U.S. Denial Strategy against China and Operational Concepts in the Western Pacific

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Chapter 6

War with New and Old Characteristics

U.S. Marines train with U.S. Army soldiers and Philippine Marines on Batan Island, Philippines, on April 23, 2023 (U.S. Marine Corps photo by Sgt. Patrick King)

This chapter examines the way in which the U.S. military is changing the way it fights against the backdrop of lessons learned from the Russo-Ukrainian War, in light of changes in its operational concepts as well as in its exercises and force posture in the western Pacific. Unlike counterinsurgency operations in Iraq and Afghanistan, the U.S. military would be required to be able to withstand and continue to operate under enemy attack and disruption—often referred to as "contested environments" in U.S. Department of Defense documents[1]—in the event of armed conflict with major powers such as China and Russia. Therefore, each of the services of the U.S. military has been geared toward distributed operations based on the premise of having to fight in contested environments, a scenario that has not been envisioned since the end of the Cold War. "Distributed Operations in the Western Pacific" explores how these operational concepts are applied in the western Pacific and the challenges in their application. It examines the efforts of the Marine Corps, Army, and Air Force that are centered on operating from land in maritime theaters. "'Campaigning' in Strategic Competition" discusses "campaigning" as a means of creating advantageous situations for the U.S. against China, with whom it is engaged in long-term strategic competition. The key in this regard is strengthening relations with allies and partners, and this section analyzes efforts to strengthen force posture and joint exercises in the western Pacific from this standpoint.

1) While the terms "contested environment" and "contested" have not been clearly defined in a consistent manner, they are generally used to refer to an environment in which U.S. forces are under air or missile attack and where communication links are disrupted, thereby doubling as euphemistic expressions for A2/AD. Miranda Priebe, Alan J. Vick, Jacob L. Heim, and Meagan L. Smith, *Distributed Operations in a Contested Environment: Implications for USAF Force Presentation, RR2959* (Santa Monica, CA: RAND, 2019), 5; and Sam J. Tangredi, "Anti-Access Strategies in the Pacific: The United States and China," *Parameters* 49, no. 1/2 (Spring/Summer 2019): 15n36.

Distributed Operations in the Western Pacific

Denial Strategy and Operations in Contested Environments

(1) U.S. National Defense Strategies (NDS) and Countering the Fait Accompli Strategy

Presently, the U.S. Department of Defense (hereinafter, all departments and services refer to those of the United States, unless otherwise noted) has identified China, with its "coercive and increasingly aggressive endeavor to refashion the Indo-Pacific region and the international system to suit its interests and authoritarian preferences," as the primary threat that defines U.S. defense policy or the "pacing challenge" around which all Department of Defense activities should be focused, and has recognized Russia as an "acute threat" that is "contemptuous of its neighbors' independence" and which "seeks to use force to impose border changes," thereby underscoring the threats arising from the major powers of China and Russia as among the most prominent threats facing the United States.[2] Even before that, the U.S. had used anti-access/area denial (A2/AD) in the *Quadrennial Defense Review* (*QDR*) published in 2010 as a euphemistic expression to address China's military threat, but it was not until Russia's aggression against Ukraine—which started with Russia's forced annexation of Crimea and military intervention in Donbas in 2014, while the current Russo-Ukrainian War that began in February 2022 is its continuation—that the Department of Defense began to publicly emphasize the great powers' military threat.[3] This was a result of the strong impact delivered by Russia, a permanent member of the United Nations Security Council and a nuclear-weapon state under the Nonproliferation Treaty, having brutally grabbed territory from its

2) Department of Defense, *2022 National Defense Strategy of the United States of America* (Washington, DC, 2022), 4, 5.

3) Kikuchi Shigeo, "Chugoku no gunjiteki kyoi ni kansuru ninshiki henka to beigun sakusen konseputo no tenkai: Togo zen-domein shikitosei (JADC2) wo chushin ni" [China as the "Pacing Threat": Evolving U.S. operational concepts and Joint All-Domain Command and Control (JADC2)], *Anzenhosho Senryaku Kenkyu* [Security & Strategy] 2, no. 2 (March 2022): 27–28.

sovereign neighbor state to expand its own territory.[4]

The *National Defense Strategy* submitted to Congress in January 2018 by the Department of Defense (*2018 NDS*) stated that China is pursuing military modernization that "seeks Indo-Pacific regional hegemony in the near-term and displacement of the United States" in the long term, while Russia "seeks veto authority over nations on its periphery in terms of their ... decisions, to shatter the North Atlantic Treaty Organization and change European and Middle East security and economic structures to its favor." The *2018 NDS* also indicated that "long-term strategic competitions with China and Russia are the principal priorities for the Department [of Defense]."[5]

Another feature of the *2018 NDS* is that it seeks to counter aggression by China and Russia through a strategy of denial, which aims to deter acts of aggression by demonstrating an ability to prevent adversaries from achieving their goals. Elbridge Colby, who led the development of the *2018 NDS* as deputy assistant secretary of defense for strategy and force development, revealed at a Senate Armed Services Committee hearing on January 29, 2019, that the *2018 NDS* was designed to counter the fait accompli strategy by China against Taiwan and by Russia against the Baltic states and Poland, through which China and Russia could rapidly occupy these territories with overwhelming military force while blunting the response of the United States and other countries, and deploy military force in these territories to make restoring the status quo significantly more difficult.[6] Colby explained that countering China and Russia's fait accompli strategy requires "a different approach to warfighting," i.e., an approach that "involves U.S. forces resisting Chinese or Russian attacks from the very beginning of hostilities, fighting in and through enduringly contested operational environments to first blunt Beijing or Moscow's assault and then defeat it – without ever gaining ... all-domain dominance."[7]

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4) Kikuchi Shigeo, "Beikokubokeikaku ni okeru 'Pacing Threat' toshite no chugoku" [China as a "Pacing Threat" in U.S. defense planning], *NIDS Commentary* (September 2, 2021), 3–5.

5) Department of Defense, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge* (Washington, DC, 2018), 2, 4.

6) Senate Armed Services Committee, *Testimony Before the Senate Armed Services Committee Hearing on Implementation of the National Defense Strategy by Elbridge A. Colby*, 116th Cong., 1st sess., January 29, 2019, 3, 4.

7) Ibid., 6.

The emphasis in the *2018 NDS* on the ability to operate while under enemy attack is evident in the unclassified summary (full text classified). The summary stated a policy of "strik[ing] diverse targets *inside adversary air and missile defense networks*" to achieve "joint lethality in contested environments," and of "prioriotiz[ing] ground, air, sea, and space forces that can deploy, survive, operate, maneuver, and regenerate in all domains *while under attack*" (emphasis added), highlighting the U.S. military's focus on operations in contested environments. Furthermore, on this basis, the *2018 NDS* underscored the need to "[transition] from large, centralized, unhardened infrastructure to smaller, dispersed, resilient, adaptive basing," as well as to "[develop] resilient, survivable, federated [command, control, and communications] networks" and "resilient and agile logistics" to support this transition.[8]

The underlying premise of the U.S. military operating in situations where it is under enemy attack can also be inferred from the Global Operating Model introduced in the *2018 NDS*. This model conceptually illustrates the posture and employment of the Joint Force for the U.S. military to carry out its competition and wartime missions, and it comprises the four layers of "contact," "blunt," "surge," and "homeland."[9] According to Colby, the "contact layer" is adapted for the gray zone during peacetime, while the "blunt layer" is aimed at "delaying, degrading, and ideally denying ... before the United States can effectively respond" in the event that China and Russia execute the fait accompli strategy, with both layers predicated on the assumption that U.S. forces would operate within the reach of Chinese or Russian long-range strike capabilities.[10]

The need for the U.S. military to operate within range of possible enemy attack is also emphasized in the *National Defense Strategy* published in 2022 (*2022 NDS*) in the context of "deterrence by denial." The *2022 NDS* stated that "to deter aggression, especially where potential adversaries could act to rapidly seize territory, the Department [of Defense] will develop asymmetric approaches and optimize our posture for *denial*" and "will continue to develop innovative operational concepts." This suggests that the U.S. military believes it will conduct operations in locations where the enemy could attack

8) Department of Defense, *2018 National Defense Strategy*, 6, 7.
9) Ibid., 7.
10) Senate Armed Services Committee, *Testimony by Elbridge A. Colby*, 6.

even before the start of armed conflict. While this necessarily requires the U.S. military to be resilient, the *2022 NDS* indicates under "Deterrence by Resilience" that "denying the benefits of aggression also requires resilience – the ability to withstand, fight through, and recover quickly from disruption," setting forth a policy of strengthening resilience by "improving defensive capabilities and increasing options for reconstitution."[11]

The U.S. military services have been developing "innovative operational concepts," as called for in the *2022 NDS*, designed to enable them to operate in areas where they could be attacked. Operational concepts such as the Army's Multi-Domain Operations (MDO), the Navy's Distributed Maritime Operations (DMO), the Air Force's Agile Combat Employment (ACE), as well as the Marine Corps' Expeditionary Advanced Base Operations (EABO) and Stand-in Forces (SIF) were all developed based on the premise of operating under enemy attack. In addition, the Joint Chiefs of Staff has been promoting Joint All-Domain Operations (JADO), which coordinate operations across land, sea, air, space, cyberspace, and the electromagnetic spectrum. These operational concepts grew out of disparate service efforts. However, since they were developed based on the common premise of armed conflict with great powers, as a result, they share many common characteristics. Firstly, they are geared toward distributed operations. This is intended to enable U.S. forces to avoid sustaining devasting damage in a single attack by distributing forces to complicate the enemy's calculations in attacking U.S. forces by increasing number of targets they have to strike, and to put pressure on the enemy's decision-making by taking a posture of attacking from multiple axes. Secondly, it is important to be hard to detect. This requires U.S. forces to be low-signature, including radio signals. Thirdly, even if the forces are dispersed, their fires or effects have to be massed and synchronized.

(2) Significance of Land in Maritime Theaters

These operational concepts, when applied to the Indo-Pacific, call for U.S. forces to be prepared to operate in the "littoral," where waters and lands are intermingled. The Department of Defense defines a "littoral" as that which "comprises two segments of operational environment": "seaward,"

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11) Department of Defense, *2022 National Defense Strategy of the United States of America* (Washington, DC, 2022), 8.

which refers to "the area from the open ocean to the shore, which must be controlled to support operations ashore," and "landward," which refers to "the area inland from the shore that can be supported and defended directly from the sea."[12] Littorals are not defined solely based on geographical features. This is evident from the above definition of "littoral" as an area on which forces can exert effects (see "controlled" or "supported and defended" above) from the land into the sea, and from the sea onto the land. This makes "littoral" a variable notion as it depends on the reach of the means for achieving the effect in question.

Land has considerable influence on littoral operations. Milan Vego, professor at the Naval War College, points out that "the influence of land is far more pronounced in [a littoral] than it is on the open ocean," and that "there is no real sea control unless a stronger side controls both the sea and adjacent land area." According to Vego, while sea control on the open ocean is achieved by destroying the enemy's forces at sea, in the case of a littoral, "a side weaker at sea but having stronger ground forces and air superiority could obtain sea control largely by capturing the sea's exit(s), the enemy's main naval bases and airfields, and key islands."[13]

Wayne P. Hughes, professor at the Naval Postgraduate School (NPS), has also stressed the importance of land in naval operations. In his book on naval tactics, Hughes presents the "six cornerstones of naval operations," the fourth of which is "The Seat of Purpose Is on the Land." This is because "sea battles are not fought for their own sake," as navies are often used for the landing of ground forces, the support of operations ashore, and the protection of shipping at sea, and "great decisive sea battles between fleets have always been connected with events on land."[14] Hughes then emphasized the difficulty of attacking the land from the sea by borrowing the words of Horatio Nelson, "A Ship's a Fool to Fight a Fort," as the fifth cornerstone. According to Hughes, the cost-exchange ratio between "forts"

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12) Joint Chiefs of Staff, *Department of Defense Dictionary of Military and Associated Terms* (Washington, DC, 2020), s.v. "littoral."

13) Milan Vego, "On Littoral Warfare," *Naval War College Review* 68, no. 2 (Spring 2015): 41, 54.

14) Hughes' "six cornerstones" are: (1) Sailors (People) Matter Most, (2) Doctrine is the Glue of Tactics, (3) To Know Tactics, Know Technology, (4) The Seat of Purpose Is on the Land, (5) "A Ship's a Fool to Fight a Fort," and (6) Attack Effectively First. Wayne P. Hughes Jr. and Robert P. Girrier, *Fleet Tactics and Naval Operations*, 3rd ed. (Annapolis, MD: Naval Institute Press, 2018), 15–34.

and "ships" dictates the superiority of the former over the latter, as "a 'fort,' [which in today's terms] can be an airfield or the launch site for a missile battery ... can be repaired or rebuilt quickly, but a warship cannot," thus "ships" must circumvent the range of fires delivered from "forts."[15]

The importance of treating littorals as a singular battlespace has grown with the increasing range and coverage of reconnaissance and strike capabilities. The area that should be recognized as the singular battlespace of "littoral" varies depending on the range and coverage of reconnaissance and strike means, given the DOD definition of littoral as the area on which effects can be exerted from the sea or from the land. Hughes noted, "missile attacks to and from the sea add to the already prevalent strikes by aircraft, blurring the longstanding tactical distinction between sea and land combat."[16] His statement acknowledged that advances in weaponry have expanded the area that should be treated as the singular battlespace of littorals. Moreover, land-based strike means deployed in littorals are shifting from those defensive in nature, designed to prevent approaches by hostile forces toward the shore, to offensive ones, designed to have an effect over greater areas as the range of these strike means increases.[17]

The Marine Corps in Littorals

(1) Securing "Key Maritime Terrain" and Fire Projection

Vego and Hughes have been credited with providing the key intellectual foundation for U.S. naval services' efforts to develop concepts for littoral operations, and their thinking on the importance of land in littorals is most evidently reflected in the "Littoral Operations in a Contested Environment" (LOCE) concept, which was jointly developed by the Marine Corps and the Navy and published in 2017.[18]

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15) Ibid., 26, 27.
16) Ibid., xxxi.
17) Charles Flynn and Tim Devine, "To Upgun Seapower in the Indo-Pacific, You Need an Army," *Proceeding* 150, no. 2 (February 2024): 40.
18) LOCE regard the works of Vego and Hughes as works that one should first consult for a "thorough understanding of the nature and theory of littoral operations." U.S. Navy and U.S. Marine Corps, *Littoral Operations in a Contested Environment*, unclassified ed. (Washington, DC, 2017), 7.

The collapse of the Soviet Union ushered in an era in which without meaningful challenge, U.S. naval supremacy was a given, but that era is now over. LOCE draw attention to "future adversaries [who] may be capable of controlling choke points, holding key maritime terrain, or denying freedom of action and maneuver within the littorals by imposing unacceptable risk to forces at ever increasing ranges" through their "increasingly formidable sea denial capabilities," as well as adversaries who may "expand their sea denial capabilities into the ability to achieve sea control."[19] With these changes as the underlying premise, LOCE point to the need to regard littorals as a "singular, integrated battlespace" and to develop a "unified naval approach that effectively integrates sea control and maritime power projection capabilities."[20]

Integrating Navy and Marine operations so that they can operate and fight as a coherent whole is referred to as "naval integration" (where "naval" refers to both the Navy and the Marine Corps).[21] This approach has become necessary because, as pointed out by Hughes, the distinction between sea and land combat has blurred as the coverage and range of sensors and weapons now span hundreds of miles both seaward and landward. According to LOCE, "the new long range, precision missile era has added a landward dimension to naval combat, even for missions where the primary focus is at sea."[22] Furthermore, as the designation "contested environment" suggests, LOCE set forth a policy for the Navy and the Marine Corps to maintain a "persistent presence" and remain "persistently forward postured" inside the range of the adversaries' long-range strike capabilities.[23]

Land control is also key to the operations envisioned by LOCE.[24] LOCE incorporates the concept of "key maritime terrain." While it is defined as "any landward portion of the littoral that affords a force controlling it the ability to significantly influence events seaward," it is believed that the

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19）U.S. Navy and U.S. Marine Corps, *Littoral Operations*, 4, 5.
20）Ibid.
21）Kikuchi Shigeo, "Enkaiiki sakusen ni kansuru beikaiheitai sakusen konseputo no tenkai: 'Zenpo kaigun kichi' no 'boei' to 'kaigun-kaiheitai togo (Naval Integration)'" [Evolving Marine Corps concept for littoral operations: Naval integration for the "defense" of "advanced naval bases"], *Anzenhosho Senryaku Kenkyu* [Security & Strategy] 1, no. 1 (August 2020): 56–57.
22）U.S. Navy and U.S. Marine Corps, *Littoral Operations*, 4–5.
23）Ibid., 8, 9, 13.
24）Ibid., 6.

success or failure of the entire operation is contingent on the ability to secure this terrain.[25] The idea of "Naval Integration" was a response to the fact that "adversary capabilities have extended the seaward reach of *land-based* weapons" in the first place, and in response to this, the U.S. military likewise "distributes lethality by providing *land-based options* for increasing the number of sensors and shooters" in order to "mitigate the adversary's sensor and shooter capacity advantages" (emphasis added).[26] In other words, LOCE considers one's ability to deliver effects from land to be the key in creating relative advantage against its adversaries.

The Marine Corps is implementing the Expeditionary Advanced Base Operations (EABO) concept as its approach to "providing land-based options" alluded to by LOCE.[27] The *Tentative Manual for Expeditionary Advanced Base Operations, 2nd Edition* (*TM EABO*), published by the Headquarters, Marine Corps, in May 2023, describes EABO from the following three perspectives: (1) operations involving the employment of mobile, low-signature, persistent, and relatively easy to maintain and sustain naval expeditionary forces; (2) operations from a series of austere, temporary locations ashore or inshore within a contested or potentially contested maritime area; and (3) operating to conduct sea denial, support sea control, or enable fleet sustainment.[28] EABO were conceived with the core idea of "providing land-based options" for sensors and shooters, i.e., conducting operations such as sea denial from "expeditionary advanced bases" (EAB) described in *TM EABO* as "austere, temporary locations ashore or inshore."[29] John Berry, head of the Concepts Branch, Marine Corps Warfighting Laboratory (MCWL), who led the development of the EABO concept, explained, "The anticipated value of EABO is that they will provide fleet commanders the option of persistently

25) A commentary by a Marine Corps official cited as examples of key maritime terrain the Strait of Gibraltar and the Suez Canal that the British were able to continuously secure during World War II, which gave the Allies access to the Mediterranean Sea. Headquarters, U.S. Marine Corps, *Tentative Manual for Expeditionary Advanced Base Operations*, 2nd ed. (Washington, DC, 2023), E-4; and John Berry, "What's in a Name?," *Marine Corps Gazette* 104, no. 2 (February 2020): 14.

26) U.S. Navy and U.S. Marine Corps, *Littoral Operations*, 7, 13.

27) Ibid., 13.

28) Headquarters, U.S. Marine Corps, *Tentative Manual*, 1-2.

29) "Expeditionary advanced base" (EAB) is defined as "an austere, temporary location within a potential adversary's WEZ that provides sufficient maneuver room to accomplish assigned missions seaward while also enabling sustainment and defense of friendly forces therein." Ibid., E-2, E-4.

posturing naval expeditionary forces forward on key maritime terrain as a complement to the seagoing elements of the fleet. These naval expeditionary forces can provide additional battlespace awareness, fires, and logistics capabilities to increase fleet capacity beyond the upper limit imposed by the number of platforms afloat."[30]

TM EABO states that in the event of crisis, the Marine Corps will "conduct EABO to augment, enhance, or assist partner nations in defending sovereignty, controlling key maritime terrain, and contesting adversary fait accompli gambits," and to this end, conduct "littoral maneuvers" that include inter-island movement, intra-island movement, and displacement from the operations area using medium landing ships and rotary-wing, tiltrotor aircraft.[31] At the same time, ground combat power is required to secure and hold key terrain. Designed to operate in maritime theaters, the Marine Littoral Regiment (MLR)—three such regiments will be organized under the command of the 3rd Marine Division based in Okinawa—is designed to carry out "denial or control of key maritime terrain." The Littoral Combat Team (LCT), the core element of the MLR (which is composed of a Littoral Anti-Air Battalion and a Combat Logistics Battalion in addition to the LCT), comprises not only an anti-ship missile battery but also three infantry companies—the size of one battalion—to meet this need.[32] It is for the same reason that the Marines have been conducting exercises on the first island chain focused on land combat aimed at securing these islands.[33]

While EABO envisions projecting power from EABs toward the sea for sea denial and supporting sea control, *TM EABO* presents "fires in support of surface warfare" as a related concept of employment. This concept illustrates how anti-ship missile forces deployed to islands can attack

30）Berry, "What's in a Name?," 14.
31）Headquarters, U.S. Marine Corps, *Tentative Manual*, 1-3, 1-5, 6-15.
32）Ibid., A-1, A-2; and T.L. Hord, J.T. Snelling, and T.W. Fields, "Enhancing the Infantry Training Continuum: MOS Training in Support of Force Design 2030," *Marine Corps Gazette* 106, no. 6 (June 2022): 46.
33）Kikuchi Shigeo, "Indotaiheiyo ni okeru beigun no gunji taisei to kadai (1): Beikaiheitai no sakusen konseputo to nihon oyobi shuhen ni okeru kinnen no enshu wo chushin ni" [U.S. military posture and challenges in the Indo-Pacific (1): U.S. Marine Corps' operational concepts and recent exercises in and around Japan], *NIDS Commentary* (February 2, 2024), 10–11.

enemy surface vessels based on target information obtained from long-range unmanned surface vessels (LRUSV) that are organic to MLR.[34]

Captain Walker Mills of the Marine Corps noted that while advanced bases have historically been considered defensive, EABs as currently envisioned by the Marines are "intended to be the platforms for U.S. strike assets" and are expected to be "better able to contribute to an offensive fight for sea control or sea denial."[35] The Marine Corps has recognized that the Russo-Ukrainian War attested to the significance of maritime interdiction capabilities for land services including the Marine Corps. The *39th Commandant's Planning Guidance* released by the Marine Corps in August 2024 noted "the ability of shore-based sea denial capabilities to impose cost, coupled with the difficulty of targeting those forces" as a lesson learned from the wars in Ukraine and the Middle East. This point was made in reference to the ability of land-based sea denial capabilities, or anti-ship missiles, to strike surface ships with long-range precision, while conversely making it difficult to eliminate such missiles on land, suggesting that the maxim "A Ship's a Fool to Fight a Fort," one of the "six cornerstones of naval operations" identified by Hughes, remains valid today.[36]

Based on this recognition, the Marine Corps is pushing for the introduction of various anti-ship and surface-to-surface missiles as part of its "top modernization effort" (see Table 6.1).[37] This modernization effort aims to achieve swift implementation based on systems that are already in use. As mentioned earlier, the MLR fields an anti-ship missile battery, which deploys the Navy/Marine Corps Expeditionary Ship Interdiction System (NMESIS). This system consists of two Naval Strike Missiles (NSM) developed by KONGSBERG in Norway mounted on Remotely Operated Ground Units for Expeditionary Fires (ROGUE-Fires), which are unmanned versions of Joint Light Tactical Vehicles (JLTV).[38] ROGUE-Fires are unmanned vehicles designed to operate autonomously in both teleoperated and leader/

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34) Headquarters, U.S. Marine Corps, *Tentative Manual*, 7-9, fig. 7-1, A-1.

35) Walker Mills, "The U.S. Marine Corps and Advanced Base Operations: Past, Present, and Future," in *On Contested Shores: The Evolving Role of Amphibious Operations in the History of Warfare*, ed. Timothy Heck and B.A. Friedman (Quantico, VA: Marine Corps University, 2020), 385–386.

36) U.S. Marine Corps, *39th Commandant's Planning Guidance* (Washington, DC, 2024), 7.

37) "Ground-Based Anti-Ship Missile Capability," September 21, 2021, U.S. Marine Corps, https://www.marines.mil/News/Marines-TV/dvpTag/GBASM/?videoid=818064.

38) Department of the Navy, *FY 2025 Procurement, Marine Corps*, 33.

follower modes, with the aim of avoiding loss of personnel through the unmanned operation of missile launchers, which are susceptive to enemy attack.[39] The NSM is an anti-ship missile with a range of over 185 km, high mobility, and autonomous target recognition capability through infrared image recognition, and is being mounted on the Navy's Littoral Combat Ships (LCS) and AEGIS ships.[40] The Marine Corps plans to activate a total of 14 medium-range missile batteries equipped with 18 NMESIS launchers each by 2030, with 11 batteries to be deployed to continental U.S. units and the rest to three MLRs (one battery each).[41]

3rd MLR conducts NMESIS receiving ceremony at Marine Corps Base Hawaii on November 26, 2024 (U.S. Marine Corps photo by Sgt. Jacqueline C. Parsons)

In addition, the Marine Corps plans to introduce the Tomahawk missiles Block V, a ground-attack missile, and Block Va, which also provides anti-ship strike capabilities. The Tomahawk, like the NSM, will be mounted on unmanned ROUGE-Fires vehicles.[42] By 2030, one long-range missile battalion comprising three long-range missile batteries, each equipped with 16 launchers, will be established.[43] In fact, the activation ceremony for Long-

39) "Oshkosh Awarded $40M ROGUE-Fires Order Ahead of MDM 2024," April 25, 2024, https://oshkoshdefense.com/oshkosh-awarded-40m-rogue-fires-order-ahead-of-mdm-2024/.

40) "NSM: Naval Strike Missile," Kongsberg Defence & Aerospace; and Department of the Navy, *FY 2025 Budget Estimates Weapons Procurement, Navy* (Washington, DC, 2024), 251.

41) "Statement of General David H. Berger Commandant of the Marine Corps on the Posture of the United States Marine Corps Before the Senate Committee on Armed Services," U.S. Marine Corps, April 18, 2023, https://www.cmc.marines.mil/Speeches-and-Transcripts/Transcripts/Article/3371731/statement-of-general-david-h-berger-commandant-of-the-marine-corps-on-the-postu/; and Andrew Feickert, *The U.S. Marine Corps Marine Littoral Regiment (MLR), IF 12200* (Washington, DC: CRS, December 18, 2024), 1.

42) Department of the Navy, *FY 2025 Budget Estimates Procurement, Marine Corps* (Washington, DC, 2024), 33, 34, 57, 59.

43) "Statement of General Berger."

Range Missile Alpha Battery, 1st Battalion, 11th Marine Regiment, as the Marine Corps' first long-range missile battery was held at Camp Pendleton, California, on July 21, 2023.[44] The High Mobility Artillery Rocket System (HIMARS), which the Marine Corps is also equipped with, will be capable of firing the Army-developed Precision Strike Missile (PrSM). The Marine Corps also appears to be interested in the PrSM, as it is mentioned in the FY2025 Budget Estimates (FY2025 runs from October 2024 through September 2025)[45] (see "The Army Aims for 'Sea Power'" for a discussion on the PrSM).

Table 6.1. Anti-ship/surface-to-surface missiles in the Marine Corps inventory

Type	Purpose	Range	Remarks
Tomahawk missile	Ground attack (Block V) and anti-ship attack (Block Va)	Around 1,600 km	Based on the FY2025 Budget Estimates, eight launchers will be progressively delivered from June 2027 onward. For the missiles, a procurement budget for 94 missiles will be recorded from fiscal 2023 through fiscal 2026. They will be delivered progressively from March 2025 onward.
Naval Strike Missile (NSM)	Anti-ship attack	>185 km	Based on the FY2023 and FY2024 Budget Estimates, a total of 48 NMESIS launchers will be procured. They will be delivered progressively from September 2025 onward. In addition, 115 NSMs were ordered in March 2023. A procurement budget for 90 missiles is expected to be recorded in each fiscal year from fiscal 2024 onward. They will be delivered progressively from July 2026 onward.

Sources: Marine Corps' FY2025 Budget Estimates documents.

The Marine Corps plans to reorganize the 3rd Marine Regiment (Hawaii), 4th Marine Regiment (Okinawa), and 12th Marine Regiment (Okinawa) of the 3rd Marine Division into MLRs. The first MLR reorganization involved the 3rd Marine Regiment in Hawaii, which was redesignated as the 3rd MLR in March 2022.[46] Following this redesignation, its subordinate units were newly stood up or reorganized, and initial operational capability was validated through the Force Design Integration Exercise conducted

44) "11th Marine Regiment Activates First Long Range Missile Battery [Image 1 of 7]," July 21, 2023, DVIDS, https://www.dvidshub.net/image/7931706/11th-marine-regiment-activates-first-long-range-missile-battery.

45) Department of the Navy, *FY 2025 Procurement, Marine Corps*, 33.

46) "Redesignated: 3rd Marine Regiment Becomes 3rd Marine Littoral Regiment," March 3, 2022, U.S. Marine Corps, https://www.marines.mil/News/News-Display/Article/2965735/redesignated-3rd-marine-regiment-becomes-3rd-marine-littoral-regiment/.

from September 25 to 28, 2023, to confirm its capabilities as SIF.[47] Work is currently underway to achieve full operational capability by the end of fiscal 2025.[48]

The next regiment to undergo MLR reorganization was the 12th Marine Regiment. It was announced in a joint statement of the 2023 U.S.–Japan Security Consultative Committee in Washington, D.C., on January 11, 2023, that the 12th Marine Regiment would remain in Okinawa and undergo MLR reorganization by 2025. The regiment was redesignated as the 12th MLR on November 15, 2023,[49] with the Combat Logistics Battalion 12 redesignated as the 12th Littoral Logistics Battalion (LLB) on October 3, 2024, and the 12th Littoral Anti-Air Battalion activated on December 4, 2024, as part of the reorganization work underway.[50] It has also been reported that a third MLR, based on the 4th Marine Regiment, will be established in Guam in 2025.[51]

In tandem with the reorganization of these Marine regiments, training and exercises are being conducted for the NMESIS itself, including validation of various aspects of NMESIS employment, such as NSM firing, NMESIS deployment and disengagement, and the possibility of transporting it by amphibious ships and transport aircraft (see Table 6.2). During Large Scale Exercise 2021 (LSE21) conducted by the Navy and the Marine Corps in

47) Anne Pentaleri, "3d MLR Paves the Way with Force Design 2030 Capabilities," November 1, 2023, 3rd Marine Division, https://www.3rdmardiv.marines.mil/Media-Room/News/Article/Article/3575612/3d-mlr-paves-the-way-with-force-design-2030-capabilities/; and "Marine Corps Declares IOC for Hawaii-based 3rd MLR," *Inside the Navy*, October 18, 2023, Factiva.

48) Feickert, *Marine Corps Marine Littoral Regiment*, 2.

49) "12th Marine Regiment Redesignates to 12th Marine Littoral Regiment," November 14, 2023, U.S. Marine Corps, https://www.marines.mil/News/Press-Releases/Press-Release-Display/Article/3588984/12th-marine-regiment-redesignates-to-12th-marine-littoral-regiment/.

50) "12th MLR Receives Subordinate Logistics Element, CLB-12 Redesignates to 12th LLB," October 4, 2024, III MEF, https://www.iiimef.marines.mil/Media-Room/News/Article/Article/3926266/12th-mlr-receives-subordinate-logistics-element-clb-12-redesignates-to-12th-llb/; and "Vigilance Above, Valor Below: The U.S. Marine Corps Activates the 12th Littoral Anti-Air Battalion [Image 1 of 13]," December 4, 2024, DVIDS, https://www.dvidshub.net/image/8782290/vigilance-above-valor-below-us-marine-corps-activates-12th-littoral-anti-air-battalion.

51) This was reportedly communicated by Karsten Heckl, commanding general of the Marine Corps Combat Development Command (MCCDC) and deputy commandant (combat development and integration (CD&I)) to *Inside the Navy*. "Third Marine Littoral Regiment to be Stood Up in Guam in 2025," *Inside the Navy*, March 19, 2024, Factiva.

August 2021, the Marine Corps Systems Command (MCSC), acquisition command for the Marine Corps, led the test firing of NSMs. NMESIS "user evaluation" was carried out from October 2021 onward by the 11th Marine Regiment, an artillery regiment, with the goal of expediting field deployment of the NMESIS.[52] In addition, the regiment has also taken part in firing training, loading and unloading of the NMESIS on amphibious ships, mounting it on transport aircraft, and rapid infiltration training using transport aircraft. Following these various forms of validation, the 3rd MLR officially received the NMESIS system from MCSC, which has hitherto developed and tested the NMESIS, in a ceremony held on November 26, 2024.[53] Thus, the NMESIS is now being incorporated into the Marine Corps' warfighting capabilities.

(2) Stand-In Forces (SIF) That Operate Alongside Allies in Contested Environments

In addition to EABO, which are designed to project fire and other effects from EABs toward the sea, SIF represent another aspect of the Marine Corps' approach toward warfighting. The Marine Corps defines SIF as "those mobile, low-signature, persistent, and relatively easy to maintain and sustain naval expeditionary forces designed to persist and operate *inside a competitor's weapons-engagement zone* to cooperate with partners, support host nation sovereignty, confront malign behavior, and, in the event of conflict, engage the enemy in close-range battle" (emphasis added).[54]

While "stand-off" implies attacking from a distance without being subject to enemy attack, "stand-in" means operating within range of possible enemy attack with missiles and other long-range strike capabilities—or in the terminology of the Marine Corps cited above, the "weapons-engagement zone" (WEZ).[55] The *Expeditionary Advanced Base Operations (EABO) Handbook, Version 1.1,* prepared by the MCWL in 2018 also proposed the combination

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52) "Marine Corps Will Start NMESIS User Evaluation in October with 11th Marines," *Ground Vehicles Report*, September 28, 2021, Factiva.

53) "3d Marine Littoral Regiment Receives NMESIS," November 26, 2024, DVIDS, https://www.dvidshub.net/news/486229/3d-marine-littoral-regiment-receives-nmesis.

54) Headquarters, U.S. Marine Corps, *Tentative Manual*, E-7.

55) "WEZ" is defined in *TM EABO* as "the maximum range at which a combatant can detect adversary forces and effectively employ anti-ship missiles and land-attack missiles against them." Headquarters, U.S. Marine Corps, *Tentative Manual*, E-9.

Table 6.2. Training and exercises related to the Navy/Marine Corps Expeditionary Ship Interdiction System (NMESIS)

Period	Participating units	Overview
August 15–16, 2021	MCSC, 1st Battalion, 12th Marine Regiment	On August 15, as part of LSE21, one NMESIS was deployed to Pacific Missile Range Facility Barking Sands (PMRF) in Kauai, Hawaii, via a KC-130J aircraft. Two NSMs were fired from the NMESIS and successfully hit their target vessel after flying 100 miles. On August 16, the NMESIS practiced deployment to and disengagement from the PMRF by a Landing Craft Air Cushion (LCAC).
March 22, 2022		On March 22, a NMESIS was loaded onto and unloaded from the amphibious assault ship USS *Tripoli* at San Diego to validate the feasibility of transporting NMESISs on amphibious ships.
October 18, 2022	I Marine Expeditionary Force	On October 18, a NMESIS was unloaded by an LCAC as part of Project Convergence 22, hosted by the Army Futures Command.
June 27–29, 2023	Fox Battery, 2nd Battalion, 11th Marine Regiment	On June 28, an NSM was fired from the NMESIS by Fox Battery, 2nd Battalion, 11th Marine Regiment, at Naval Air Station Point Mugu. Members of the battalion were deemed the "first Marines to operate and fire the NMESIS weapon system."
September 25, 2023	MCSC Program Manager for Long Range Fires (MCSC PM LRF)	The MCSC PM LRF's New Equipment Training Team mounted two NMESIS launchers on C-17 transport aircraft at Travis Air Force Base, California.
August 2024	Delta Battery, 1st Battalion, 11th Marine Regiment	In August, Delta Battery, 1st Battalion, 11th Marine Regiment, conducted Naval Strike Missile Rapid Infiltration (NAVRAIN) training as part of a Central Command-led exercise. NAVRAIN was conducted in conjunction with HIMARS Rapid Infiltration (HIRAIN) training to validate the ability to "deliver precision fires from austere and forward-deployed locations" by deploying the NMESIS and HIMARS via a KC-130J to a location within the area of responsibility of the Central Command.

Source: Defense Visual Information Distribution Service (https://www.dvidshub.net/).

of low-signature and highly survivable "inside forces" that operate within range of the enemy's long-range fire while cooperating with allies, with "outside forces" that possess superior fire but are forced to operate outside the arc of the enemy's long-range precision weapons, to create "dual-postured" forces that "converge and re-acquire the virtues of both persistence and mass without placing any portion of the force at disproportionate risk."[56]

SIF, designed to operate inside the adversaries' WEZ, is expected to play important roles during the competition phase as well as armed conflict. Berry, head of the MCWL Concepts Branch, emphasized the importance of forces that can persist inside the range of enemy attack, arguing in a

56) Marine Corps Warfighting Laboratory, *Expeditionary Advanced Base Operations (EABO) Handbook: Considerations for Force Development and Employment, ver. 1.1* (Quantico, VA, 2018), 22, 23, 24, 26, 53.

February 2019 article that "it will be more strategically effective—and more economical in terms of lives and treasure—to 'hold the access door open' instead of having to 'beat the door down' to regain access after it is lost." He also pointed to the importance of deploying SIF in contested areas during the competition phase as "it will be more desirable to remain forward and compete below the threshold of combat to effectively deter conflict rather than actually having to fight one—especially versus a peer adversary."[57]

As shown in Table 6.3, *A Concept for Stand-in Forces* (*SIF Concept*) released by the Marine Corps in December 2021, which describes the roles of SIF during competition and armed conflict, also recognizes the equal importance of these two phases.[58] The document states that the relationships between the U.S. and its allies and partners offer the U.S. a "significant competitive advantage," resulting in its adversaries often targeting these countries for attack through means that do not amount to the use of force. In particular, *SIF Concept* notes that while China seeks to coerce Southeast Asian countries through its economic and military power, it also leverages its expansive long-range striking means and modernized nuclear forces to adopt a strategy of "counter-intervention," in which the U.S. is prevented from coming to the aid of these countries in the event of Chinese aggression. If China can "push the U.S. outside these island chains," it "can coerce other nations without interference from the U.S. or international community."[59]

In response to this, *SIF Concept* envisions SIF to "disrupt the plans of [adversaries]" by cooperating with allies and partners at "the leading edge of the maritime defense in depth" during peacetime in spite of China's strategy of counter-intervention.[60] This point is reiterated throughout *SIF Concept*, and in order to disrupt China's "plans" to "coerce other nations" by shutting out the U.S. as outlined above, low-signature SIF adapted to operating inside the WEZ will also be deployed from the competition phase to allies under pressure from China to demonstrate U.S. commitment, thereby maintaining and strengthening relations with these allies (see "Competition below the threshold of violence" of Table 6.3).

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57) John Berry, "Forward to a New Naval Future: The Marine Corps at an Institutional Inflection Point," *Marine Corps Gazette* 103, no. 2 (February 2019): 13.
58) U.S. Marine Corps, *A Concept for Stand-in Forces* (Washington, DC, 2021).
59) Ibid., 2, 3.
60) Ibid., 4, 10.

One recurring term in recent discussions among Marine Corps officials is "home team."[61] It was coined by Hughes, professor at the NPS mentioned in the preceding part, who noted in his preface to a book published by the Marine Corps History Division in 2019 that "in littoral warfare, the home team has the advantage."[62] According to Hughes, the home team advantage stems from the fact that littorals are "dynamic, complex fighting environments where all operational and geographical domains intersect," making "local knowledge" of these domains of critical importance.[63] U.S. forces deployed from American soil and operating in contested areas incur an "away team" disadvantage that is inherently difficult to mitigate. To overcome this, it is essential to "set conditions for success early by knowing the terrain, the people, and culture of the people," and only "building relationships with allies and partners can give the Marine Corps the home team advantage in the face of aggressive peer attempts to seize territory."[64] As in the case of the Marine Corps' activities in the Philippines, which will be discussed below in "Campaigning and Exercises in the Western Pacific," it is precisely with this goal in mind that the Marine Corps is taking every opportunity, including exercises, to deploy to allied countries and to strengthen cooperation with their armed forces.

In addition, an area of emphasis in the roles of SIF in relation to competition is their role in the battle for information. According to General David H. Berger, commandant of the Marine Corps, when the Marine Corps first began considering their roles in contested environments as envisioned in LOCE or EABO, particular emphasis was placed on the anti-ship strike capabilities provided by Marine units and F-35Bs operating in or from EABs. However, in the course of subsequent deliberations, "what [became] clearer is a critical enabling role of the stand-in force," leading to the recognition that the best way to achieve this is "not lethal fires as an end in themselves but rather *reconnaissance and counter-reconnaissance* applied in all domains and

61) Jim Holmes, William J. Bowers, and Thomas D. Wood, "The Seventh Cornerstone of Naval Operations: The Home Team Has the Advantage," *Marine Corps Gazette* 105, no. 12 (December 2021): 8–15; and Dustin Nicholson, "Make It a Home Game: Lessons for Littoral Campaigns," *Proceedings* 149, no. 2 (February 2023): 16–23.

62) Wayne P. Hughes Jr., "Preface," in *The Legacy of American Naval Power: Reinvigorating Maritime Strategic Thought*, ed. Paul Westermeyer (Quantico, VA: History Division, U.S. Marine Corps, 2019), xv.

63) Ibid.

64) Ibid.

Table 6.3. Expected roles of SIF (Marine Corps, *A Concept for Stand-in Forces*, December 2021)

Phase	Roles of SIF
Competition below the threshold of violence	**Maintain persistent forward presence**
	• U.S. commitment to security of allies • Gain and maintain contact with adversaries • Partnered operations with allies, SIF operations defined by quality of allied relationships (scope and flexibility of SIF operations, force sustainment, electromagnetic spectrum (EMS) management)
	Win the maritime reconnaissance and counter-reconnaissance battle
	• Determine how to collect intelligence on adversaries • Maintain lists of attack targets • Disrupt adversaries' intelligence collection by non-lethal means
	Deter, detect, expose, and counter non-lethal coercive behavior and other malign activities
	• Deterrence by detection, utilization for intelligence operations • Detect adversaries' coercive behavior and malign activities by SIF and counter them through Joint Force, inter-agency cooperation, and allies and partners • Support response by allies and partners (collecting intelligence, providing littoral mobility, enhancing command and control, overwatch in the vicinity)
	Enable allies and partners with complementary capabilities
	• Demonstrate superior capability through presence of SIF, partnered operations, training, etc., to strengthen relationships with forces of host nations • Persistent presence of SIF to develop understanding of allies and partners' maritime security challenges and how they plan to deter potential adversaries, and build host nation forces' capabilities for partnered operations • ISR support for coast guards of host nations • Seek opportunities to improve sensor network interoperability
Armed conflict	**Win the maritime reconnaissance and counter-reconnaissance battle**
	• Assist in locating enemy for attack • Deny intelligence collection by enemy (disrupt, defeat, or destroy enemy sensors, disrupt enemy's reconnaissance efforts)
	Deny enemy freedom of action at sea
	• Conduct sea denial operations in support of naval campaigning, integrate naval and joint fires
	Set conditions for the introduction of naval and joint forces
	• Reduce risk for penetration into contested areas • Disrupt and deny enemy's ISR-T elements, attack them with SIF or through joint kill web • Provide PNT and communications capabilities to counter disruptions by enemy's space, cyber, and EMS operations

Source: U.S. Marine Corps, *A Concept for Stand-in Forces* (Washington, DC, 2021), 10–18.

across the competition continuum" (see "Introducing the Concept of 'Campaigning'" for a discussion on the competition continuum).[65] Such a recognition is likewise reflected in the *Force Design 2030 Annual Update* released by the Marine Corps in May 2022, which states, "We focused the MLR too much on lethality ... further analysis demonstrates the even greater

65) David H. Berger, "Preparing for the Future: Marine Corps Support to Joint Operations in Contested Littorals," *Military Review* 101, no. 3 (May/June 2021): 5.

Marines with 3rd MLR of the U.S. Marine Corps and 4th Marine Brigade of the Philippines participate in a maritime key terrain security operations event on Batan Island, Philippines, on April 30, 2024, with a UH-60 with 25th Infantry Division of the U.S. Army flying in the background (U.S. Marine Corps photo by Cpl. Jaylen Davis)

value of resilient sensing and enabling of kill chains."[66]

"Reconnaissance" in "reconnaissance and counter-reconnaissance" (RXR) refers to utilizing "detection methods to obtain information about the activities and resources of an enemy or adversary," while "counter-reconnaissance" refers to "prevent[ing] adversaries from doing the same to us." Berger posited that in order to defeat enemy aggression given "the proliferation of the precision-strike regime," it is necessary to "win the 'hider-finder' competition" to detect enemy targets and disrupt the enemy's reconnaissance efforts while avoiding detection by the enemy. Marine units forward-deployed within the enemy's WEZ would "identify and track" the enemy's key reconnaissance platforms, scouting units, and other elements of the enemy's command, control, communications, computers, cyber, intelligence, surveillance, reconnaissance, and targeting (C5ISR-T) complex. The units could attack these enemy targets with their own "organic fires capabilities" and, "perhaps more importantly," provide information on these targets for attack by the Navy and other military services.[67]

SIF Concept identifies RXR as the most important "enduring function" of SIF to be performed during competition and armed conflict.[68] For example, during the phase of "competition below the threshold of violence," SIF

66) U.S. Marine Corps, *Force Design 2030 Annual Update* (Washington, DC, 2022), 4. For the shift in focus for SIF from anti-ship strike capabilities to RXR, see Kikuchi Shigeo, "Beigun ni okeru johosen gainen no tenkai (ge): Beikaiheitai 'joho' sento kino to '21-seikigata no shoheika rengo'" [The evolution of the concept of information warfare in the U.S. military (Part 2): U.S. Marine Corps' "information" combat function and "21st-century combined arms"], *NIDS Commentary* (July 27, 2023), 12–15.

67) Berger, "Preparing for the Future," 6, 8–9.

68) U.S. Marine Corps, *A Concept for Stand-in Forces*, 7, 11, 12, 13.

operating in contested areas would determine how to collect intelligence on potential adversaries as well as create and update their target lists while "gaining and maintaining contact [with these potential adversaries] below the threshold of violence." Disruption of adversaries' intelligence collection would be carried out by non-lethal means. In the event that these activities successfully detect coercive behavior or other malign activities by adversaries, this information would be communicated to other military services, agencies, as well as allies and partners, thereby enabling countermeasures to be adopted and giving rise to "deterrence by detection" (see Table 6.3).[69] According to Berger, these SIF capabilities "[offer] civilian leaders strategic options to identify, deter, and hold accountable competitors."[70]

Furthermore, during armed conflict, SIF "become an extension of the fleet's eyes and ears" to help locate enemy fleets and facilitate attacks by friendly forces; in other words, SIF not only serve to "complet[e] kill webs for a distributed fleet" but also engage in fighting with the intent to expose enemy locations and attack the enemy's reconnaissance means.[71] SIF's role in "completing kill webs" may be understood as another form of sea denial operations, also the role of SIF. The difference is whether to use organic fires or to draw on the capabilities that reside in the larger Joint Force.[72]

RXR takes advantage of SIF's unique ability to "stand-in" and operate within contested areas. Indeed, *SIF Concept* indicates that "SIF perform all-domain maneuver to cause a potential adversary to activate sensors and collection methods, thereby revealing how they currently perform reconnaissance," which would have been impossible in the first place without SIF being positioned to make contact with the "potential adversary" in the contested area.[73]

These roles of SIF suggest that the Marine Corps' activities increasingly resemble those of intelligence agencies. In fact, the Marine Corps has been pursuing measures aimed at strengthening cooperation with the Intelligence

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69) Ibid., 11, 12, 13.

70) Senate Armed Services Committee, *Statement of General David H. Berger Commandant of the Marine Corps as Delivered to the Senate Armed Services Committee on the Posture of the United States Marine Corps*, 117th Cong., 1st sess., June 22, 2021, 14.

71) U.S. Marine Corps, *A Concept for Stand-in Forces*, 7, 11, 12.

72) Matthew G. Glavy, "The Information Warfighting Function," *Marine Corps Gazette* 106, no. 4 (April 2022): 10.

73) U.S. Marine Corps, *A Concept for Stand-in Forces*, 12.

Community (IC) in relation to SIF. The *39th Commandant's Planning Guidance* released by the Marine Corps in August 2024 alluded to the need to establish sensitive compartmented information facilities (SCIF) on the front lines to "provid[e] access to higher levels of classification at the tactical level."[74] MARADMIN 165/24 was issued on April 3, 2024, to establish SCIFs in battalion/squadron-level tactical units. Its rationale was that "in order to fulfill mission requirements associated with the Stand-In Forces (SIF) concept and to perform other sensing and sense-making tasks on behalf of the Joint Force, a large number of Marine battalions, squadrons, and other units will require the capability to ... transmit data at the TOP SECRET/SENSITIVE COMPARTMENTED INFORMATION (TS/SCI) level."[75] The Marine Corps Information Command was also newly established in January 2023, and its purpose, according to Matthew Glavy, deputy commandant for information of the Marine Corps, is to enable SIF to "be the eyes and ears" of the IC, for the Marine Corps to leverage the IC's capabilities, and to tie SIF closer to the IC and to the Cyber Command as well as the Space Command.[76]

(3) SIF and Logistics in Contested Environments

In order to conduct distributed operations within the WEZ, SIF need to be supported by appropriate logistics, which is considered within the Marine Corps to be the "pacing function" that determines what a unit is physically capable of carrying out.[77] The *Marine Corps Operating Concept* released in September 2016 pointed to the need to redesign the traditional logistics approach known as "iron mountain" to support distributed operations in contested environments.[78] In May 2019, the Marine Corps released *Sustaining the Force in the 21st Century: A Functional Concept for Future Installations and Logistics Development*, which explained the need to transition to logistics

74) U.S. Marine Corps, *Planning Guidance*, 19.
75) MARADMIN 165/24 "Sensitive Compartmented Information Security Program Establishment Process," April 3, 2024, U.S. Marine Corps, https://www.marines.mil/News/Messages/Messages-Display/Article/3729184/sensitive-compartmented-information-security-program-establishment-process/.
76) Matthew G. Glavy and Eric X. Schaner, "Fighting Smart," *Marine Corps Gazette* 108, no. 4 (April 2024): 8, 9, 10.
77) U.S. Marine Corps, *FRAGO 01-2024 "Maintain Momentum"* (Washington, DC, 2024), 2.
78) U.S. Marine Corps, *Marine Corps Operating Concept: How an Expeditionary Force Operates in the 21st Century* (Washington, DC, 2016), 9.

that "support operations in austere and expeditionary environments which will be contested in multiple domains," and noted that, presently, "Marine Corps logistics is not postured to sustain the future fight defined by the *National Defense Strategy*."[79]

The problem concerning logistics in support of SIF is attributable to the fact that current logistics assets are not designed for maritime theaters, let alone for contested environments. *Installations and Logistics 2030* (*I&L 2030*), released by the Marine Corps in February 2023, calls for the diversification of "methods, nodes, and modes ... in staging, delivery, retrograde, and recovery of assets and logistics services to deployed forces" in order to support distributed operations in contested environments. For example, it proposes advancing transport from relying exclusively on manned trucks to a mix of manned and unmanned, air, surface, subsurface, and ground means that capitalize on both existing and emerging capabilities.[80] *TM EABO* released by the Headquarters, Marine Corps, in May 2023 also sets forth a policy of selecting the means of transport based on threat level. For example, while large amphibious and transport ships may be used in "permissive" environments, smaller and faster vessels such as Joint High Speed Vessels (JHSV), Landing Craft, Air Cushion (LCAC), and landing crafts will be used as the environment approaches one that is "semi-permissive," and if the threat increases further, transport aircraft, Ospreys, and heavy helicopters will be used. In "non-permissive" environments, unmanned platforms that would not result in loss of personnel if destroyed will be used, such as the Joint Precision Airdrop System (JPADS), which is steered toward preprogrammed locations guided by GPS once it drops from transport aircraft, drones, semi-submersible fuel supply barges, and unmanned submersibles.[81] *TM EABO* emphasizes the importance of not only transporting supplies but also reducing the demand for transport itself by using data-driven forecasting of logistical requirements, securing potable water through locally installed purification devices, local procurement of fuel, and local manufacturing of parts using 3D printing technology.[82]

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79) U.S. Marine Corps, *Sustaining the Force in the 21st Century: A Functional Concept for Future Installations and Logistics Development* (Washington, DC, 2019), 3.
80) U.S. Marine Corps, *Installations and Logistics 2030* (Washington, DC, 2023), 6.
81) Headquarters, U.S. Marine Corps, *Tentative Manual*, 6-5, figure 6-4, 6-6.
82) Ibid., 6-2, 6-4.

The Marine Corps recognizes the need for logistics to be web-based rather than chain-based in contested environments where enemy attack is to be expected. According to *I&L 2030*, current Marine Corps logistics utilize a "linear logistics and supply chain" that passes through "large warehousing and trans-shipment nodes" as the mode of transport changes along the way (railway to ship, ship to truck, etc.) from strategic logistics to front-line units. Therefore, if any single link in the supply chain is broken, there is a risk that supply to front-line units will be disrupted. In light of these vulnerabilities, *I&L 2030* proposes to "build a more resilient supply *web* that can adapt to temporary broken links or obstructions" (emphasis added) instead of "relying on a singular, vulnerable chain."[83]

One problem with transitioning to a logistics web is that Marine Corps logistics demonstrate an "excessive focus on tactical logistics without sufficient understanding of the linkages to operational and strategic logistical systems or the processes and platforms critical to tactical logistics execution."[84] This reflects the fact that in the joint doctrine, the Marine Corps sits at the end of the "singular, vulnerable chain" alluded to in *I&L 2030*, where it relies on strategic or operational logistical support provided by the U.S. Transportation Command or its sister services.[85] Aaron Angell, director of Logistics Combat Element Division, Combat Development and Integration (CD&I), Headquarters, Marine Corps, and Mark Schouten pointed out that the Marine Corps had previously only been concerned with its own tactical logistics, but given the nature of operations in contested environments, it was necessary for the Marine Corps to understand logistics above the tactical level, and that in some cases, it should be assumed that the Marine Corps would be involved in the operational logistics of deploying supplies and supply distribution systems required for operations in the theater. Among other tasks, Angell and Schouten highlighted the operation and defense of advanced bases, which serve as logistics bases in contested environments.[86] On the other hand, unlike operations in Iraq and Afghanistan where attacks on U.S. military logistics were limited to those against terminal transport, such as the roadside bombing of trucks, in a contested environment,

83) U.S. Marine Corps, *Installations and Logistics 2030*, 7.
84) Ibid., 2.
85) Joint Chiefs of Staff, *JP 4-0 Joint Logistics* (Washington DC, 2023), III-6.
86) Aaron Angell and Mark Schouten, "Leveraging Logistics Above the MAGTF," *Marine Corps Gazette* 108, no. 3 (March 2024): 12, 13.

attacks and disruptions can be expected at every level of logistics, inevitably contributing to the need for web-based logistical systems that can be flexibly reconfigured across different services the services and different echelons of logistics depending on the circumstances.

In fact, Marine Corps logistics units have been conducting a variety of experiments. For example, the 3rd Littoral Logistics Battalion, the logistics unit of the 3rd MLR, provided logistical support to and coordinated with not only the Marine Corps and other U.S. services but also some allied forces during Balikatan 2023 and other exercises. The battalion also deployed Littoral Sustainment Teams (LST) to each EAB during these exercises and experimented with new supply methods with lower signature, including combining various means of transport such as helicopters, unmanned systems, airdrops, and those provided by civilian contractors, as well as supply methods in which airdropped supplies are retrieved by units on the ground with a time delay.[87] However, as acknowledged by John Sullivan, deputy commander of the U.S. Transportation Command, "there is no 'silver bullet' to solve ... contested logistics challenges," attesting to the need to continue pursuing non-traditional methods and combine them with existing means in a flexible and complementary manner.[88]

The Army Aims for "Sea Power"

Like the Marine Corps, the Army is also focused on the importance of land in maritime theaters.[89] In a May 2024 article, Charles Flynn, commanding general of the U.S. Army Pacific (USARPAC), cited James Holmes' observation that U.S. allies "already hold the key terrain that China covets" and that "they need not wrest it from anyone," underscoring

87) Sean T. Conderman and William J. Culp IV, "Littoral Sustainment Teams," *Marine Corps Gazette* 108, no. 3 (March 2024): 47, 48, 49.

88) "USTRANSCOM Deputy Commander Delivers Keynote on Contested Logistics at DOD Maintenance Symposium," U.S. Transportation Command, https://www.ustranscom.mil/cmd/panewsreader.cfm?ID=8891FB55-FD76-2C77-E261D6A33AD0DBD4&yr=2024.

89) For the background of how the Army focused on its own roles in maritime theaters, see Kikuchi Shigeo, "Beirikugun maruchidomein sakusen (MDO) konseputo: '21-seiki no shoheika rengo' to arata na tatakaikata no mosaku" [U.S. Army Multi-Domain Operations concept: An army in search of novel ways of winning], *Boei Kenkyusho Kiyo* [NIDS Journal of Defense and Security] 22, no. 1 (November 2019): 19–20.

the advantage provided by the existence of these alliances for the U.S.[90] While "controlling the ground—key terrain—is paramount ... holding and defending vital areas requires credible means interwoven into defensive plans as part of a larger strategic framework."[91] Even though "an emplaced defense is difficult and costly to overcome," as evidenced by the failure of Ukrainian counteroffensives in 2023, having prepared defenses in the Indo-Pacific "raises costs to an aggressor and may deter conflict in the first place," and for this reason, a defense posture "must be set now."[92]

One of the reasons Flynn stresses the importance of land in maritime theaters is that it can accommodate land-based fires. He pointed out in a February 2024 article that Nelson's dictum "A Ship's a Fool to Fight a Fort," cited by Hughes as the fifth cornerstone of naval operations, "is taking on new meaning." According to Flynn, unlike in Nelson's time when means of fire projection from land to sea were limited to short-range coastal artillery, the range of anti-ship missiles today exceeds several hundred kilometers. Therefore, land-based fires "now can strike *defensively* and *offensively* far out to sea" (emphasis added), and crucially, "can shut down key maritime choke points from extended distances."[93] Flynn explained that as the Army continues to develop long-range fires capable of achieving this (see Table 6.4 for details), the USARPAC is making progress toward realizing the "Ring of Fires" concept by deploying ground-launched missiles of the Army, Marine Corps, and allies in the Strait of Malacca, Lombok Strait, Sunda Strait, and other locations to pose a threat to the movement of Chinese naval ships and civilian vessels, as exemplified by exercises in recent years with Japan and the Philippines.[94]

The Army's long-range fires are being developed as part of the Multi-Domain Task Force (MDTF) designed to "[employ] long-range precision fires and other effects from multiple domains" and to "defeat complex enemy systems through the collection of information and different forms of lethal

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90) James Holmes, "How America Can Beat China in a War," *The Buzz*, January 17, 2024, https://nationalinterest.org/blog/buzz/how-america-can-beat-china-war-208650; and Charles Flynn and Bill Lessner, "A Fighting Stance: US Army Must Hold Its Ground in Indo-Pacific," *Army* 74, no. 5 (May 2024): 38, 39.

91) Flynn and Lessner, "A Fighting Stance," 41.

92) Ibid., 42.

93) Flynn and Devine, "To Upgun Seapower," 40.

94) Ibid., 40, 41; and Carol V. Evans, "Providing Stability and Deterrence: The US Army in INDOPACOM," *Parameters* 51, no. 1 (Spring 2021): 29–32.

and non-lethal fires."[95] There are plans to activate a total of five such MDTFs, of which three will be deployed with the USARPAC. They will be equipped with three different categories of missiles based on their respective ranges (see Table 6.4).[96] The longest-range and most technologically ambitious of these missiles is the Long-Range Hypersonic Weapon (LRHW). With a range of more than 2,775 km, a flight speed of over Mach 5, and high maneuverability, it is designed to "defeat Anti Access/Area Denial (A2/AD) capabilities, suppress adversary Long Range Fires, and engage other high payoff/time critical targets."[97] The MDO concept was originally founded on the penetrate-dis-integrate-exploit sequence to defeat A2/AD threats, where U.S. forces would first neutralize and defeat the enemy's long-range systems that constitute the heart of their A2/AD capabilities, then neutralize and defeat their medium-range systems and completely defeating their A2/AD systems through operational maneuvers, before finally defeating their ground forces.[98] In this context, the LRHW is expected to feature heavily during relatively early phases of operations to defeat long-range systems and enable other units to maneuver. Although deployment of the LRHW has been delayed due to technical issues with the missile component, the Army has delivered the system excluding the missile component to Bravo Battery, 5th Battalion, 3rd Field Artillery Regiment, 1st MDTF, which will operate the LRHW once the complete system is delivered, and proceeded with training. Meanwhile, end-to-end test flights were successfully conducted in June and December 2024, and in view of this, the complete LRHW, including the missile component, is scheduled to be deployed to the aforementioned Bravo Battery before the end of fiscal 2025.

The Army is also introducing the Typhon system, which houses SM-6 and Tomahawk missiles with surface-to-surface and anti-ship strike capabilities in the containerized missile launcher Mk. 70 Payload Delivery System (PDS). It is categorized as the Mid-Range Capability (MRC) and expected

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95) Headquarters, Department of the Army, *FM 3-0 Operations* (Washington, DC, 2022), 4–18.

96) Headquarters, Department of the Army, *Army Multi-Domain Transformation: Ready to Win in Competition and Conflict Chief of Staff Paper #1*, unclassified version (Washington, DC, 2021), 12; and U.S. Army, *Army Force Structure Transformation* (Washington, DC, 2024), 1, 2, https://www.army.mil/article/274003/army_changes_force_structure_for_future_warfighting_operations.

97) Department of the Army, *Department of Defense Fiscal Year (FY) 2025 Research, Development, Test & Evaluation, Army, RDT&E – Volume II, Budget Activity 4B* (Washington, DC, 2024), 286.

98) Kikuchi, "Beirikugun maruchidomein sakusen (MDO) konseputo," 42.

Soldiers of a Land Based Missile System Battery, Philippine Army Artillery Regiment, were given a tour on the Typhon system at Laoag International Airport, Philippines, on June 27, 2024 (U.S. Army photo by Sgt. First Class Rudy Gonzalez)

to fill the gap range-wise between the LRHW and the PrSM and to "engage adversary moving maritime, high-payoff and A2/AD threats."[99] Development of the Typhon system, which is derived from existing systems, has progressed smoothly, and since the project began in July 2020, the Army test-fired SM-6 and Tomahawk missiles in 2023 and activated a second MRC battery in January 2024.[100] The Mk. 70 PDS, on which the Typhon system is based, is a 40-foot container equipped with Mk. 41 vertical launching systems (VLS) used on AEGIS ships. Besides the ground variant towed by trailers such as the Typhon system, there is a naval variant installed directly on the decks of vessels.[101] Therefore, applications of the Mk. 70 PDS are not limited to the Army's Typhon system. In October 2023, the U.S. Navy test-launched an SM-6 missile from an Mk. 70 PDS installed on the flight deck of the Littoral Combat Ship (LCS) USS *Savannah* toward "a surface target."[102] In September 2023 and May 2024, the U.S. Navy conducted deployment training for the Mk. 70 PDS mounted with SM-6 missiles alongside Danish

99) Cheryl Marino, "Prepare to Launch," *Army AT & L*, Summer 2024, 64.
100) Ibid., 65.
101) "Mk 70 Mod 1 Payload Delivery System," March 27, 2023, Lockheed Martin, https://www.lockheedmartin.com/content/dam/lockheed-martin/rms/documents/naval-launchers-and-munitions/Mk70_Product_Card.pdf.
102) Sam Lagrone, "Littoral Combat Ship Fires a Standard Missile 6 from Experimental Launcher at Sea," *USNI News*, January 23, 2024, https://news.usni.org/2023/10/25/littoral-combat-ship-fires-a-standard-missile-6-from-experimental-launcher.

Table 6.4. Long-range fires planned for deployment in the Multi-Domain Task Forces (MDTF)

Type	Purpose and range	Background
Long-Range Hypersonic Weapon (LRHW)	Ground attack >2,775 km	The LRHW uses the Common-Hypersonic Glide Body (C-HGB) jointly developed by the Navy and the Army as its warhead and boasts a speed of over Mach 5 as well as high maneuverability. By the end of September 2021, the Army completed delivery of ground equipment and training canisters (excluding the missile component) to Bravo Battery, 5th Battalion, 3rd Field Artillery Regiment, 1st MDTF. End-to-end test flights were successfully conducted for the missile component in June and December 2024 following test problems from 2021 to 2023. The LRHW is scheduled to be deployed to the 1st MDTF before the end of fiscal 2025.
Mid-Range Capability (MRC)	Ground attack (Tomahawk Block V) and anti-ship attack (Tomahawk Block Va and SM-6) 500–1,500 km	In November 2020, the Army selected the Tomahawk and SM-6 missiles for the MRC. One battery's worth of SM-6 Block IA and Tomahawk Block V were fielded in the fourth quarter of fiscal 2023. Procurement of Block V and Block Va begins in fiscal 2025. The first MRC battery was deployed to the 1st MDTF in December 2022. Test firings of SM-6 and Tomahawk missiles were conducted in the first half of 2023 and June 2023, respectively. Delta Battery, 5th Battalion, 3rd Field Artillery Regiment, as the second MRC battery in the 1st MDTF was activated in January 2024.
Precision Strike Missile (PrSM)	Ground attack, anti-ship attack (Increment 2) 60–499 km or more, 1,000 km or more (Increment 4)	The PrSM can be fired from the HIMARS and the MLRS. Its development will take place in four phases (Increments). The Army conducted a test launch at the White Sands Missile Range in November 2023 and accepted PrSM Increment 1 missiles in December 2023. Increment 2 (whose procurement will begin in fiscal 2026) adds strike capabilities against moving targets at sea and on land.

Sources: Department of the Army's FY2025 Budget Estimates documents.

forces on the Danish island of Bornholm in the Baltic Sea.[103] The Mk. 70 PDS, which modularizes missile launching capability within a container, can thus be installed on vessels that otherwise lack such capability to grant them this capability. This is consistent with the objective of distributed operations to threaten the enemy from multiple directions through more flexible and diversified employment of long-range fires. By leveraging existing systems like Tomahawk and SM-6 missiles, the Typhon system is expected to swiftly fill gaps in capability and thereby gaps in time.

Finally, the PrSM will be developed in four phases from Increment 1 to 4 as the successor to the Army Tactical Missile System (ATACMS) currently operated by the Army. The PrSM will have improved capabilities over the

103) "NMCB 133 Conducts SM-6 Missile Launcher Test in Denmark [Image 1 of 7]," September 20, 2023, DVIDS, https://www.dvidshub.net/image/8042255/nmcb-133-conducts-sm-6-missile-launcher-test-denmark; and "U.S. Naval Forces Europe Rehearse Deployment of Containerized Launching System in Denmark [Image 1 of 5]," May 6, 2024, DVIDS, https://www.dvidshub.net/image/8384794/us-naval-forces-europe-rehearse-deployment-containerized-launching-system-denmark.

ATACMS in various aspects, including a range exceeding 499 km, which will be further extended to more than 1,000 km in Increment 4, compared to a range of around 300 km for the ATACMS. Like the ATACMS, the PrSM can also be launched from the Multiple Launch Rocket System (MLRS) and the HIMARS, but while the ATACMS can only hold one missile per pod, the PrSM can hold two missiles per pod.[104] In addition, the ATACMS lacks anti-ship strike capabilities, while the PrSM will add anti-ship strike capabilities in Increment 2. On June 16, 2024, during a sinking exercise (SINKEX) conducted as part of the exercise Valiant Shield 24, the 3rd MDTF and the 1st Battalion, 181st Field Artillery Regiment of the Tennessee National Guard, deployed to Palau and fired PrSMs from the Autonomous Multi-Domain Launcher (AML), an unmanned version of the HIMARS, to attack moving targets at sea.[105] Launched in conjunction with the SINKEX were High-Altitude Balloons (HAB) equipped with "electromagnetic spectrum sensors and radio networking equipment which will enable maritime domain awareness" from an altitude of 50,000 feet, as well as the Vanilla Ultra-Long Endurance Unmanned Aircraft System (ULE UAS) relaying communications.[106] Given that the PrSM Increment 2 missile relies on passive radio homing and utilizes infrared imaging guidance for terminal guidance, it can be inferred that the aforementioned launch of the Vanilla system sought to test technologies involved in scanning for targets and transmitting target information essential for PrSM firing.[107]

While both the Marine Corps' SIF discussed in the previous part and the Army's MDTF discussed in this part are designed to serve as force multipliers

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104) Cheryl Marino, "ATACMS to PrSM: Out with the Old, In with the New," *Army AT&L*, Summer 2024, 139, 140.

105) Stephen Page, "3d MDTF Demonstrates Ability to Operate in the Indo-Pacific," U.S. Army, https://www.army.mil/article/277487/3d_mdtf_demonstrates_ability_to_operate_in_the_indo_pacific; and Thomas Newdick, "Army's New PrSM Ballistic Missile Hits Moving Ship for the First Time in Pacific Test," *The War Zone*, June 24, 2024, https://www.twz.com/land/armys-new-prsm-ballistic-missile-hits-moving-ship-for-the-first-time-in-pacific-test.

106) U.S. Army Pacific, "US Army to Launch High Altitude Balloons," June 6, 2024, U.S. Army, https://www.army.mil/article/277011/us_army_to_launch_high_altitude_balloons; and Page, "3d MDTF Demonstrates."

107) John Keller, "Lockheed Martin Starts Building Early Versions of Land-Based PrSM Precision Missile with Multi-Mode Guidance," *Military & Aerospace Electronics*, November 7, 2023, https://www.militaryaerospace.com/sensors/article/14301135/multi-mode-guidance-precision-missile.

in maritime theaters, differences between them exist. According to Thomas G. Mahnken, the Marine Corps' roles are RXR and to strike by operating as an extension of "coastal artillery," whereas the Army's MDTF, while having longer range and greater striking power, lacks mobility. In view of this, it is imperative to consider situations in which the Marines "can make the greatest contribution" and Army units "offer the best set of capabilities."[108]

The Air Force's Agile Combat Employment (ACE) and Distributed Operations in the Western Pacific

During the Russo-Ukrainian War that began in February 2022, the Ukrainian Air Force promptly dispersed its aircraft from its main bases to alternative airfields to evade a Russian missile strike upon receiving an alert warning.[109] As recounted in a report on the war published by the National Defence University of Ukraine in 2023, "[h]ours before war broke out, a decision was made to rely on intelligence data and use the leadership philosophy of the Ukrainian military to help air brigades evade attack. As a result, the majority of Ukrainian military aircraft were relocated from enduring bases to other airfields."[110] A report published by the Royal United Services Institute (RUSI) in November 2022, nine months after the outbreak of war, found that the dispersal of Ukraine's operational aircraft from the main airbases to smaller operating bases at the start of Russian invasion "played a role in ensuring [their] survivability" despite the technical overmatch of the Russian Aerospace Forces. The report also pointed out that this was made possible by the training that had been conducted prior to the outbreak of war, especially the training of maintenance crews to carry out pre-flight preparation of aircraft in field conditions.[111] David H. Petraeus and Andrew

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108) Thomas Mahnken, "A Maritime Strategy to Deal with China," *Proceedings* 148, no. 2 (February 2022): 49.

109) Thomas Newdick, "Ukrainian MiG-29 Pilot's Front-Line Account of the Air War Against Russia," *The War Zone*, April 2, 2022, https://www.twz.com/45019/fighting-russia-in-the-sky-mig-29-pilots-in-depth-account-of-the-air-war-over-ukraine.

110) National Defence University of Ukraine, *Lessons Learned of the Russia-Ukrainian War*, University ed. (Kyiv, 2023), 170.

111) Mykhaylo Zabrodskyi, Jack Watling, Oleksandr V. Danylyuk, and Nick Reynolds, *Preliminary Lessons in Conventional Warfighting from Russia's Invasion of Ukraine: February–July 2022* (London: RUSI, 2022), 21; and Justin Bronk with Nick Reynolds and Jack Watling, *The Russian Air War and Ukrainian Requirements for Air Defence* (London: RUSI, 2022), 39.

Roberts observed in a recent book that "Ukraine's practice of moving its planes to random locations also stymied Russian hopes for a Six Day War-style victory."[112]

The dispersed employment of Ukrainian military aircraft in the Russo-Ukrainian War is said to have been the result of Ukraine's own initiative instead of advice and guidance from foreign militaries. However, U.S. Air Force officials have perceived the case of Ukraine as a real-world battlefield application of the concept of distributed operations they are advancing in the form of Agile Combat Employment (ACE). At the Air & Space Forces Association's national convention held in September 2022, Benjamin W. Hedden, command chief master sergeant for the U.S. Air Forces in Europe – Air Forces Africa, pointed out that the Ukrainian Air Force, 27th largest air force in the world, had been fighting for over 200 days against the Russian Aerospace Forces, 2nd largest, a feat that could only have been achieved with ACE, making it the "perfect example" of ACE.[113] Furthermore, in a speech in Washington, D.C., on August 18, 2023, James B. Hecker, commander of U.S. Air Forces in Europe – Air Forces Africa, expressed surprise that the Ukrainian Air Force had been fighting for a year and a half since the outbreak of war and cited ACE as one of the priorities based on lessons to be learned from the Russo-Ukrainian War for the U.S. Air Force, which needs to "disburse our aircraft amongst different airfields and potentially even highways and these kind of things that Finland brings to the plate as they recently got in [NATO]."[114]

In light of the directives set forth in the *2018 NDS* and *2022 NDS*, the U.S. Air Force, like other services, is required to operate within range of possible adversary attack. This can be said to be a vital requirement given U.S. relationships with allies along the first island chain. In a 2020 article written during his tenure as commander of the Pacific Air Forces (PACAF), Charles Q. Brown, who would later serve as chief of staff of

112) David H. Petraeus and Andrew Roberts, *Conflict: The Evolution of Warfare from 1945 to Ukraine* (Glasgow: William Collins, 2023), 372.

113) James C. Kitfield, "Senior Enlisted Leader: Ukraine Is an ACE Success Story," September 21, 2022, Air & Space Force Association, https://www.airandspaceforces.com/enlisted-leaders-point-to-agile-combat-employment-ace-success-story/.

114) General James B. Hecker, commander, US Air Forces Europe and US Air Forces Africa, breakfast with the Defense Writers Group, August 18, 2023, 3, https://nationalsecuritymedia.gwu.edu/files/2023/08/DWG-Hecker-230818.pdf.

the Air Force and chairman of the Joint Chiefs of Staff, stressed that even though "[c]urrently our forces within the 'first island chain' are capable of being ranged by adversary threats ... we have to be prepared to fight in a contested and degraded environment with only the forces that we have in theater." Retreat by U.S. forces to a position of safety during conflict would "break the fundamental trust" of U.S. relationships with allies. Therefore, Brown argued, it should be assumed that they would remain within range of adversary attack, making it imperative to invest across the doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF-P) spectrum to mitigate the risks of this approach.[115] This is similar in its basic idea to the Marine Corps' SIF.

The first problem is the vulnerability of fixed and large bases known as Main Operating Bases (MOB) used by the U.S. Air Force as operating locations. Mark Gunzinger of the Mitchell Institute for Aerospace Studies, Air & Space Forces Association, noted that "the best place to kill an enemy's air force is on the ground."[116] Indeed, no matter how advanced an aircraft is, it cannot demonstrate its capabilities while on the ground, and no air force can function without locations that serve as its bases of operations—any aircraft must eventually return to the ground for resupply and maintenance. An attack on a base can lead to the destruction of aircraft on the ground as well as the loss of the very foundation from which an air force's combat power is generated.

The vulnerability of Air Force bases has become even more acute. Starting in 1990s, the Air Force closed a number of its installations and consolidated forces in a smaller number of MOBs.[117] Therefore, Jon T. Thomas, deputy commander of PACAF, noted in his 2021 article that "even when actively defended, these MOBs are vulnerable and, thus, cannot be the sole means of US and allied maneuver and sustainment in a great-power conflict."[118]

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115) C.Q. Brown Jr., "Demystifying the Indo-Pacific Theater," *Journal of Indo-Pacific Affairs* 3, no. 1 (Spring 2020): 9.

116) U.S. Air Force, *AFDN 1-21 Agile Combat Employment* (Montgomery, AL: LeMay Center, 2022), 2.

117) Jon T. Thomas, "Bases, Places, and Faces: Operational Maneuver and Sustainment in the Indo-Pacific Region," *Journal of Indo-Pacific Affairs* 4, no. 3 (Summer 2021): 29.

118) Ibid.

It will thus be necessary for the U.S. Air Force to diversify bases of operations away from MOBs that would be vulnerable to Chinese attacks. Thomas went on to explain the benefits of doing so as follows. For example, in the event of war with China, if we were to compare a scenario in which the U.S. Air Force can only use 10 MOBs with a scenario in which the U.S. Air Force disperses its operations to 50 alternative operating locations in addition to the 10 MOBs, the ratio of missiles apportioned to a target location would, simply put, be dramatically reduced in the latter scenario to one-sixth of that in the former scenario. This means that the Chinese would be unable to determine with confidence whether a particular base has been neutralized. Conversely, the number of missiles required to neutralize all bases and operating locations with confidence would increase by six times, thereby imposing costs on China. In this way, the addition of alternative locations to existing bases, as well as the incorporation of these locations into a network and their utilization for air force maneuvers, will pose "a significant challenge to the A2/AD strategy pursued by the PRC."[119]

ACE seeks to address the vulnerabilities of MOBs by "dispersing [aircraft] operations from large bases to networks of smaller locations."[120] The U.S. Air Force has executed ACE in various exercises and training and made progress in formulating its doctrine (see column for the background of how ACE came to be accepted within the Air Force). In December 2021, the LeMay Center for Doctrine Development and Education of the Air University published the first doctrine on ACE, *Air Force Doctrine Note (AFDN) 1-21, Agile Combat Employment*,[121] with a revised version released in August 2022.[122] According to *AFDN 1-21*, ACE is a "proactive and reactive operational scheme of maneuver executed within threat timelines to increase survivability while generating combat power."[123] A key element in this definition is "threat timelines," which refer to "theater-specific planning

119) Ibid.
120) Department of the Air Force, *Fiscal Year 2024 Department of the Air Force Posture Statement* (Washington, DC, 2023), 12.
121) Air University Public Affairs, "CSAF Signs Agile Combat Employment Doctrine Note," December 14, 2021, https://www.maxwell.af.mil/News/Display/Article/2873496/csaf-signs-agile-combat-employment-doctrine-note/.
122) "Air Force Doctrine Note 1-21 - Agile Combat Employment," August 23, 2022, LeMay Doctrine Center, https://www.doctrine.af.mil/Operational-Level-Doctrine/AFDN-1-21-Agile-Combat-Employment/.
123) U.S. Air Force, *AFDN 1-21*, 1.

factors" based on the time required for completing the F2T2EA (find, fix, track, target, engage, and assess) cycle. These factors are essential in the context of ACE for planning deployment to the next operating location while taking into account the time before the enemy actually attacks.[124] The success of ACE is contingent on the speed of U.S. execution of ACE relative to the enemy's F2T2EA, with aircraft executing ACE having to "disperse and operate from a variety of forward locations at a tempo fast enough to outpace an adversary's targeting cycle."[125]

Threat timelines are clearly reflected in "reactive maneuver," one of the two schemes of maneuver outlined in *AFDN 1-21* (see Table 6.5). This is because reactive maneuver involves moving and dispersing forces from concentrated hubs in response to anticipated or realized enemy aggression to "complicate enemy targeting," "increase survivability" of U.S. forces, and "reposition forces for follow-on operations."[126] Meanwhile, "proactive maneuver" conducted during peacetime seeks to strengthen relationships with allies and partners, engage in messaging with adversaries, and gain military advantage, while also playing an important role in the context of campaigning, which will be discussed later.

The key to ACE is to "increas[e] the number of locations an adversary must target" by adopting a posture in which Air Force units repeatedly move between a number of operating locations with agility, thereby creating "[o] perational unpredictability" for the enemy. Alternative operating locations are selected based on operational necessity, ease of supply, and risk of

An F-35A assigned to the 355th Fighter Squadron, Eielson Air Force Base, Alaska, conducts a no-notice rapid launch exercise at Kadena Air Base as part of ACE training on September 22, 2023 (U.S. Air Force photo by Lt. Col. Raymond Geoffroy)

124) Ibid., 3.
125) Michael Blaser, "Problems for Agile Combat Employment," *Proceedings* 150, no. 7 (July 2024): 54.
126) U.S. Air Force, *AFDN 1-21*, 3.

Table 6.5. The two schemes of maneuver in Agile Combat Employment (ACE)

Proactive maneuver (peacetime)	Reactive maneuver (during armed conflict)
A scheme of maneuver by which forces and assets are moved between operating locations to assure allies and partner nations of U.S. support, alter adversary or enemy understanding of friendly intentions and capabilities, posture to deter aggression, or gain advantage	A scheme of maneuver employed in response to observed, perceived, anticipated, or realized enemy aggression using mobility and dispersion of forces and assets to complicate enemy targeting, redistribute forces away from concentrated hubs, increase survivability, and reposition forces for follow-on operations

Source: U.S. Air Force, *AFDN 1-21 Agile Combat Employment* (Maxwell AFB, AL: LeMay Center, 2022), 3.

enemy attack.[127] In addition, ACE requires not only dispersal to alternative operating locations, but also the return to "enduring locations" equipped with robust supply and maintenance facilities once the operation has been conducted for some time (although it is assumed that forward supply will be carried out).[128] Furthermore, in order to secure airfields that are not traditional "bases" as operating locations, it is necessary to negotiate with host nations to obtain "access, basing, and overflight,"[129] as well as to evolve methods for transporting and distributing supplies and to incorporate local procurement.[130]

ACE seeks to reform not only the employment of aircraft but also their basing. This should not come as a surprise given that ACE was conceived to mitigate the issues caused by the vulnerabilities of MOBs. Traditionally, U.S. Air Force bases were designed to function independently by leveraging the personnel, facilities, and equipment assigned to each base, whether for aircraft operations or for other base functions.[131] In contrast, ACE is predicated on the employment of enduring locations and contingency locations (CL) as "base clusters" that are "geographically grouped for mutual protection and ease of C2" (see Table 6.6).[132]

127) Ibid., 6.
128) Ibid., 9.
129) Ibid., 6.
130) Ibid., 10.
131) Patrick Mills, et al., *Building Agile Combat Support Competencies to Enable Evolving Adaptive Basing Concepts* (Santa Monica, CA: RAND, 2020), 20.
132) U.S. Air Force, *AFDN 1-21*, 2.

Column

From Rapid Raptor to Agile Combat Employment (ACE): Development of the U.S. Air Force's Concept of Distributed Operations

The concept of ACE evolved from Rapid Raptor, an F-22 rapid deployment program conducted by the PACAF from 2013 onward. Rapid Raptor was initially conceived by an F-22 pilot at Joint Base Elmendorf-Richardson (Alaska).[1] The idea behind Rapid Raptor was to package four F-22s with a single C-17 transport aircraft loaded with the maintenance personnel, equipment, and materials required to support employment of the F-22s for rapid movement overseas from an Air Force base in Hawaii or Alaska, and to be ready to launch from the new location within 24 hours of deployment.[2] Rapid Raptor had two features: it served as a flexible way to utilize F-22s, which are few in number, and as a means to counter the threat of China's long-range strike capabilities.[3] Since 2017, Rapid Raptor has evolved into ACE in the PACAF based on the idea of "taking it to the larger concept of, 'How do we operationally maneuver that? How do we work the command and control for that?'"[4]

Meanwhile, similar efforts were being proposed in Europe. During his tenure as director of operations of the U.S. Air Forces in Europe – Air Forces Africa, General Brown, who would later advocate for ACE as PACAF commander and chief of staff of the Air Force, proposed in 2015 an employment concept called "untethered operations" (UTO). As part of UTO in a hypothetical war with Russia, fighter aircraft would be packaged with transport aircraft, as in Rapid Raptor, and conduct operations while moving from one NATO airfield to another to evade attack from Russia.[5] In fact, in the same year, F-22s stationed in Florida began to be deployed to Europe as Rapid Raptor.[6] The European Deterrence Initiative, launched by the Department of Defense in the wake of Russia's forced annexation of Crimea and military intervention in Donbas in 2014, included the improvement of NATO airbase facilities, which could be said to be aimed at securing airfields that would allow for the dispersed employment of aircraft as proposed by

Brown. In light of the reality that "there was [*sic*] a lot of entities across the Air Force doing ACE-like events," Brown, who assumed the position of PACAF commander in July 2018, held a meeting in June 2019 with the deputy commanders of all the Air Force major commands (MAJCOM) to codify ACE-related terminology across the different MAJCOMs and share their understanding of what ACE entails.[7] On the basis of this foundation, Brown, who was promoted to chief of staff of the Air Force in August 2020, positioned ACE as an official initiative across the entire Air Force.[8] ACE is currently being incorporated into NATO air forces as well.[9]

1) Brian Everstine, "Elmendorf Pilots Create F-22 'Rapid' Deployment," *Air Force Times*, November 18, 2013, Factiva.
2) Amy McCullough, "Don't Call It a Comeback," *Air Force Magazine* 98, no. 7 (July 2015): 25; and Marc V. Schanz, "Rapid Raptor Package," September 26, 2013, https://www.airandspaceforces.com/box092613rapid/.
3) David A. Williamson, "Pacific Air Forces' Power Projection: Sustaining Peace, Prosperity, and Freedom," *Air & Power Journal* 29, no. 1 (January/February 2015): 58–59.
4) Amy Hudson, "ACE in the Hole," March 30, 2017, Air & Space Forces Association, https://www.airandspaceforces.com/article/ace-in-the-hole/; and Amy Hudson, "Rapid Raptor 2.0," March 7, 2017, Air & Space Forces Association, https://www.airandspaceforces.com/rapid-raptor-2-0/.
5) For untethered operations, see Kikuchi Shigeo and Arakaki Hiromu, "Chapter 8: The United States: Addressing an Increasingly Harsh Strategic Environment," in *East Asian Strategic Review 2016*, English edition (Tokyo: NIDS, 2016), 271.
6) Sergio A. Gamboa, "COMACC Praises Rapid Raptor Tyndall Airmen," October 14, 2015, Air Combat Command, https://www.acc.af.mil/News/Article-Display/Article/660367/comacc-praises-rapid-raptor-tyndall-airmen/.
7) "What's on the Mind of Gen. C.Q. Brown," *Air Force Magazine* 103, no. 4 (April 2020): 9; and Jennifer Hlad and Amy McCullough, "ACE-ing the Test: WestPac Exercise Stresses Agile Combat Employment," *Air Force Magazine* 103, no. 5 (May 2020): 40.
8) While the "Fiscal Year 2022 Department of the Air Force Posture Statement" submitted to Congress in 2021, the year following Brown's appointment as chief of staff of the Air Force, cites ACE as a "new approach," there was no mention of ACE in the fiscal 2021 edition of the statement submitted to Congress in the previous year of 2020.
9) "Agile Combat Employment – Enhancing NATO's Expeditionary Capability and Resilience," December 8, 2023, NATO, https://ac.nato.int/archive/2023/ACE_symposium_23-2.

Table 6.6. Possible operating locations in Agile Combat Employment (ACE)

Enduring locations	Contingency locations (CL)
Main Operating Base (MOB) • Facility outside the United States and its territories • Permanently stationed operating forces and robust infrastructure	Semi-Permanent Contingency Location (SCL) • Contingency location that provides support for a prolonged contingency operation • Enhanced infrastructure and support services consistent with sustained operations
Forward Operating Site (FOS) • Scalable location outside the United States and its territories • Intended for rotational use by operating forces	Temporary Contingency Location (TCL) • Locale that provides near-term support for a contingency operation • Expedient infrastructure and support services expanded beyond Service-organic capabilities
Cooperative Security Location (CSL) • Facility outside the United States and its territories • Little or no permanent U.S. presence • Maintained by periodic Service, contractor, or host nation support	Initial Contingency Location (ICL) • Locale occupied in immediate response to a contingency operation • Austere infrastructure and limited support services • No external support except through Service-organic capabilities

Source: U.S. Air Force, *AFDN 1-21 Agile Combat Employment* (Maxwell AFB, AL: LeMay Center, 2022), appendix A.

Meanwhile, there has been a growing recognition since the Rapid Raptor concept was initiated in 2013 that the dispersed employment of aircraft such as in ACE will require a large number of alternative operating locations over a wide area. A RAND study commissioned by the U.S. Air Force in the same year identified 100 airstrips in the vicinity of the South China Sea as potential alternative operating locations, while another Air Force study found 174 forward arming and refueling points (FARP) that could be secured within the first island chain.[133] In addition, Kenneth S. Wilsbach, commander of PACAF, revealed in an interview on November 18, 2020, that the PACAF has studied "every single piece of concrete" across the Indo-Pacific and conducted a thorough survey of airstrips in the western Pacific that could be utilized for the operations of tactical and transport aircraft (see "Campaigning and Force Posture in the Western Pacific" for a discussion on efforts to secure alternative airfields in the western Pacific).[134] Various training and exercises centered on ACE have also been conducted

133) Stacie L. Pettyjohn and Alan J. Vick, *The Posture Triangle: A New Framework for U.S. Air Force Global Presence* (Santa Monica, CA: RAND, 2013), 26, 27; and Robert D. Davis, "Forward Arming and Refueling Points for Fighter Aircraft Power Projection in an Antiaccess Environment," *Air & Space Power Journal* 28, no. 5 (September/October 2014): 15.

134) Brian W. Everstine, "PACAF Surveyed Every 'Piece of Concrete' in the Pacific for Agile Combat Employment," November 25, 2020, Air & Space Forces Association, https://www.airandspaceforces.com/pacaf-surveyed-every-piece-of-concrete-in-the-pacific-for-agile-combat-employment/.

by the U.S. Air Force in the western Pacific, as is the case in other regions (see "Air Force Exercises Aimed at a Distributed Force Posture" for details).

Nevertheless, a variety of issues pertaining to ACE have been highlighted. As mentioned above, ACE is founded on the premise that U.S. forces will move before they are detected and attacked by the enemy, and this requires the U.S. to move faster than the enemy's targeting cycle. In this regard, Air Force Captain Michael Blaser has suggested that if China were to automate the analysis of the large volume of satellite imagery obtained from its numerous Earth-observation satellites using artificial intelligence (AI), this may greatly accelerate the targeting cycle of the Chinese and make it more difficult to launch aircraft prior to enemy attack, which is imperative for ACE. Blaser then pointed out that "for ACE to remain credible, the Air Force must pair it with deception techniques to delay and confuse the enemy's ability to identify and target parked aircraft."[135]

In addition, contested logistics is the common challenge facing ACE as well as the Marine Corps' EABO and SIF. PACAF Commander Wilsbach has also acknowledged that "some of the difficult things about ACE are logistics," particularly the problem of how to deliver fuel, ammunition, spare parts, and water to airfields that serve as operating locations of aircraft in a contested environment in the event that the aircraft have been dispersed out to airfields on islands. Wilsbach suggests that one solution to this problem, as in the case of the Marine Corps, is pre-positioning.[136]

Summary

As outlined in this section, the U.S. military has adopted a strategy of denial in response to the possibility of armed conflict with China and Russia, and to this end, it has prepared for the conduct of distributed operations in contested environments under enemy attack and disruption. Land will play a critical role when conducting these operations in the western Pacific. The Marine Corps' EABO and SIF, as well as the Army's efforts to introduce long-range strike capabilities, are geared toward controlling key maritime terrain and thus exerting effects at sea. The Air Force's ACE, which operates from austere airstrips while evading enemy attack, is also predicated on

135) Blaser, "Problems for Agile Combat Employment," 54.
136) "Creating Dilemmas," *Air & Space Forces Magazine* 107, no. 7 & 8 (July/August 2024): 9.

securing airstrips that serve as operating locations in maritime theaters. Finally, given that these operational concepts are founded on the premise of being executed in contested environments, of growing importance are the synchronization between long-range striking means and the actions of units receiving fire support; logistical coordination; intelligence, surveillance, reconnaissance, and targeting (ISR-T) capability such as RXR performed by the Marine Corps; and the coordination of units involved in the battle for information in the use of deception to mislead the enemy regarding the location of one's forces.

"Campaigning" in Strategic Competition

Introducing the Concept of "Campaigning"

The various activities conducted by the U.S. military in the Indo-Pacific are not limited to those directly aimed at deterring armed conflict. While they are aligned with a posture for distributed operations in accordance with a strategy of denial, as described earlier, they are also part of "campaigning": a broader, sustained effort to strengthen the U.S. position and prevent adversaries from achieving their goals.

The term "campaign" is defined in the *DOD Dictionary of Military and Associated Terms* as "a series of related operations aimed at achieving strategic and operational objectives *within a given time and space*" (emphasis added).[137] For example, the "Philippines Campaign" during the Pacific War refers to operations including the landing operations by U.S. forces on the Philippine island of Leyte in October 1944 and four naval battles concurrently fought in the waters surrounding the Philippines, as well as numerous landing operations and land battles on the islands of the Philippines, which lasted until the end of the war.[138] Today, the term "campaign" is also used to refer to exercises, training, and other peacetime operations conducted by

137) Department of Defense, *Department of Defense Dictionary*, s.v. "campaign."
138) Patrick C. Sweeney, *Operational Art Primer* (Newport, CT: USNWC, 2010), 3.

U.S. forces alongside allies and partner countries.[139]

JCIC released by the Joint Chiefs of Staff in March 2018

The concept of "campaigning," the gerund of "campaign," was first introduced in defense policy debates by the *Joint Concept for Integrated Campaigning* (*JCIC*) released by the Joint Chiefs of Staff in March 2018.[140] *JCIC* called for the elimination of the "binary conception" that posits peace and war as mutually exclusive, and proposed a "competition continuum" consisting of "cooperation," "competition below armed conflict," and "armed conflict" as a framework for understanding the relationships between the United States and other states and non-state actors. Here, "competition below armed conflict" refers to a state where two or more actors "have incompatible interests but neither seeks to escalate to armed conflict." According to *JCIC*, during "competition below armed conflict," the U.S. will "employ all measures short of those that might reasonably lead to conflict" to maintain or strengthen its strategic position and prevent competitors from achieving their goals, while taking into account resource and policy constraints as well as the level of priority and balance with policy objectives in other regions.[141] Traditionally, the U.S. strongly gravitated toward a binary conception that if it is not war, then it must be peace. This oversimplification results in an inability to conceptually grapple with gray-zone situations, hybrid warfare, salami slicing tactics, and other situations that do not fit neatly into this dichotomy. *JCIC* also noted that the U.S. military lacked an "overarching conceptual framework" to understand these contingencies, which is why "competition below armed conflict" was proposed as a framework for

139) For example, in the Joint Strategic Planning System (JSPS), each combatant command is tasked to develop a Combatant Command Campaign Plan and plan its "day-to-day" campaigning based on strategic guidance issued by the Secretary of Defense. Joint Chiefs of Staff, *CJCSI 3100.F Joint Strategic Planning System* (Washington, DC, 2024), D-3.
140) Joint Chiefs of Staff, *Joint Concept for Integrated Campaigning* (Washington, DC, 2018).
141) Ibid., 4, 8, 9.

understanding actions taken by adversaries under circumstances below the threshold of war.[142]

JCIC proposed "integrated campaigning," which involves "integrating military activities and aligning non-military activities" as a response to "competition below armed conflict."[143] According to *JCIC*, the choice of the term "campaigning" over "campaign" serves to "highlight the often enduring quality of competition."[144] As the intensity with which actors press the competition changes in response to the actions of competitors, domestic political considerations, and other events, "a rigid, pre-determined course of military action will often be unsuitable for competition."[145] Therefore, unlike campaigns in a traditional sense, "integrated campaigning" is not limited to a "given time and space" but is understood as "part of a larger enduring effort to achieve sustainable and acceptable outcomes,"[146] which is in turn founded on a recursive process to (1) "Understand the Operating Environment," (2) "Design and Construct the Campaign," (3) "Employ the Integrated Force and Secure Gains," and (4) "Assess and Adapt the Campaign," before looping back to (1).[147]

The concept of campaigning was also incorporated into a series of U.S. strategy papers released in the fall of 2022. The *National Security Strategy* (*2022 NSS*) outlines a policy of "operat[ing] our military using a *campaigning mindset*—sequencing logically linked military activities to advance strategy-aligned priorities" (emphasis added), while the *2022 NDS* dedicated an entire chapter to campaigning ("V. Campaigning").[148] "Campaigning" is defined in the *2022 NDS* as "the conduct and sequencing of logically-linked military activities to achieve strategy-aligned objectives over time." Campaigning is also expected to "change the environment to the benefit of the U.S. and our Allies and partners, while limiting, frustrating, and disrupting competitor

142) Kikuchi, "Beirikugun maruchidomein sakusen (MDO) konseputo," 31–33; and Ibid., 4.
143) "Integrated campaigning" is defined in *JCIC* as "Joint Force and interorganizational partner efforts to enable the achievement and maintenance of policy aims by integrating military activities and aligning non-military activities of sufficient scope, scale, simultaneity, and duration across multiple domains." Joint Chiefs of Staff, *Joint Concept of Integrated Campaigning*, 6.
144) Ibid., 6n7.
145) Ibid., 19.
146) Ibid.
147) Ibid., vii.
148) White House, *National Security Strategy* (Washington, DC, 2022), 20.

activities that seriously impinge on our interests."[149] As can be seen from this, campaigning has an adversarial character through which it strengthens oneself and weakens competitors.[150]

Furthermore, the expected objective of campaigning to "change the environment to the benefit of the United States and our Allies and partners" entails "gain[ing] military advantage and enhanc[ing] deterrence," and the means to achieve this include "[w]orking with Allies and partners [to] build and exercise force elements needed in crisis or conflict, such as infrastructure, logistics, command and control, dispersal and relocation, and mobilization."[151] The infrastructure as well as dispersal and relocation mentioned above suggest that campaigning is inextricable from "force posture," which will be discussed in "Campaigning and Force Posture in the Western Pacific." The *2022 NDS* also states under "Campaigning and Our Global Posture" that the U.S. military's force posture will "focus on the access and warfighting requirements" for achieving deterrence and victory in conflicts where deterrence fails, and that the Department of Defense will "conduct campaigning activities from this [force] posture." At the same time, the *2022 NDS* calls for investment in critical infrastructure in the Indo-Pacific, as well as expanded regional access, as part of these efforts.[152] Needless to say, these are subject to negotiations with host nations and predicated on coordination with agencies such as the Department of State and U.S. Agency for International Development.

The *2022 NDS* also recognizes the limits of military force in campaigning, as "traditional military tools may not always be the most appropriate response" to counter the coercive actions of competitors in gray-zone situations. Meanwhile, emphasis is placed on cooperation with other U.S. government departments and agencies, whose "intelligence sharing, economic measures, diplomatic actions, and activities in the information domain ... may prove more effective," and with which U.S. military activities can be "integrated for maximum impact."[153]

The importance of the coordination of military and non-military activities, as well as the limitations of the role of military force in this context,

149) Department of Defense, *2022 National Defense Strategy*, 12.
150) Ibid.
151) Ibid.
152) Ibid., 12, 13.
153) Ibid., 12.

is also emphasized in the *Joint Concept for Competing* (*JCC*) released by the Joint Chiefs of Staff in February 2023. According to *JCC*, the "alignment" of military and non-military activities advocated in *JCIC* as "integrated campaigning" is inadequate for countering China and other competitors that combine tangible and intangible strengths to compel changes in the actions of target countries, and it is essential to "integrate" the operations and activities of the military in time, space, and purpose with the broader efforts of the U.S. Government as a whole.[154] Furthermore, *JCC* recognizes that U.S. adversaries possess a broader conception of warfare and seek to defeat the United States without resorting to armed conflict, and thus the U.S. military needs to "accept its critical but supporting role in strategic competition."[155] *JCC* pointed out how the U.S. military tended to "[view] the strategic environment through the overly simplistic dichotomy of either warfighting during armed conflict or deterrence during peace," but during strategic competition, the U.S. military must recognize the fact that it is "not just in the 'warfighting business'; it is in the 'national security business.'"[156]

This is because strategic competition with countries such as China, which was mentioned in the *2022 NSS* and serves as the underlying premise of *JCC*, is deemed a "long-term struggle that occurs ... without necessarily engaging in armed conflict with each other."[157] When *JCIC* proposed the concept of "competition below armed conflict," the phrase "below armed conflict" gave the impression that this was a preliminary or preparatory phase of "armed conflict," even if that was not its intent. The strong implication of "competition below armed conflict" possibly developing into armed conflict may be gleaned from the fact that an Army official involved in the development of the concept presented a cyclical model of "competition below armed conflict" that depicts back-and-forth transitions between "competition below armed conflict" and armed conflict.[158] On the other hand, "strategic competition" is defined in *JCC* as an "open-ended situational relationships surrounding varying and evolving interests as well as the actors' place or 'standing' within the international system," which

154) Joint Chiefs of Staff, *Joint Concept for Competing* (Washington, DC, 2023), 3, 23.
155) Ibid., 20.
156) Ibid., 18.
157) Ibid., 1.
158) Kikuchi, "Beirikugun maruchidomein sakusen (MDO) konseputo," 34–37.

neither precludes nor inevitably develops into armed conflict. In fact, "in strategic competition, succeeding means retaining freedom of action to pursue national interests at an acceptable risk and sustainable cost" while "avoiding armed conflict with adversaries." These attributes suggest that strategic competition has an open-ended and enduring character.[159]

Campaigning and Force Posture in the Western Pacific

As outlined above, force posture is regarded in the *2022 NDS* as the foundation for campaigning. In U.S. defense policy, force posture is a concept that encompasses the enduring or temporary deployment of U.S. forces to the territories of allies and partners, access to their facilities such as bases and ports, overflight across their territories and waters, and other related arrangements with the host nations. As stated in the *2022 NDS*, "chang[ing] the environment to the benefit of the U.S. and our Allies and partners" as the objective of campaigning entails "gain[ing] military advantage," and as an example, pursuing a force posture that facilitates distributed operations is one possible way of contributing directly to this. Additional access to countries in contested environments and an increase in exercises and rotational deployments of U.S. forces in these countries will also demonstrate U.S. commitment to their security and contribute to stronger relationships by preventing these countries from collectively drifting toward competitors of the U.S.

Currently, building on the "Seize the Initiative" report released in May 2022, the Indo-Pacific Command has been pushing forward with building a distributed force posture in the western Pacific aimed at improving U.S. forces' responsiveness, survivability, and interoperability with allies and partners (see Table 6.7).[160] These force posture efforts are organized around the four clusters of Guam, Japan, the Philippines, and Australia. Moreover, the operational concepts for distributed operations as pursued by

159) Joint Chiefs of Staff, *Joint Concept for Competing*, 9.

160) U.S. Indo-Pacific Command, *Seize the Initiative: Expansion and Modification of the Pacific Deterrence Initiative (PDI)* (Joint Base Pearl Harbor-Hickam, HI, 2023), 1; Defense One Staff, "Report: 'Seize the Initiative'," *Defense One*, May 2, 2022, https://www.defenseone.com/policy/2022/05/report-seize-initiative/366380/; and Senate Armed Services Committee, *Statement of Admiral John C. Aquilino, U.S. Navy, Commander, U.S. Indo-Pacific Command Posture*, 118th Cong., 2nd sess., March 21, 2024, 16–20.

the respective services need to be supported by a distributed force posture. In its 2020 posture statement, the Indo-Pacific Command, while indirectly alluding to China's long-range strike capabilities, described the need for "distributing forward-deployed forces across the breadth and depth of the battle space that balances lethality and survivability," or in other words, "a force posture and joint force laydown west of the International Date Line (IDL) properly positioned to defend in depth."[161] Meanwhile, John C. Aquilino, commander of the Indo-Pacific Command, pointed out in a speech at the Halifax International Security Forum on November 20, 2021, that deterrence "requires a geographically distributed, operationally resilient, defense-in-depth, and sustainable force posture that is coordinated globally and effectively employed every day."[162]

In light of the various problems that have arisen due to the competing demand for workers as well as for construction materials and equipment as the services separately pursue their respective construction projects related to posture reorganization in the western Pacific, the Indo-Pacific Command established the Joint Posture Management Office (JPMO) in 2023 to synchronize these construction projects and reflect their joint requirements in order to realize the Indo-PACOM's force posture vision.[163]

A particular focus in these efforts is the Guam cluster. The Indo-Pacific Command's 2024 posture statement states that the Guam cluster is "the cornerstone of the U.S. security architecture west of the International Date Line," and that "in a crisis, [the cluster] will be crucial to sustain the Joint Force."[164] According to JPMO data as of 2023, there are plans to spend over $6 billion on up to 40 projects from fiscal 2024 through fiscal 2026 for the

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161) U.S. Indo-Pacific Command, *National Defense Authorization Act (NDAA) 2020 Section 1253 Assessment: Executive Summary* (Joint Base Pearl Harbor-Hickam, HI, 2020), 3, https://int.nyt.com/data/documenthelper/6864-national-defense-strategy-summ/8851517f5e10106bc3b1/optimized/full.pdf.

162) Chris "Lung" Aquilino, "Importance of Allies and Partners in the Indo-Pacific," November 22, 2021, USINDOPACOM, https://www.pacom.mil/Media/Speeches-Testimony/Article/2851117/importance-of-allies-and-partners-in-the-indo-pacific/.

163) Senate Armed Services Committee, *Statement of Admiral Aquilino*, 16; and Will Boudra, *Focused Overview & Executive Summary for Contractor Feedback* (Joint Base Pearl Harbor-Hickam, HI: Joint Posture Management Office, 2023), 3, https://pacific.navfac.navy.mil/Portals/72/NAVFAC_PACIFIC/Documents/Day%201_1000_JPMO%20Brief.pdf.

164) Senate Armed Services Committee, *Statement of Admiral Aquilino*, 17.

Guam cluster, considerably higher than the $25 million to $100 million for the Philippines cluster and over $500 million for the Australia cluster.[165]

At the heart of the Guam cluster is the island of Guam, "the most forward U.S. [overseas] territory" and "a strategic outpost critical to projecting power, maintaining deterrence and stability, and responding to regional crises or conflicts."[166] In relation to Guam, the Missile Defense Agency (MDA) is working with the Army and the Navy to develop a "persistent 360-degree layered missile defense capability" that can handle a variety of threats, including cruise missiles, ballistic missiles, and hypersonic weapons.[167] This capability is known as the Enhanced Integrated Air and Missile Defense (EIAMD) system, which comprises the Aegis Ashore, Patriot PAC-3, Terminal High Altitude Area Defense (THAAD) system, Iron Dome, and Lower Tier Air and Missile Defense Sensor (LTAMDS), which is said to have the capability to counter hypersonic weapons. The EIAMD system is envisioned as a distributed system that coordinates its various elements through the Integrated Battle Command System (IBCS) that the Army has been developing. On October 25, 2024, the MDA released a draft project plan in order to conduct environmental impact assessment for the 16 sites where EIAMD-related construction will take place.[168] In connection with this, a ballistic missile intercept test was conducted on Guam using the Aegis Guam System on December 10, 2024. It was reportedly the first-ever ballistic missile defense test carried out on Guam.[169] In addition, since fiscal

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165) Boudra, *Focused Overview*, 2.

166) Senate Armed Services Committee, *Statement of Admiral Aquilino*, 17, 24.

167) Senate Armed Services Committee, *Lieutenant General Heath A. Collins, USAF, Director, Missile Defense Agency Before the Senate Armed Services Committee Strategic Forces Subcommittee*, 118th Cong., 2nd sess., May 8, 2024, 13.

168) Missile Defense Agency, *Enhanced Integrated Air and Missile Defense System on Guam: Draft Environmental Impact Statement* (Washington, DC, 2024), 2-2, fig 2.1-1, https://www.mda.mil/system/EIAMD/documents/EIAMDGUAM_Draft_EIS_VOLUME1.pdf.

169) "Flight Experiment Mission-02 (FEM-02) B-Roll," December 10, 2024, DVIDS, https://www.dvidshub.net/video/946347/flight-experiment-mission-02-fem-02-b-roll; "Lockheed Martin and Missile Defense Agency Demonstrate Critical Capability for Defending Guam with Successful Flight Test," December 11, 2024, Lockheed Martin, https://news.lockheedmartin.com/2024-12-10-Lockheed-Martin-and-Missile-Defense-Agency-Demonstrate-Critical-Capability-for-Defending-Guam-with-Successful-Flight-Test; and Geoff Ziezulewicz and Joseph Trevithick, "Tilting Mark 41 Launcher Emerges During Guam's First Aegis Ashore Missile Defense Test," *The War Zone*, December 10, 2024, https://www.twz.com/land/tilting-mark-41-launcher-emerges-during-guams-first-aegis-ashore-missile-defense-test.

Table 6.7. The four clusters envisioned by the Indo-Pacific Command in a distributed force posture (2024 Indo-Pacific Command posture statement)

Cluster	Key measures
Guam cluster	• Building and improving bases and facilities in Guam, Northern Mariana Islands, and FAS (Micronesia, Palau, and Marshall Islands) • Constructed facilities and activated Marine Corps Base Camp Blaz in Dededo, Guam (January 2023), transfer of troops to be expected from Marine Corps in Okinawa • Expediting construction of facilities in FAS and negotiations over their use by U.S. forces • Signed agreements on extending economic assistance with Micronesia and Palau in May 2023 and with Marshall Islands in October 2023
Japan cluster	• Transferred Air Force MQ-9s from MSDF Kanoya Air Station on Kyushu to Kadena Air Base on Okinawa (November 2023) • Activated Army Composite Watercraft Company at Yokohama North Dock (April 2023) • Deployed Marine Corps TPS-80 G/ATOR radar to Sakishima Islands (Ishigaki Island in October 2023 and Yonaguni Island in July 2024) for Exercise Resolute Dragon • Working with the Government of Japan to position more resilient and mobile forces with increased ISR, anti-ship, and transportation capabilities
Philippines cluster	• Designated four new EDCA sites in April 2023 in addition to the five EDCA sites designated in 2016 • Facility development at two new EDCA sites in addition to the five original EDCA sites, with $109 million allocated, 23 projects to be completed • Facility development at EDCA sites using Unspecified Minor Military Construction budget
Australia cluster	• Working in partnership with Australian Government's U.S. Force Posture Initiatives program • Marine Rotational Force-Darwin • Improving airfield and ammunition/fuel storage at RAAF Base Darwin and RAAF Base Tindal • Signed Defense Cooperation Agreement (DCA) with Papua New Guinea in May 2023 for access to bases there

Source: Senate Armed Services Committee, *Statement of Admiral John C. Aquilino, U.S. Navy, Commander, U.S. Indo-Pacific Command Posture*, 118th Cong., 2nd sess., March 21, 2024, 16–20.

2014, the Air Force has been developing facilities to enhance resilience, particularly at Andersen Air Force Base on Guam.[170] Furthermore, Marine Corps Base Camp Blaz was established in January 2023, with Marine units due to be transferred there from Okinawa in the future (see "Securing 'Key Maritime Terrain' and Fire Projection").[171]

Additionally, in the Guam cluster, alternative operating locations are being developed on Tinian in the Northern Mariana Islands, north of Guam. In December 2016, the Air Force selected Tinian International Airport as a divert airfield for Andersen Air Force Base on Guam. Following

170) For details, see Kikuchi Shigeo and Arakaki Hiromu, "Chapter 8: The United States: Addressing an Increasingly Harsh Strategic Environment," in *East Asian Strategic Review 2016*, English edition (Tokyo: NIDS, 2016), 268–269.

171) Senate Armed Services Committee, *Statement of Admiral Aquilino*, 17; and "Marine Corps Reactivates Base on Guam," January 26, 2023, https://www.mcbblaz.marines.mil/Media-Room/Press-Releases/Announcement/Article/3278252/marine-corps-reactivates-base-on-guam/.

this, the Department of Defense signed an agreement in May 2019 with the Commonwealth Ports Authority of the Northern Mariana Islands to lease the northern site of the airport for 40 years for $21.9 million.[172] In addition, the Air Force plans to develop facilities at Tinian International Airport in two phases. In November 2021, it signed a contract to construct an aircraft parking apron and taxiway at the airport by October 2025; and in April 2023, it signed a contract to construct a parking apron for transport aircraft, taxiway extension, fuel tanks, roads, and a maintenance support facility at the airport by October 2026.[173]

The move to secure alternative operating locations on Tinian is not limited to Tinian International Airport. In an interview published in *Nikkei Asia* on December 17, 2023, PACAF Commander Wilsbach revealed plans to rebuild the North Airfield into an "extensive" facility. This airfield was built as a base for launching B-29s in 1944 during the Pacific War but subsequently fell into disrepair after it was closed in 1946 (Tinian International Airport was also originally built as a base for B-29s during the Pacific War).[174] In fact, since the fall of 2023, Air Force construction units known as the Rapid Engineer Deployable Heavy Operational Repair Squadron Engineer (RED HORSE) as well as similar units from the Navy known as the Naval Mobile Construction Battalion (NMCB) have been working on the North Airfield on a rotating basis, with the airfield also being used during a February 2024 exercise (see "The Air Force's Agile Combat Employment (ACE) and Distributed Operations in the Western Pacific" for

172) Headquarters Pacific Air Forces Public Affairs, "Air Force Signs Record of Decision Selecting Tinian for the PACAF Divert Activities, Exercise Initiative," December 8, 2016, https://www.pacaf.af.mil/News/Article-Display/Article/1024584/air-force-signs-record-of-decision-selecting-tinian-for-the-pacaf-divert-activi/; Pacific Air Forces Public Affairs, "CNMI Signs $21.9M 40 Year Lease with US DOD," May 7, 2019, https://www.pacaf.af.mil/News/Article-Display/Article/1841083/cnmi-signs-219m-40-year-lease-with-us-dod/; and CNMI Commonwealth Bureau of Military Affairs, "Divert: Tinian Divert Infrastructure Improvements (Divert) Project," https://cbma.gov.mp/dod-activities/divert/, accessed December 27, 2024.

173) Department of Defense, "Contracts for Nov. 30, 2021," https://www.defense.gov/News/Contracts/Contract/Article/2857360/; and Department of Defense, "Contracts for April 19, 2023," https://www.defense.gov/News/Contracts/Contract/Article/3368381/.

174) Brad Lendon, "US Air Force to Reclaim Pacific Airfield That Launched Atomic Bombings as It Looks to Counter China," *CNN*, December 21, 2023, https://edition.cnn.com/2023/12/22/asia/us-air-force-pacific-tinian-island-airfield-intl-hnk-ml/index.html.

details). Examples of the restoration and utilization of airstrips that were previously in use during the Pacific War also include Peleliu, which will be discussed below, and the Northwest Field on Guam, with this approach attracting interest as an inexpensive and expeditious method of securing alternative airfields for distributed operations.[175]

The Pacific Islands region is critical for the U.S. military to realize a distributed force posture. The U.S. had long neglected its relations with the region, but concerns about China's growing influence there have prompted the U.S. to reinforce its ties with the region.[176] This development began in the first Donald J. Trump administration, which raised the amount of development assistance to the region from $26.4 million in fiscal 2020 to $57.6 million in fiscal 2023.[177] The strengthening of relations continued under the Joseph R. Biden Jr. administration, which released the "Pacific Partnership Strategy" calling for strengthening relations with the Pacific Island countries in September 2022.[178]

Among the Pacific Island countries, particular emphasis is placed on the Freely Associated States (FAS) of the Marshall Islands, Micronesia, and Palau. These countries achieved independence after being placed under the post-World War II U.S. trusteeship, but still have special relations with the United States under the Compacts of Free Association (COFA).[179] The U.S. is obligated under the COFA to defend the FAS, which lack armed forces, and is allowed to establish and utilize military areas and facilities within the

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175) "Allvin, Kendall Tour Pacific Islands to See Progress on ACE," *Air & Space Forces Magazine*, April 4, 2024, https://www.airandspaceforces.com/allvin-kendall-tour-pacific-islands-ace/; Hussein Enaya, "RED HORSE Airmen Return Home from 6-month Deployment," April 19, 2024, Hurlburt Field, https://www.hurlburt.af.mil/News/Article-Display/Article/3749184/red-horse-airmen-return-home-from-6-month-deployment/; and David Roza, "'Every Dirt Boy's Dream': RED HORSE Airmen Restore Pacific WWII Airfield," *Air & Space Forces Magazine*, October 25, 2024, https://www.airandspaceforces.com/air-force-red-horse-wwii-airfield-tinian/.

176) Robert Burns, "US Defense Secretary Esper Visits Tiny Palau, Highlighting US-China Competition," *Diplomat*, August 27, 2020, https://thediplomat.com/2020/08/us-defense-secretary-esper-visits-tiny-palau-highlighting-us-china-competition/.

177) Thomas Lum and Jared G. Tupuola, *The Pacific Islands: Background and Issues for Congress, IF 11208* (Washington, DC: CRS, November 7, 2024), 1.

178) White House, *Pacific Partnership Strategy of the United States* (Washington, DC, 2022).

179) White House, "FACT SHEET: Enhancing the U.S.-Pacific Islands Partnership," September 25, 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/09/25/fact-sheet-enhancing-the-u-s-pacific-islands-partnership/.

FAS through individual negotiations. Furthermore, the U.S. has the right to deny access to and use of the FAS by third-country military personnel. On the other hand, FAS citizens are eligible to join the U.S. military, while the FAS are covered by U.S. domestic grant programs.[180]

U.S. relations with the FAS are becoming increasingly important not only in terms of curbing China's growing influence over these states, but also in providing an "important staging ground for the U.S. Armed Forces in the Indo-Pacific" in the event of a potential armed conflict over Taiwan.[181] The 2024 Indo-Pacific Command posture statement also indicates that the addition of facilities in the FAS will contribute to "enhanc[ing] logistical lines of communication" and to "aviation dispersal and other combat capabilities." In other words, it may be said that the FAS are expected to serve as intermediate logistical hubs that are linked to the continental United States and as operating locations that facilitate the dispersed employment of aircraft.[182]

The Biden administration had specified negotiations on economic assistance-related provisions of the COFA which would have expired in 2023 and 2024 as the primary goal of its Pacific Partnership Strategy, and in May and October 2023, it signed amendment agreements with each of the FAS to extend economic assistance for 20 years.[183] In addition, the economic assistance package for the three states under the COFA was enacted on March 9, 2024, as the Compact of Free Association Amendments Act of

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180) Holly Straut-Eppsteiner and Lawrence Kapp, *U.S. Citizenship Through Military Service and Options for Military Relatives, IF12089* (Washington, DC: CRS, April 29, 2022), 1. It is estimated that 1,000 FAS citizens are serving in the U.S. military. Thomas Lum, *The Compacts of Free Association* (Washington, DC: CRS, April 25, 2024), 1.

181) Andrew J. Harding, *The Pacific Pivot: An American Strategy for the Pacific Islands* (Washington, DC: Heritage, 2024), 7.

182) Senate Armed Services Committee, *Statement of Admiral Aquilino*, 17.

183) Lum, *Compacts of Free Association*, 1; Office of the Spokesperson, "Secretary Blinken Witnesses the Signing of the U.S.-Palau 2023 Agreement Following the Compact of Free Association Section 432 Review," May 22, 2023, DOS, https://www.state.gov/secretary-blinken-witnesses-the-signing-of-the-u-s-palau-2023-agreement-following-the-compact-of-free-association-section-432-review/; Office of the Spokesperson, "Signing of the U.S.-FSM Compact of Free Association-Related Agreements," May 23, 2023, DOS, https://www.state.gov/signing-of-the-u-s-fsm-compact-of-free-association-related-agreements/; and Office of the Spokesperson, "The United States and the Republic of the Marshall Islands Sign Three Compact of Free Association-Related Agreement," October 17, 2023, DOS, https://www.state.gov/the-united-states-and-the-republic-of-the-marshall-islands-sign-three-compact-of-free-association-related-agreement/.

2024.[184] The Department of Defense was concerned that delays in economic assistance to the FAS under the COFA "could lead these partners vulnerable to influence and coercion [by China],"[185] and it hailed Congress' passage of the Amendments Act as "one of [its] most significant achievements to advance U.S. strategic priorities in the Indo-Pacific region."[186]

While the Ronald Reagan Ballistic Missile Defense Test Site on Kwajalein Atoll in the Marshall Islands has long served as the premier missile testing site for the U.S. military, Palau has become increasingly noteworthy for its growing U.S. military presence in recent years. This is exemplified by Mark T. Esper's visit to Palau in August 2020, which marked the first visit to Palau by a U.S. Secretary of Defense.[187] During Esper's visit, Palauan President Tommy Remengesau Jr. communicated to the U.S. his intention to welcome U.S. military facilities in the country, which was also affirmed by his successor, Surangel Whipps Jr.[188] When Whipps subsequently visited the Pentagon and met with Secretary of Defense Lloyd Austin on August 5, 2021, during his visit to the United States, he expressed a willingness

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184) *Compact of Free Association Amendments Act of 2024*, PL 118-42, 118th Cong., 2nd sess., March 9, 2024.

185) "Deputy Pentagon Press Secretary Sabrina Singh Holds a Press Briefing," February 6, 2024, DOD, https://www.defense.gov/News/Transcripts/Transcript/Article/3668376/deputy-pentagon-press-secretary-sabrina-singh-holds-a-press-briefing/.

186) Senate Foreign Relations Committee, *Statement by Ely S. Ratner Assistant Secretary of Defense for Indo-Pacific Security Affairs, Office of the Secretary of Defense*, 118th Cong., 2nd sess., March 14, 2024, 2.

187) "Readout of Secretary of Defense Dr. Mark T. Esper's Meeting with the President of the Republic of Palau and Other Members of His Cabinet," August 28, 2020, DOD, https://www.defense.gov/News/Releases/Release/Article/2328409/readout-of-secretary-of-defense-dr-mark-t-espers-meeting-with-the-president-of/; and "Esper Visit to Tiny Palau Highlights US-China Competition," *Washington Post*, August 27, 2020, https://www.washingtonpost.com/world/national-security/esper-visit-to-tiny-palau-highlights-us-china-competition/2020/08/27/97130e3e-e8d4-11ea-bf44-0d31c85838a5_story.html.

188) Carreon Bernadette, "US Secretary of Defense to Make 'Historic Visit' to Palau," *Radio New Zealand News*, August 27, 2020, Factiva; Bernadette Carreon and Tess Newton Cain, "'We Are in Dire Straits': Pacific Stands on Covid Brink amid Surging Infections," *Guardian*, August 29, 2020, Factiva; "Palau: U.S. Welcome to Build Military Bases amid PRC's Influence Push," *Indo-Pacific Defense Forum*, February 22, 2021, https://ipdefenseforum.com/2021/02/palau-u-s-welcome-to-build-military-bases-amid-prcs-influence-push/; and "President of the Republic of Palau Shares a Close and Personal Relationship to the U.S.," April 6, 2022, USINDOPACOM, https://www.pacom.mil/JTF-Micronesia/Article/2991640/president-of-the-republic-of-palau-shares-a-close-and-personal-relationship-to/.

to accept more exercises and other U.S. military activities, to which the Secretary expressed his gratitude.[189]

These exchanges led to plans to install the Air Force's Tactical Multi-Mission Over the Horizon Radar (TACMOR) on Palau. The TACMOR is expected to enhance air domain awareness capabilities in the Indo-Pacific Command's area of responsibility through its "long-range early detection capability for airborne and surface targets of interest" and by providing "capability to close gaps in surveillance coverage in key regions."[190] Although over-the-horizon radars, which utilize ionospheric reflection, generally have difficulty obtaining accurate data necessary for missile guidance, the TACMOR is said to be capable of obtaining the necessary information for early warning against hypersonic weapons, cruise missiles, ballistic missiles, enemy aircraft, and ships through AI-enabled data correction.[191] A contract related to construction in the TACMOR installation area was signed in December 2022 (scheduled for completion in June 2026).[192] In addition, the Navy plans to move forward with construction projects at Malakal Port, Palau's main cargo port.[193]

The landing of U.S. military aircraft was also carried out on unpaved airstrips in Palau that had not been used by U.S. military aircraft for many years. Since March 2023, the Marine Corps has deployed the Marine

189) "Secretary of Defense Lloyd J. Austin III Welcomes President of the Republic of Palau, Surangel Whipps Jr. to the Pentagon," August 5, 2021, DOD, https://www.defense.gov/News/Transcripts/Transcript/Article/2721431/secretary-of-defense-lloyd-j-austin-iii-welcomes-president-of-the-republic-of-p/. However, the Pentagon press secretary clarified that "there was nothing specific discussed or agreed upon with respect to additional infrastructure" at the meeting. "Pentagon Press Secretary John F. Kirby Holds a Press Briefing," August 9, 2021, DOD, https://www.defense.gov/News/Transcripts/Transcript/Article/2725063/pentagon-press-secretary-john-f-kirby-holds-a-press-briefing/.

190) Department of the Air Force, *FY 2025 Budget Estimates Research, Development, Test & Evaluation, Air Force, Justification Book Volume 3 of 4* (Washington, DC, 2024), 547.

191) Emma Helfrich and Tyler Rogoway, "U.S. Building Advanced Over-the-Horizon Radar on Palau," *The War Zone*, December 21, 2022, https://www.twz.com/u-s-building-advanced-over-the-horizon-radar-on-palau.

192) Senate Foreign Relations Committee, *Statement by Ratner*, 2; and "Contracts for Dec. 28, 2022," December 28, 2022, DOD, https://www.defense.gov/News/Contracts/Contract/Article/3255710/.

193) "Contracts for June 12, 2023," June 12, 2023, DOD, https://www.defense.gov/News/Contracts/Contract/Article/3425505//; and "Contracts for March 6, 2024," March 6, 2024, DOD, https://www.defense.gov/News/Contracts/Contract/Article/3698100//.

Corps Engineer Detachment - Palau (MCED-P) to Peleliu, a battleground during the Pacific War, to restore a runway that had been used during the war.[194] In June 2024, the runway was recertified as an airstrip, and on June 22, 2024, a KC-130J was the first fixed-wing transport aircraft to land on the runway following its rehabilitation.[195]

A Marine Corps KC-130J lands on a runway on Peleliu restored by repair works by Marines on June 22, 2024 (U.S. Marine Corps photo by Lance Cpl. Dahkareo Pritchett)

Micronesia is also noteworthy after Palau. On March 21, 2024, Secretary of Defense Austin alluded to "new opportunities for defense posture cooperation" with Micronesia, including on Yap Island, at a joint press conference during his meeting with Micronesian President Wesley Simina.[196] In June 2023, the Navy signed a contract with a private company for architect-engineering services to support construction projects at Yap Port in Micronesia.[197] In addition, the Air Force has also requested funding in its FY2025 budget request for facility improvements, including a runway extension at Yap International Airport. The Air Force's Budget Estimates describe the aforementioned project as not only a measure for "aircraft divert, exercises, and humanitarian assistance and disaster relief"

194) "MCED Palau 23.1 - Marines and Local Officials Find and Remove WWII Artifacts from the Ground [Image 1 of 8]," March 2, 2023, DVIDS, https://www.dvidshub.net/image/7688742/mced-palau-231-marines-and-local-officials-find-and-remove-wwii-artifacts-ground; and David Bickel, "Relationships Through Rebuilding: MCED-P 23.2 at Work," August 30, 2023, DVIDS, https://www.dvidshub.net/news/452633/relationships-through-rebuilding-mced-p-232-work.

195) John Carter, "First Military Fixed-Wing Aircraft Lands on Peleliu Recertified Airstrip," June 23, 2024, DVIDS, https://www.dvidshub.net/news/474629/first-military-fixed-wing-aircraft-lands-peleliu-recertified-airstrip.

196) "Secretary of Defense Lloyd J. Austin III Remarks Welcoming Federated States of Micronesia President Wesley Simina to the Pentagon," March 21, 2024, DOD, https://www.defense.gov/News/Transcripts/Transcript/Article/3714794/secretary-of-defense-lloyd-j-austin-iii-remarks-welcoming-federated-states-of-m/.

197) "Contracts for June 12, 2023," June 12, 2023, DOD, https://www.defense.gov/News/Contracts/Contract/Article/3425505/; and "Contracts for March 6, 2024," March 6, 2024, DOD, https://www.defense.gov/News/Contracts/Contract/Article/3698100//.

but also one with "strategic intent" to "meet mission requirements in the event that access to other western Pacific locations is limited or *denied*" (emphasis added).[198] This suggests that Yap International Airport will also be utilized as an operating location in the event of armed conflict under the ACE framework.

Turning next to the Australia cluster, Papua New Guinea is noteworthy in terms of its expansion of access by the U.S. military. The strengthening of U.S. defense relations with the country began under the first Trump administration. Vice President Mike Pence, while attending the APEC CEO Summit held at Port Moresby in November 2018, announced that the U.S. would be working with Papua New Guinea and Australia on their joint initiative at Lombrum Naval Base on Manus Island, Papua New Guinea.[199] According to Australia's Department of Defence, in June 2021, the department started improvement and construction works at the base on facilities for electrical generation services, water and sewerage services, work, training, and living accommodation, as well as patrol boat operations. Once these works are completed, the base "will provide opportunities for increased joint training, exercises and ship visits."[200] Meanwhile, the U.S. Navy plans to improve and construct training facilities and boat-related facilities at the base.[201]

Of greater importance than individual projects is the signing of a Defense Cooperation Agreement (DCA) between the United States and Papua New Guinea in May 2023, which "form[s] the foundational framework around which our two countries will enhance security cooperation."[202] Under the

198) Department of the Air Force, *FY 2025 Budget Estimates Military Construction Program* (Washington, DC, 2024), 168, 169, 170.

199) "Remarks by Vice President Pence at the 2018 APEC CEO Summit | Port Moresby, Papua New Guinea," November 16, 2018, NARA, https://trumpwhitehouse.archives.gov/briefings-statements/remarks-vice-president-pence-2018-apec-ceo-summit-port-moresby-papua-new-guinea/.

200) "The Joint Initiative at Lombrum Naval Base (PNG)," Australian Government, Australian Government Defense, https://www.defence.gov.au/defence-activities/programs-initiatives/pacific-engagement/lombrum-naval-base, accessed December 27, 2024.

201) "Construction Projects, Lombrum Naval Base, Papua New Guinea," July 26, 2024, SAM.gov, https://sam.gov/opp/0482b9596c144d4eb8d83049f46c1be4/view.

202) U.S. Mission Papua New Guinea, "The United States and Papua New Guinea Sign New Defense Cooperation Agreement and Shiprider," May 22, 2023, https://pg.usembassy.gov/the-united-states-and-papua-new-guinea-sign-new-defense-cooperation-agreement-and-shiprider/.

DCA, U.S. forces conducting activities stipulated in the agreement would be allowed "unimpeded access to and use of" previously "Agreed Facilities and Areas," which are to be provided by Papua New Guinea free of charge. U.S. forces would also be allowed to "undertake construction activities on, and make alterations and improvements to, Agreed Facilities and Areas." Additionally, the DCA allows U.S. forces to pre-position equipment and supplies at these and other facilities and areas.[203]

Even more significant developments have taken place in the Philippines cluster. Under the Enhanced Defense Cooperation Agreement (EDCA) signed with the Philippines in April 2014, the U.S. is granted access to "Agreed Locations" in the Philippines by U.S. forces on a rotational basis, and is authorized to construct enduring facilities, as well as to "preposition and store defense equipment, supplies, and materiel" for use by U.S. forces.[204] Following the signing of the EDCA, the U.S. and the Philippines held negotiations on the facilities and areas that should be designated as "Agreed Locations," or more commonly referred to as "EDCA sites," reaching an agreement in March 2016 that five bases would be designated as such.[205] On April 3, 2023, the Department of Defense announced the addition of four new EDCA sites (see Table 6.8).[206] According to the 2024 Indo-Pacific Command posture statement, $109 million has been invested to date in two new EDCA sites in addition to the five originally designated sites. Besides, it was revealed during the Philippines-United States Bilateral Strategic Dialogue held on April 22–23, 2024, that an additional $128 million was included in the FY2025 budget request.[207] The newly added EDCA sites

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203) "Defense Cooperation Agreement Between the United States of America and Papua New Guinea," May 22, 2023, art. 5, 6.

204) "Agreement Between the Government of the United States of America and the Government of the Republic of the Philippines on Enhanced Defense Cooperation," April 28, 2014, T.I.A.S. No. 14, at 625.

205) Office of the Spokesperson, "Sixth United States-Philippines Bilateral Strategic Dialogue Joint Statement," March 18, 2016, Department of State, https://2009-2017.state.gov/r/pa/prs/ps/2016/03/254833.htm.

206) "Philippines, U.S. Announce Locations of Four New EDCA Sites," April 3, 2023, DOD, https://www.defense.gov/News/Releases/Release/Article/3349257/philippines-us-announce-locations-of-four-new-edca-sites/.

207) "Joint Statement on the Philippines-United States Bilateral Strategic Dialogue," April 24, 2024, DOS, https://www.state.gov/joint-statement-on-the-philippines-united-states-bilateral-strategic-dialogue/.

Table 6.8. EDCA sites and facility improvement projects by the U.S.

EDCA sites	Overview
Fort Ramon Magsaysay (designated in 2016) (central Luzon)	[Overview of facility] • Administered by the Philippine Army • Largest training ground for the Philippine Armed Forces [Scale of U.S. projects: $11.4 million] • Humanitarian assistance and disaster response warehouse • Command and control infrastructure • Urban combat training facilities
Cesar Basa Air Base (designated in 2016) (outskirts of Manila)	[Overview of facility] • Administered by the Philippine Air Force • 2,570-meter runway [Scale of U.S. projects: $66.57 million] • Humanitarian assistance and disaster response warehouse • Command and control infrastructure • Fuel storage • Runway improvements • Aircraft parking
Antonio Bautista Air Base (designated in 2016) (central Palawan Island)	[Overview of facility] • Administered by the Philippine Air Force • 2,600-meter runway [Scale of U.S. military projects: $1.8 million] • Ammunition warehouse • Storage warehouse renovation • Fuel storage • Command and control infrastructure
Mactan-Benito Ebuen Air Base (designated in 2016) (central Cebu)	[Overview of facility] • Base of Philippine Air Force's Air Mobility Command • 3,300-meter runway
Lumbia Air Base (designated in 2016) (northern Mindanao)	[Overview of facility] • Administered by Philippine Air Force • 2,454-meter runway [Scale of U.S. military projects: $3.7 million] • Humanitarian assistance and disaster response warehouse • Runway lighting improvements
Naval Base Camilo Osias (designated in 2023) (northeastern tip of Luzon)	[Overview of facility] • 860-meter runway
Camp Melchor Dela Cruz (designated in 2023) (northeastern Luzon)	[Overview of facility] • Philippine Army 5th Infantry Division
Balabac Island (designated in 2023) (southernmost island of Palawan Province)	[Overview of facility] • Balabac Military Runway (3,000 m) to be constructed on the island by the Philippine Government
Lal-lo Airport (designated in 2023) (northern tip of Luzon)	[Overview of facility] • 2,100-meter runway

Sources: Department of Defense press releases and media reports.

have been utilized in exercises the U.S. conducted with the Philippines in 2024, as discussed below.

Campaigning and Exercises in the Western Pacific

(1) Reinvigorating U.S.-Philippines Bilateral Exercises amid China's Coercion

The U.S. has placed particular importance on bilateral military exercises with the Philippines, which has been withstanding coercion from China over their competing claims in the South China Sea. Although the Philippines is a treaty ally of the U.S. and the largest recipient of U.S. security and military assistance among countries in East Asia and the Pacific, U.S.-Philippines relations had cooled under President Rodrigo Duterte (in office from 2016 to 2022), who was insistent on reconsidering U.S.-Philippines relations. President Duterte pushed for closer relations with China while calling for the elimination of foreign military presence in the Philippines, suggesting on multiple occasions that the EDCA should be scrapped. In February 2020, the Philippine Government notified the U.S. that it would be terminating the U.S.-Philippines Visiting Forces Agreement (VFA) (the termination notice was later retracted on July 30, 2021).[208] President Duterte also attracted criticism within the United States over human rights violations in his "War on Drugs" waged in the Philippines.[209] Against this backdrop of U.S.-Philippines relations stalling under the Duterte administration, the U.S. saw the victory of Ferdinand R. Marcos Jr. in the May 2022 Philippine presidential election as an opportunity to restore relations with the Philippines, a goal that the U.S. Government under President Biden worked to achieve. This was reportedly due to factors such as rising tensions with China, the importance of the Philippines as a base of operations in the event of a Taiwan contingency, and the importance of securing passage through the Luzon Strait.[210] In fact, U.S.-Philippines security relations have grown more intimate since the inauguration of the Marcos administration. The two countries agreed to add

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208) "Duterte Wants to Rid PH of Foreign Military Presence," *Manila Bulletin*, October 26, 2016, Factiva; Thomas Lum, Ben Dolven, and Christina L. Arabia, *The Philippines: Background and U.S. Relations, R47055* (Washington, DC: CRS, September 14, 2022), 12, 13.

209) Thomas Lum and Ben Dolven, *The Philippines IF10250* (Washington, DC: CRS, September 30, 2024), 1; and Lum, Dolven, and Arabia, *The Philippines: Background and U.S. Relations*, 3, 4, 13, 19.

210) Poppy McPherson, Karen Lema, and Devjyot Ghoshal, "How the U.S. Courted the Philippines to Thwart China," Reuters, November 29, 2023, https://www.reuters.com/investigates/special-report/us-china-philippines-marcos/.

new EDCA sites in April 2023, and at the U.S.-Philippines 2+2 Ministerial Dialogue held on July 30, 2024, an agreement was reached to establish a U.S.-Philippines Roles, Missions, Capabilities (RMC) Working Group to facilitate closer policy and operational coordination, and to implement a Philippines-Security Sector Assistance Roadmap (P-SSAR) aimed at linking strategy with assistance and aligning investment priorities for the Philippine Armed Forces and the Philippine Coast Guard. Furthermore, the U.S.-Philippines General Security of Military Information Agreement (GSOMIA) was signed on November 18, 2024.[211] On the back of closer relations between the two countries, U.S.-Philippines military cooperation was also strengthened both quantitatively and qualitatively in 2023 and 2024.

One important change in recent U.S.-Philippines bilateral military exercises is the growing importance attached to the provinces of Cagayan and Batanes. Cagayan includes the northeastern tip of Luzon and the Babuyan Islands to its north. Batanes Province consists of the Batanes Islands, located in the middle of the Luzon Strait. Both provinces face Taiwan across the strait. During Exercise Balikatan 23 conducted in April 2023, members of the U.S. Marine Corps' 3rd MLR and the U.S. Army's 25th Infantry Division moved with Philippine troops to Calayan Island (Cagayan Province), 80 km north of Luzon. From there, they maneuvered into and secured Batan Island (Batanes Province), located further north, using the U.S. Marines' MV-22Bs before landing the Army's HIMARS on the island.[212]

Cagayan Province and Batanes Province again became a stage for U.S.-Philippines bilateral training during Balikatan 24 (April 22 to May 10, 2024). Among the activities, the use of Lal-lo Airport in Cagayan Province,

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211) "Joint Statement on the Philippines-United States Fourth 2+2 Ministerial Dialogue," July 30, 2024, DOD, https://www.defense.gov/News/Releases/Release/Article/3854902/joint-statement-on-the-philippines-united-states-fourth-22-ministerial-dialogue/; and "Joint Press Release on the Visit of U.S. Secretary of Defense Austin to the Philippines," November 19, 2024, DOD, https://www.defense.gov/News/Releases/Release/Article/3970660/joint-press-release-on-the-visit-of-us-secretary-of-defense-austin-to-the-phili/.

212) Seth Robson, "'We Mean Business': US, Filipino Forces Practice Air Assaults on Small Islands South of Taiwan," *Stars and Stripes*, April 27, 2023, https://www.stripes.com/theaters/asia_pacific/2023-04-27/balikatan-philippines-air-assault-taiwan-china-9934054.html.

newly added as an EDCA site in April 2023, is particularly noteworthy. An air site was set up at the airport for Marine Wing Support Squadron 174 (MWSS-174) from Marine Corps Base Hawaii, along with the Philippine Marine Corps, which turned the air site into a "sustainment node" equipped with a 40,000-gallon tactical airfield fuel distribution system. In addition, MWSS-174 established a FARP on Batan Island, airlifting fuel to the island from the airport using transport aircraft. The FARP was used to refuel the U.S. Army's UH-60 helicopters and "played a pivotal role in extending [their] operational capabilities." Furthermore, the airport was reportedly converted into a "fully functional expeditionary advanced base" for supporting not only the U.S. Army's field hospital, the 1st MDTF's HIMARS Rapid Infiltration (HIRAIN) training, and various U.S. Army rotary-wing aircraft operations, but also the "littoral maneuver" of the U.S.-Philippines combined forces into the Batanes Islands. The Philippine spokesperson for Balikatan 24 explained that "the strategic importance of Lal-lo airport to support defensive operations in the Luzon Strait cannot be overstated." The designation of the airport as a new EDCA site in April 2023 (see Table 6.8) may reflect this recognition of its strategic value.[213]

213) "Hub-Spoke-Node: Facilitating Combined Force Littoral Maneuver During Balikatan 24," May 9, 2024, DVIDS, https://www.dvidshub.net/news/470737/hub-spoke-node-facilitating-combined-force-littoral-maneuver-during-balikatan-24.

Soldiers of U.S. Army 25th Infantry Division pull security on Batan Island, Philippines, on May 6, 2024 (U.S. Army photo by Spc. Benjamin Anderson)

A notable feature of recent exercises is the increased focus on anti-ship strike capabilities. This reflects ongoing efforts by the U.S. Marine Corps and the U.S. Army to develop such capabilities, as well as the Philippine Armed Forces' corresponding initiatives. A SINKEX involving live fire with artillery and missiles against a target ship was conducted for the first time during Balikatan 23. On April 26, 2023, the target ship was attacked off San Antonio on the western coast of Luzon by the U.S. Army's HIMARS, U.S. and Philippine Army's howitzers, U.S. Army's AH-64s,[214] U.S. Air Force's F-16s and AC-130Js, Philippine FA-50 attack aircraft, and U.S. Marine Corps' F-35Bs.[215] The key to the SINKEX was "sensing the target at sea with an ashore sensor expeditionary advanced base location, pass that to a Marine Division COC in Cavite, augment it with a combined joint sensor and intel fusion center, then pass 10-digit grid coordinates to ground and air fires from both countries" (U.S. Marine Corps Forces Pacific),[216] thereby completing the kill chain, to which the U.S. Marine Corps' command and control and sensor network was central.[217] For the SINKEX conducted

214) "2-6 Cavalry Squadron Littoral Live Fire in Zambales, Philippines [Image 2 of 9]," April 26, 2023, DVIDS, https://www.dvidshub.net/image/7766284/2-6-cavalry-squadron-littoral-live-fire-zambales-philippines.

215) "U.S.-Philippine Forces Sink Target Ship for First Time in Balikatan Exercise," April 27, 2023, U.S. Marine Corps, https://www.marines.mil/News/News-Display/Article/3376383/us-philippine-forces-sink-target-ship-for-first-time-in-balikatan-exercise/; and Seth Robson, "With Marcos Watching, US Army HIMARS Fires 6 Times but Misses Target in South China Sea," *Stars and Stripes*, April 26, 2023, https://www.stripes.com/branches/army/2023-04-26/army-himars-marcos-balikatan-exercise-9923537.html.

216) Aaron-Matthew Lariosa, "Kill Chain Tested at First-Ever Balikatan SINKEX," *Naval News*, April 27, 2023, https://www.navalnews.com/naval-news/2023/04/kill-chain-tested-at-first-ever-balikatan-sinkex/.

217) "U.S.-Philippine Forces Sink Target Ship for First Time in Balikatan Exercise," April 27, 2023, U.S. Marine Corps, https://www.marines.mil/News/News-Display/Article/3376383/us-philippine-forces-sink-target-ship-for-first-time-in-balikatan-exercise/.

during Balikatan 24 the following year, the 3rd MLR's TPS-80 G/ATOR radar and the Royal Australian Air Force (RAAF)'s airborne warning and control system (AWACS) E-7 Wedgetail relayed the target data, on the basis of which SSM-700K C-Star anti-ship missiles, a Spike NLOS missile, Joint Direct Attack Munitions (JDAM), and other fires of U.S. and Philippine forces were launched against the target vessel off the western coast of northern Luzon. The Typhon system, which was deployed to the Philippines just prior to Balikatan 24 (see below for its deployment to the Philippines), also participated in the SINKEX and "added to the firing options in the scenario."[218]

In addition, Balikatan 24 included HIRAIN training on Palawan Island and in Cagayan Province to validate the capability to rapidly deploy the HIMARS utilizing various means of transport. On May 1, 2024, the HIMARS assigned to the 1st MDTF was transported from Subic Bay International Airport to San Vicente Airport in northern Palawan Island by the U.S. Air Force's MC-130J, before being transferred from the nearby coast to the landing ship USS *Somerset* offshore using an LCAC alongside the Philippine Marines' artillery units, and finally conveyed to Rizal in southern Palawan Island for firing training with said units.[219] A few days later, the HIMARS was deployed by air from Subic Bay International Airport in central Luzon to Lal-lo Airport on the northern tip of Luzon, where it conducted simulated firing under fire mission commands from the All-Domain Operations Center set up near Manila. The HIMARS was subsequently conveyed overland to Port Irene, 40 kilometers to the east-northeast. The purpose of this overland movement was reportedly to

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218) "Philippine, US, Australian Forces Show Off Combined Fires Capabilities, Destroy Ship in Balikatan Training Event," May 8, 2024, DVIDS, https://www.dvidshub.net/news/470605/philippine-us-australian-forces-show-off-combined-fires-capabilities-destroy-ship-balikatan-training-event.

219) U.S. Marine Corps Forces, Pacific, "Philippine, US Forces Advancing Territorial Defense, Rapid Infiltration Capabilities at Balikatan," May 3, 2024, MARFORPAC, https://www.marforpac.marines.mil/Media-Room/Pacific-Marines-Stories/Article/Article/3764918/philippine-us-forces-advancing-territorial-defense-rapid-infiltration-capabilit/; "Balikatan 24: 1st Multi-Domain Task Force High Mobility Rocket System Load [Image 6 of 19]," May 1, 2024, DVIDS, https://www.dvidshub.net/image/8379448/balikatan-24-1st-multi-domain-task-force-high-mobility-rocket-system-load; and "Balikatan 24: 1st MDTF HIMARS Live Fire [Image 1 of 5]," May 2, 2024, DVIDS, https://www.dvidshub.net/image/8376458/balikatan-24-1st-mdtf-himars-live-fire.

validate whether the HIMARS could traverse the poor network of roads in northern Luzon.[220]

During Balikatan 24, the area of maneuvering of the U.S. Army's HIMARS was expanded to include the Palawan Island, where it had not been deployed previously. Presumably, this was designed to increase survivability in a contested environment, making detection and targeting more difficult. Furthermore, the Army's plans to add anti-ship strike capabilities to the PrSM, which can be launched from the HIMARS as mentioned above, attest to its deep interest in bringing anti-ship strike capabilities into northern Luzon.

A notable development related to the enhancement of long-range strike capabilities is the deployment of a Typhon system assigned to the 1 MDTF to the Philippines. On April 11, 2024, a U.S. Air Force C-17 transport aircraft delivered the Typhon system from the state of Washington to Laoag International Airport in Ilocos Norte on the northwestern tip of Luzon. This was carried out as part of Exercise Salaknib 24, conducted by the U.S. Army with the Philippine Army in the runup to Balikatan 24.[221] USARPAC Commanding General Flynn previously indicated at the Halifax International Security Forum in Halifax, Canada, on November 18, 2023, that the Typhon system would be deployed in the Indo-Pacific in 2024, and his words were borne out with the system's deployment to the Philippines.[222]

As part of the exercises Salaknib 24 and Balikatan 24, the U.S. Army conducted missile reloading training for the Typhon system and a

220) Jen Judson, "US Army Sends HIMARS Rocket Launcher Island-Hopping in the Philippines," *Defense News*, May 10, 2024, https://www.defensenews.com/land/2024/05/10/us-army-sends-himars-rocket-launcher-island-hopping-in-the-philippines/.

221) "US Army's Mid-Range Capability Makes Its First Deployment in the Philippines for Salaknib 24," April 15, 2024, U.S. Army, https://www.army.mil/article/275333/us_armys_mid_range_capability_makes_its_first_deployment_in_the_philippines_for_salaknib_24.

222) "Army's New Typhon Strike Weapon Headed to Indo-Pacific in 2024," *Breaking Defense*, November 18, 2023, https://breakingdefense.com/2023/11/armys-new-typhon-strike-weapon-headed-to-indo-pacific-in-2024/.

demonstration for soldiers of the Philippine Army's missile units.[223] The Typhon system is capable of hitting mainland China from Luzon using Tomahawk missiles, and Romeo Brawner Jr., chief of staff of the Philippine Armed Forces, has stated that he hopes the Typhon system would remain in the Philippines "forever" as it is necessary for the country's defense.[224] The Philippines is even reportedly interested in purchasing the Typhon system, and as of the end of December 2024, the system remains in the Philippines.[225] It may be noted that the presence of physical assets strengthens one's relations with allies.

Following Balikatan 24, the U.S. Marine Corps conducted the Archipelagic Coastal Defense Continuum (ACDC), a series of bilateral exchanges and training with the Philippine Marine Corps, from May 12 to June 7, 2024. The 3rd MLR conducted the Littoral Zone Reconnaissance Cobra exercise with the Philippines' 4th Marine Brigade and Marine Battalion Landing Team-10 under the ACDC framework, with the aim of improving interoperability and refining tactics, techniques, and procedures (TTP) in maritime domain awareness.[226] In addition, the 15th Marine Expeditionary Unit (Camp Pendleton, California) along with the Philippines' 3rd Marine Brigade conducted a mission rehearsal on Palawan Island from

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223) "Soldiers Conduct Mid-Range Capability (MRC) Reload Certification Training in the Philippines [Image 1 of 2]," April 30, 2024, DVIDS, https://www.dvidshub.net/image/8378967/soldiers-conduct-mid-range-capability-mrc-reload-certification-training-philippines; "U.S.-Philippine Army Bilateral Mid-Range Capability Subject Matter Expert Exchange [Image 1 of 9]," June 27, 2024, DVIDS, https://www.dvidshub.net/image/8514517/us-philippine-army-bilateral-mid-range-capability-subject-matter-expert-exchange; and Karen Lema and Poppy Mcpherson, "Exclusive: US Keeps Missile System in Philippines as China Tensions Rise," Reuters, September 20, 2024, https://www.reuters.com/world/us-keeps-missile-system-philippines-china-tensions-rise-tests-wartime-deployment-2024-09-19/.

224) Jason Gutierrez, "Philippine Military Chief Requests Longer Deployment for US Missile System," *Benar News*, September 25, 2024, https://www.benarnews.org/english/news/philippine/philippine-military-chief-requests-longer-deployment-for-us-missile-system-09252024141649.html.

225) "PH Acquiring Mid-Range Missiles despite China's Threat," *Manila Standard*, November 16, 2024, Factiva.

226) Anne Pentaleri, "ACDC | 3rd MLR Conducts Bilateral LZR Cobra Exercise with PMC," May 28, 2024, DVIDS, https://www.dvidshub.net/news/472311/acdc-3rd-mlr-conducts-bilateral-lzr-cobra-exercise-with-pmc; and "3rd MLR Conducts Littoral Zone Reconnaissance Cobra [Image 1 of 8]," May 19, 2024, DVIDS, https://www.dvidshub.net/image/8422100/3rd-mlr-conducts-littoral-zone-reconnaissance-cobra.

May 13 to 24. It focused on coastal defense, which included vehicle convoy movement, emplacement of coastal area defense, and retaking key terrain from recently landed enemy forces.[227]

The ACDC is being undertaken for the purpose of assisting the Philippine Marine Corps in acquiring the capabilities necessary for its "Archipelagic Coastal Defense" (ACD) concept.[228] The ACD was approved in April 2021 as the Philippine Marine Corps' new operational concept that envisions operations spanning both land and sea, including anti-ship missile strikes and ground combat, aimed at denying enemy use of "key coastal terrains," which refer to offshore islands, coastal areas, and sea lanes.[229] The ACD itself is highly consonant with the U.S. Marine Corps' EABO and other U.S. operational concepts, and is considered to "indicate that the [Philippine] military is beginning to adopt a strategy of anti-access and area denial (A2/AD)" in line with U.S. defense strategy. The U.S. Marine Corps' engagement with the Philippine Marine Corps under the ACDC framework can be seen as its efforts to foster this development on the part of its Philippine counterpart.[230]

Another capability area the Philippine military needs to bolster and for which it requires U.S. assistance is maritime domain awareness. The U.S. Marine Corps has deployed MQ-9A Reaper drones from Marine Corps Base Hawaii to Basa Air Base, an EDCA site, since the spring of 2024.[231]

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227) "Combined US-Philippine Forces Conduct Largest Tactical Convoy on Palawan Island," May 15, 2024, DVIDS, https://www.dvidshub.net/news/471663/combined-us-philippine-forces-conduct-largest-tactical-convoy-palawan-island; and Donald Holbert, "15th MEU Strengthens Relationships, Completes ACDC in Philippines," May 29, 2024, DVIDS, https://www.dvidshub.net/news/472483/15th-meu-strengthens-relationships-completes-acdc-philippines.

228) Pentaleri, "3rd MLR Concludes."

229) AC of MS for Plans and Programs, MC5, "The Philippine Marine Corps in Defense of Key Coastal Terrains," *CITEMAR 6*, mid-year issue 2022, 10, 11; "Operationalizing the Archipelagic Coastal Defense: PMC's New Battlefront," *CITEMAR 6*, mid-year issue, 50; and Lawrence D. Medina, "SBASMS and SBADS: Inseparable Critical Archipelagic Coastal Defense Capabilities," *CITEMAR 6*, Marine birthday issue, 17.

230) Rej Cortez Torrecampo, "Philippine Marines' New Operating Concept Highlights Their Growing National Security Role," *Diplomat*, May 6, 2021, https://thediplomat.com/2021/05/philippine-marines-new-operating-concept-highlights-their-growing-national-security-role/.

231) Aaron-Matthew Lariosa, "U.S. Marine MQ-9A Reapers Now Deployed to the Philippines," *USNI News*, June 3, 2024, https://news.usni.org/2024/06/03/u-s-marine-mq-9a-reapers-now-deployed-to-the-philippines.

Meanwhile, Task Force-Ayungin is active on Palawan Island, which faces the South China Sea, to provide intelligence, surveillance, and reconnaissance (ISR) support for Philippine activities in the South China Sea, including for BRP *Sierra Madre*, a Philippine location in the Second Thomas Shoal (Ayungin is the Filipino name for the Second Thomas Shoal).[232]

U.S. Secretary of Defense Austin (center) inspects the Command and Control Fusion Center at Antonio Bautista Air Base, Palawan Island, on November 19, 2024 (DoD photo by U.S. Air Force Tech. Sgt. Jack Sanders)

Building upon the developments described thus far, the Philippine military is said to be planning to expand Balikatan exercises into a "full battle test" for defending its sovereign territory with the assistance of the U.S. military. There is also a will on the part of the U.S. military to strengthen the Philippines' defense by conducting realistic training with high-intensity scenarios with the Philippine Armed Forces and by deploying cutting-edge capabilities such as the Typhon system.[233] In doing so, the two countries may be trying to send "a clear signal to any potential aggressors that the Philippines is not alone."[234] U.S.-Philippines exercises in recent years certainly reflect such intentions of both countries on this front.

(2) Air Force Exercises Aimed at a Distributed Force Posture

The U.S. Air Force has been conducting training and exercises based on the ACE concept in the western Pacific, as is the case in other regions. One

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232) Aaron-Matthew Lariosa, "U.S. Supporting Philippine Operations in South China Sea with Forward-Deployed Task Force," *USNI News*, November 21, 2024, https://news.usni.org/2024/11/21/u-s-supporting-philippine-operations-in-south-china-sea-with-forward-deployed-task-force.

233) "US Army Pacific Commander Meets with Allied Army and Marine Leaders for Summit on Strengthening Deterrence," September 16, 2024, USARPAC, https://www.usarpac.army.mil/Our-Story/Our-News/Article-Display/Article/3906191/us-army-pacific-commander-meets-with-allied-army-and-marine-leaders-for-summit/.

234) Shermaine Anacleto, "The Critical Role of International Support in Philippine Defense," *Philippine Daily*, November 18, 2024, Factiva.

feature of these exercises is the utilization of locations scattered throughout the Pacific to facilitate distributed operations, including Guam, Tinian of the Northern Mariana Islands, designated as Guam's divert airfield, the Pacific Island country of Palau, and others. Another feature of exercises in recent years is the use of airstrips that were built during the Pacific War but were closed shortly thereafter, in light of ACE's approach of leveraging austere facilities as locations for distributed operations. These exercises are built on the efforts to strengthen force posture as discussed in "Campaigning and Force Posture in the Western Pacific" of this section.

Cope North 24 (CN24), an exercise organized by the PACAF in February 2024, used Andersen Air Force Base as a hub for the dispersed operations of aircraft from the spokes of Saipan, Guam's Northwest Field, Guam International Airport, and Tinian.[235] The Northwest Field on Guam, built during the Pacific War and closed shortly thereafter, supported CN24. Training events conducted during CN24 at the airfield included emergency landing training conducted on February 6 for the Marine Corps' F/A-18D using a mobile aircraft arresting system (MAAS),[236] as well as FARP training conducted on February 20 involving the refueling of F/A-18Ds using makeshift fuel tanks.[237] On February 8, the Japan Air Self-Defense Force's F-2As and F-15Js also participated in training at the same airfield.[238]

At the Northwest Field, the Air Force's 554th RED HORSE Squadron and the Navy's NMCB 133 underwent airfield damage repair training

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235) Cedrique Oldaker, "Cope North 24: Spoke Location Spoken Words," February 13, 2024, DVIDS, https://www.dvidshub.net/news/463843/cope-north-24-spoke-location-spoken-words.

236) The MAAS is used when the runway is too short or has been rendered partially unusable due to an attack, and lacks sufficient length to ensure that the landing aircraft stops safely, making it an essential system for distributed operations in contested environments such as ACE. Department of the Air Force, *Air Force Handbook 10-222, Volume 8 Guide to Mobile Aircraft Arresting System Installation* (Washington, DC, 2000), 1; and Department of the Air Force, *Air Force Tactics, Techniques, and Procedures 3-32.15 Rapid Setback Installation of Mobile Aircraft Arresting Gear System* (Washington, DC, 2024).

237) "Cope North 24 FARP Operations [Image 5 of 12]," February 20, 2024, DVIDS, https://www.dvidshub.net/image/8260824/cope-north-24-farp-operations; and "Cope North 24: Northwest Field Gets MAAS Certified [Image 2 of 9]," February 6, 2024, DVIDS, https://www.dvidshub.net/image/8235243/cope-north-24-northwest-field-gets-maas-certified.

238) "Cope North 24: F-2s, F-15s Deploy to Northwest Field [Image 9 of 15]," February 8, 2024, DVIDS, https://www.dvidshub.net/image/8239150/cope-north-24-f-2s-f-15s-deploy-northwest-field.

and expeditionary taxiway and parking apron construction training using metal matting alongside construction units of the Royal Canadian Air Force.[239] While the rehabilitation of damaged runways and the expeditious establishment of needed facilities are integral elements of ACE, these Air Force training events with the Navy and allied forces carry much significance in ensuring necessary coordination in contested environments. CN24 exercises were also carried out at Tinian International Airport and the North Airfield on Tinian (see "Campaigning and Force Posture in the Western Pacific" of this section for facility development at Tinian International Airport and restoration works undertaken at the North Airfield).[240] Training conducted on Tinian included takeoff and landing training for the Marine Corps' F/A-18Ds, casualty evacuation training involving the U.S., Japan, and Australia, as well as refueling training for the Navy's MH-60s by the Air Force's Contingency Response Squadron.[241]

Also participating in this iteration of CN24 were F/A-18Ds of the Marine Corps' Fighter Attack Squadron (VMFA) 232, which were on rotational deployment from Marine Corps Air Station Miramar, California, to Marine Corps Air Station Iwakuni, Japan. During CN24, these Marine aircraft "practiced the Air Forces'[*sic*] Agile Combat Employment (ACE) concept as a coalition force" that included the U.S. Air Force, the Japan Air Self-Defense Force, and the air forces of Australia, France, South Korea,

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239) "NMCB 133 Deployed to Guam [Image 8 of 8]," January 31, 2024, DVIDS, https://www.dvidshub.net/image/8237774/nmcb-133-deployed-guam; "Cope North 24: U.S., RCAF Engineers Install AM-2 Matting [Image 4 of 10]," February 6, 2024, DVIDS, https://www.dvidshub.net/image/8235234/cope-north-24-us-rcaf-engineers-install-am-2-matting; and "Cope North 24 [Image 1 of 24]," February 7, 2024, DVIDS, https://www.dvidshub.net/image/8245915/cope-north-24.

240) Akeem Campbell, "USAF and Allies Conduct Cope North 24 Training in Tinian," February 14, 2024, Andersen AFB, https://www.andersen.af.mil/News/Features/Article/3676322/usaf-and-allies-conduct-cope-north-24-training-in-tinian/.

241) "Red Devils Train Around-the-Clock [Image 1 of 11]," February 12, 2024, DVIDS, https://www.dvidshub.net/image/8240756/red-devils-train-around-clock; "U.S., Australian and Japanese Medical Personnel Conduct Casualty Evacuation Exercise During Cope North 24 [Image 11 of 12]," February 11, 2024, DVIDS, https://www.dvidshub.net/image/8237439/us-australian-and-japanese-medical-personnel-conduct-casualty-evacuation-exercise-during-cope-north-24; and "Joint Contingency Response Operation Performs Refuel with HSC-25 During Cope North 24 [Image 3 of 8]," February 12, 2024, DVIDS, https://www.dvidshub.net/image/8247597/joint-contingency-response-operation-performs-refuel-with-hsc-25-during-cope-north-24.

and Canada.[242] The participation of the Marine Corps, a separate service, in training based on the Air Force's operational concept of ACE is highly significant when considering the coordination between the various services that is essential for operating in contested environments.

The 3rd Air Expeditionary Wing (Joint Base Elmendorf-Richardson, Alaska) conducted Exercise Agile Reaper based on the hub-and-spoke concept with Guam as the hub. The exercise involves the deployment of the Wing's F-22s to the western Pacific for ACE training. While the first iteration of Agile Reaper was held in 2023 at Tinian International Airport, its second iteration held in April 2024 utilized Andersen Air Force Base as a hub and four airfields (Iwo To, Saipan Island, Tinian, and Guam's Northwest Field) as spokes to conduct training for "collectively projecting power across the Indo-Pacific Region." The 800 personnel dispatched for the exercise were dispersed to the various spokes and tasked with setting up and running Forward Operating Sites (FOS) equipped with "all the necessary military support functions to service and launch military aircraft" through the use of materials and equipment brought in by transport aircraft.[243] The F-22s deployed from Alaska arrived at Tinian International Airport on April 10, and after undergoing aircraft inspection, participated in training again on April 12.[244] They then took part in a Community Day event at Saipan

242) "Marine Aircraft Group 12 Concludes Cope North 24," March 4, 2024, 1st MAW, https://www.1stmaw.marines.mil/News/Article/Article/3693566/marine-aircraft-group-12-concludes-cope-north-24/.

243) "Tinian FOS Serves as Power Projection Platform During Exercise Agile Reaper 24-1," April 13, 2024, DVIDS, https://www.dvidshub.net/news/468489/tinian-fos-serves-power-projection-platform-during-exercise-agile-reaper-24-1; and "3rd AEW Airmen Build Tinian FOS During Exercise Agile Reaper 24-1 [Image 2 of 47]," April 8, 2024, DVIDS, https://www.dvidshub.net/image/8338303/3rd-aew-airmen-build-tinian-fos-during-exercise-agile-reaper-24-1.

244) "JBER F-22s Operate out of Tinian FOS During Exercise Agile Reaper 24-1 [Image 9 of 13]," April 10, 2024, DVIDS, https://www.dvidshub.net/image/8339109/jber-f-22s-operate-out-tinian-fos-during-exercise-agile-reaper-24-1; "JBER F-22s Operate out of Tinian FOS During Exercise Agile Reaper 24-1 [Image 12 of 13]," April 10, 2024, DVIDS, https://www.dvidshub.net/image/8339112/jber-f-22s-operate-out-tinian-fos-during-exercise-agile-reaper-24-1; and "Tinian LZSO Conducts Airfield Operations During Agile Reaper 24-1 [Image 2 of 5]," April 12, 2024, DVIDS, https://www.dvidshub.net/image/8339097/tinian-lzso-conducts-airfield-operations-during-agile-reaper-24-1.

International Airport on April 13 before departing from the same airport.[245] On April 15, the F-22s were deployed to Iwo To for the first time and took off after they were refueled.[246] During training on April 16, a C-17 refueled an F-22 at a FARP set up at the Northwest Field on Guam.[247] According to exercise officials, it was "historic" to have employed F-22s while moving them across five different locations in the short span of a single week.[248]

In addition, training on anticipating attacks and scrambling fighter aircraft has been conducted at bases along the first island chain. On September 22, 2023, F-15C/D, F-15E, and F-35A fighters from North Carolina, Idaho, and Alaska gathered at Kadena Air Base for a "no-notice agile combat employment exercise" to practice the scrambling of these aircraft to "smaller, dispersed, spoke locations" to evade enemy attack.[249] Exercise Beverly Morning 24-1, held at Yokota Air Base in October 2023 to "prepare Airmen for real-world conflicts," included airfield damage repair training using fast-setting cement as well as training on using a taxiway as an alternative runway in the event of runway damage.[250] The exercise also

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245) "Agile Reaper 24-1 Participants Host Saipan Community Day [Image 34 of 37]," April 13, 2024, DVIDS, https://www.dvidshub.net/image/8344259/agile-reaper-24-1-participants-host-saipan-community-day.

246) "Two U.S. Air Force F-22 Raptors Land on Iwo To for the First Time [Image 2 of 5]," April 15, 2024, DVIDS, https://www.dvidshub.net/image/8377727/two-us-air-force-f-22-raptors-land-iwo-first-time.

247) "3rd AEW Carries Out FARP Operations During AR 24-1 [Image 7 of 12]," April 16, 2024, DVIDS, https://www.dvidshub.net/image/8373416/3rd-aew-carries-out-farp-operations-during-ar-24-1.

248) Julia Lebens, "Agile Reaper 23-1 Wraps Up a Successful ACE Exercise in Guam and Tinian," March 14, 2023, DVIDS, https://www.dvidshub.net/news/440371/agile-reaper-23-1-wraps-up-successful-ace-exercise-guam-and-tinian; and "Agile Reaper 24-1 Ends with Historic Firsts," May 3, 2024, PACAF, https://www.pacaf.af.mil/News/Article-Display/Article/3768161/agile-reaper-24-1-ends-with-historic-firsts/.

249) Micaiah Anthony, "Generate Airpower, Check: Kadena ACEs No-notice Exercise," September 25, 2023, PACAF, https://www.pacaf.af.mil/News/Article-Display/Article/3538094/generate-airpower-check-kadena-aces-no-notice-exercise/.

250) Natalie Doan, "Exercise Beverly Morning 24-1 in Full Swing at Yokota," October 21, 2023, Yokota Air Base, https://www.yokota.af.mil/News/Article-Display/Article/3564842/exercise-beverly-morning-24-1-in-full-swing-at-yokota/; Taylor Slater, "CES, Aircrew Practice ACE, Employ RADR and Launch to Survive," October 24, 2023, PACAF, https://www.pacaf.af.mil/News/Article-Display/Article/3569091/ces-aircrew-practice-ace-employ-radr-and-launch-to-survive/; and Taylor Altier, "No Runway? No Problem for Team Yokota," October 24, 2023, PACAF, https://www.pacaf.af.mil/News/Article-Display/Article/3569099/no-runway-no-problem-for-team-yokota/.

included "launch to survive" training, in which aircraft are postured to launch rapidly in anticipation of an attack on the base so that they can evade attack by scrambling from the base when an attack is imminent.[251]

Summary

To sum up, the activities conducted by the U.S. military in the western Pacific are not limited to those directly aimed at deterring armed conflict through a strategy of denial, but are also part of campaigning, a broader, sustained effort to strengthen the U.S. position and prevent adversaries from achieving their goals. In addition, the U.S. military has positioned force posture as the foundation for campaigning and is currently transforming its force posture in the four clusters in Guam, Japan, the Philippines, and Australia. Meanwhile, it is noteworthy that further enhancement of force posture, including securing access to the Philippines and Pacific Island countries, is being undertaken on the basis of strengthening relations with these countries, in concert with the ramping up of exercises. These efforts are aimed at increasing military advantage, thereby contributing to the viability of the strategy of denial, while simultaneously reshaping the overall landscape to the benefit of the U.S. and its allies by strengthening relations with the countries involved.

Conclusion

As discussed in "Distributed Operations in the Western Pacific," the U.S. has adopted a strategy of denial based on the capability to prevent adversaries from achieving their goals. As part of this strategy, the U.S. military is geared toward distributed operations and fighting in contested environments where U.S. forces may come under enemy attack. This requires U.S. forces to work with their allies to form the "home team." The fact that the U.S. has

251) Slater, "CES, Aircrew Practice ACE."

strengthened its "arc of military alliances" in the Indo-Pacific in recent years to better counter China is also proof of this.[252]

"'Campaigning' in Strategic Competition" examined how the U.S. military is carrying out various activities in the western Pacific as a form of campaigning with a view to advancing the U.S. position in its long-term strategic competition with China. As part of these efforts, the enhancement of force posture, including securing access to the Philippines and Pacific Island countries, is being undertaken on the basis of strengthening relations with these countries, in concert with the ramping up of exercises.

These U.S. military efforts, in sum, are all founded on U.S. relations with its allies and partners. Furthermore, U.S. military activities have a reciprocal relationship with the quality of U.S. relations with the countries involved. The U.S. military cannot conduct operations in contested environments without access to the territories, waters, and airspaces of U.S. allies and partners, including countries both within and outside contested environments, for purposes such as the movement and deployment of troops, pre-positioning of equipment and supplies, equipment maintenance and other forms of sustainment, and asset deployment. U.S. military officials have also repeatedly emphasized the tremendous significance of diplomacy in enabling these distributed operations. For example, in relation to EABO, Marine Corps officials have often highlighted the fact that "EABO's critical requirement is diplomacy" and that "diplomacy is the foundation of EABO."[253] Of even greater importance from the standpoint of the U.S. military is the perspective that U.S. military exercises conducted alongside its allies and partners as well as U.S. military presence in these countries will strengthen its relations with the countries involved. This is likely also the intended goal of the U.S. as it strengthens its force posture in the western Pacific and ramps up exercises and training with allies and partners.

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252) Jim Gomez, "US and Philippines Sign a Pact to Secure Shared Military Intelligence and Weapons Technology," Associated Press, November 18, 2024, https://apnews.com/article/philippines-us-general-security-of-military-information-agreement-4622f461bde4599a08be8c51d5f4db09.

253) Aric Ramsey, "EABO's Critical Requirement Is Diplomacy," *Proceedings* 148, no. 5 (May 2022), https://www.usni.org/magazines/proceedings/2022/may/eabos-critical-requirement-diplomacy; and Mills, "The U.S. Marine Corps and Advanced Base Operations," 390.