconstruction/.

in the event of a crisis, and signaling to both allies and potential adversaries that the United States was committed to the region.

Beginning with the Truman Administration, the geographical anchor of America's Pacific strategy was held to be a "defensive perimeter" running from the Aleutians through Japan, the Ryukyu Islands (Okinawa), and the Philippines.[201] The outbreak of the Korean War in 1950 led to the explicit inclusion of South Korea within this perimeter. The U.S. war effort itself relied heavily on logistical support from existing and newly developed defense sites—particularly logistical hubs in Japan.[202] By the mid-1950s, DOD's infrastructure footprint in Northeast Asia had expanded to encompass dozens of major installations in South Korea, mainland Japan, and Okinawa.

Elsewhere in the Indo-Pacific, the United States maintained large bases in the Philippines (which gained independence in 1946, but continued to allow U.S. basing), Guam, and Hawaii. This basing posture was informed by what became known as the 'island chain strategy,' a framework for containing communist expansion by "mak[ing] safe the offshore island chain which swings south through Japan, the Ryukyus, the Philippines, Australia and New Zealand" (in addition to this 'First Island Chain,' later strategists would refer to a 'Second Island Chain' stretching from Japan to the Marianas and Palau, as well as a 'Third Island Chain' centered on the Hawaiian Islands).[203]

Beginning in the early 1960s, escalating U.S. involvement in the Vietnam War began to place new and increased demands on Pacific defense sites. By 1969, the United States had built a large defense infrastructure network in South Vietnam, encompassing 26 "major base camps" spread throughout the country.[204] Installations outside South Vietnam also supported U.S. combat operations—hundreds of thousands of personnel and millions of tons of materiel passed through mainland Japan or Okinawa on their way to Vietnam, for instance, while bases in the Philippines provided logistical support and staging for aircraft and troops.[205]

With the end of the Vietnam War, the onset of U.S.-Soviet detente, and the opening of relations between the U.S. and the PRC, the strategic importance of Pacific defense infrastructure appeared to diminish.[206] In the late 1970s, the United States ended its military presence in Taiwan pursuant to commitments made as part of the normalization of U.S.-PRC ties, and the Carter

[201] Dean Acheson, "Remarks by Dean Acheson before the National Press Club," January 12, 1950. Available at https://www.trumanlibrary.gov/library/research-files/remarks-dean-acheson-national-press-club.

[202] See Terence Gough, *U.S. Army Mobilization and Logistics in the Korean War* (Washington, DC: U.S. Army Center of Military History, 1987), especially pp. 115-120. Available online at https://www.govinfo.gov/content/pkg/GOVPUB-D114-PURL-gpo126559/pdf/GOVPUB-D114-PURL-gpo126559.pdf.

[203] The 'island chain strategy' was first articulated by future Secretary of State John Foster Dulles in the early 1950s. See John Foster Dulles, "Security in the Pacific," *Foreign Affairs*, January 1952, available at https://www.foreignaffairs.com/articles/united-states/1952-01-01/security-pacific?check_logged_in=1. For later usage, see, for example, Wilson Vorndick, "China's Reach has grown; so should the Island Chains," Center for Strategic and International Studies, October 22, 2018 at https://amti.csis.org/chinas-reach-grown-island-chains/ and Derek Grossman, "America is Betting Big on the Second Island Chain," *The Diplomat*, September 5, 2020 at https://thediplomat.com/2020/09/america-is-betting-big-on-the-second-island-chain/.

[204] Carroll Dunn, *Base Development in South Vietnam, 1965-1970* (Washington, DC: Department of the Army, 1991), p. 135. Available online at https://history.army.mil/html/books/090/90-6/CMH_Pub_90-6.pdf.

[205] Thomas Havens, *Fire across the Sea: The Vietnam War and Japan 1965-70* (Princeton, NJ: Princeton University Press, 1987), pp. 84-88, 159.

[206] One example of this trend was the adoption in 1969 of the Nixon Doctrine (sometimes called the Guam Doctrine), which sought to avoid Vietnam-like entanglements by encouraging its allies to handle "problems of military defense" themselves. See *Foreign Relations of the United States, 1969-1976*, Volume I, U.S. Department of State at https://history.state.gov/historicaldocuments/frus1969-76v01/d29.

Administration unsuccessfully sought to withdraw all U.S. ground forces from South Korea.[207] Strategic thinking around regional defense infrastructure shifted again in the early 1980s, when the Reagan Administration adopted a global posture that placed more emphasis on regional forward presence and initiated a major military buildup.[208]

The end of the Cold War brought another reassessment of the U.S. defense role in the Indo-Pacific. In its 1990 and 1992 Pacific strategies, DOD outlined a vision of successive regional force and infrastructure reductions in response to the changed geopolitical environment.[209] In 1991, a combination of natural disaster and diplomatic impasse led the U.S. to evacuate its Philippine bases and end almost a century of military presence in the country. In 1995, however, the U.S. Security Strategy for the East Asia-Pacific (sometimes referred to as the Nye Report) avoided further reductions, instead committing the military to "maintain a stable forward presence in the region, at the existing level of about 100,000 troops, for the foreseeable future."[210] Further adjustments to U.S. basing posture occurred in South Korea, where the U.S. and Republic of Korea (ROK) governments in 2004 agreed to consolidate U.S. forces in installations centered on two regional "hub" areas south of Seoul.[211]

U.S. security strategy in the Indo-Pacific during the 1990s and early 2000s focused on managing sources of regional instability, especially tensions between North and South Korea and between the PRC and Taiwan. After the commencement of the Global War on Terror (GWOT) in 2001, Indo-Pacific locations like Diego Garcia also provided significant logistical support for combat operations in the greater Middle East, especially following the 2003 invasion of Iraq.[212] Defense infrastructure also supported humanitarian operations in the aftermath of natural disasters, including the 2004 Indian Ocean tsunami and the 2011 earthquake, tsunami, and nuclear disaster in Japan.[213]

[207] In Taiwan, the United States completed the withdrawal of its approximately 10,000 troops by 1979, while President Carter ultimately withdrew 3,400 of the approximately 40,000 U.S. military personnel who had been stationed in Korea at the start of his term. See Green, *By More Than Providence*, p. 353; Jay Mathews, "U.S. Trims Military Forces on Taiwan," *The Washington* Post, November 7, 1978; and Terence Roehrig, "South Korea: An Alliance in Transition," in Carnes Lord and Andrew S. Erickson (editors), *Rebalancing U.S. Forces: Basing and Forward Presence in the Asia-Pacific* (Annapolis, MD: Naval Institute Press, 2014), pp. 70-71.

[208] For an assessment of Reagan-era defense spending that includes trends in military construction appropriations, see Katherine Blakeley, "Defense Spending in a Historical Context: A New Reagan-esque Buildup?" Center for Strategic and Budgetary Assessments, November 8, 2017, at https://csbaonline.org/reports/defense-spending-in-historical-context.

[209] These included reducing troop levels in Korea and Japan, returning "excess facilities" to host governments, and obtaining increases to allies' financial and military contributions to collective security. See "A Strategic Framework for the Asian Pacific Rim," Department of Defense, April 1990, pp. 7-13.

[210] See "United States Security Strategy for the East Asia-Pacific Region," Department of Defense, February 1995. Available at https://apps.dtic.mil/sti/pdfs/ADA298441.pdf.

[211] The first hub centers on the city of Pyeongtaek and includes Camp Humphreys and Osan Air Base; the second centers on Daegu and includes USAG-Daegu, Fleet Activities Chinhae, and MCI Camp Mujuk. See Terence Roehrig, "South Korea: An Alliance in Transition," in Lord and Erickson (ed.) *Rebalancing U.S. Forces,* pp. 74-75.

[212] The U.S. first gained access to Diego Garcia, a British overseas territory, in 1966, and initially used the location as a communications facility and a base for reconnaissance flights. In the 1980s, the U.S. and U.K. governments significantly expanded Diego Garcia's naval and air facilities. See Walter Ladwig, Andrew Erickson, and Justin Mikolay, "Diego Garcia and American Security in the Indian Ocean," in Lord and Erickson (ed.) *Rebalancing U.S. Forces,* pp. 139-142.

[213] See CRS Report R41690, *Japan 2011 Earthquake: U.S. Department of Defense (DOD) Response*, by Andrew Feickert and Emma Chanlett-Avery.

Under President Barack Obama, the U.S. military began to shift its focus from GWOT operations to great power competition with the PRC. In 2011, the Obama Administration announced a "pivot to Asia" to bolster and expand the U.S. role in the region. To that end, DOD shifted more forces (especially naval) to the Indo-Pacific and negotiated rotational access to additional military bases in countries like Australia and the Philippines.[214] The focus on strategic competition with China expanded under the Trump Administration, which prioritized infrastructure investments in locations such as Guam and Micronesia while also seeking larger contributions from Indo-Pacific allies to support U.S. basing costs.[215] In 2020, Congress established the Pacific Deterrence Initiative, a set of regionally focused defense investments that includes infrastructure as a major activity category (Section 1251 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, P.L. 116-283).

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[214] See "FACT SHEET: Advancing the Rebalance to Asia and the Pacific," White House Office of the Press Secretary, November 16, 2015. Available at https://obamawhitehouse.archives.gov/the-press-office/2015/11/16/fact-sheet-advancing-rebalance-asia-and-pacific.

[215] "A Free and Open Indo-Pacific," Department of State, November 4, 2019. Available at https://www.state.gov/wp-content/uploads/2019/11/Free-and-Open-Indo-Pacific-4Nov2019.pdf.