

U.S. Military Power

An Assessment of U.S. Military Power

The United States military is at an inflection point. After two decades of counterterrorism operations and nation-building, the United States is attempting to rebuild its military power—particularly the platforms and munitions that are so needed for the current era of great-power confrontation.

While the United States military can execute breathtakingly flawless operations, as evidenced in Operation Midnight Hammer when American aircraft destroyed large portions of Iran’s nuclear program and in Operation Absolute Resolve when the United States extracted Venezuelan dictator Nicolás Maduro, the military itself requires significant reinvestment if it is to be able to deter and, if necessary, defeat adversary aggression.

Fortunately, because of President Trump’s proposed reinvestment in the American military—from new shipyards to new production lines, from Golden Dome missile defenses to modernizing America’s strategic deterrent, and from new fighters like the F-47 to the next-generation B-21 stealth bomber—the United States will spend trillions of dollars over the next four years to enhance America’s combat power. But this will take time, and that reinvestment must cover an enormous amount of ground.

The 2025 National Security Strategy articulates the importance of securing the Western Hemisphere and America’s borders. It identifies China as America’s primary foreign adversary while still recognizing the challenges posed by America’s adversaries in Russia, Iran, and North Korea. This is a formidable set of challenges that in many ways is greater than those our nation faced in the Cold War.

Not only do America’s new adversaries field more advanced capabilities and enjoy far more comparative wealth than the Soviets did, but they have demonstrated a willingness to engage in incredible acts of violence to achieve their aims. China threatens Taiwan and other neighbors on a routine basis,

to include using force against neighboring ships operating in international waters. Russia has brutally invaded its neighbors and threatens NATO allies with nuclear annihilation on a regular basis. Iran not only has sought the nuclear bomb and attacked American forces across the Middle East, but also has tried repeatedly through missile and terrorist attacks to destroy America’s most valuable partner in the region, Israel. North Korea continues to expand its nuclear arsenal and regularly threatens the American homeland as well as our allies in Korea and Japan with devastating strategic attack.

Consequently, the prospect of coordinated or sequential attack by one or more of America’s adversaries is higher now than at any time since the end of the 1930s. This is not hyperbole: The United States and its allies in the Indo-Pacific, Europe, and the Middle East are confronted with multiple adversaries that seek—and have been preparing for many years—to overturn the free and open world order that has benefited the American people for decades.

Unfortunately, the strategic distractions of the 2000s and the 2010s have left the United States underprepared for the challenges at hand. Too much time was spent on the wrong issues and the wrong missions in the wrong parts of the world and focusing on far too many faddish social issues to prepare for the challenges posed by malign actors in the Western Hemisphere and by the dictators in Beijing, Moscow, Tehran, and Pyongyang.

The United States is not postured correctly and does not have sufficient ships, planes, and munitions to focus on all challenges in every theater simultaneously. As it rebuilds its military and refills its stockpiles, it will rely more heavily on allies in Europe and Asia. It must prioritize securing its interests in the Western Hemisphere, as it did with Operation Absolute Resolve, while still setting the Indo-Pacific theater to deter and, if necessary,

defeat a near-peer China that seeks to overturn the free and open world order.

The *2026 Index of U.S. Military Strength* posits that the military should build up to a force that can address two major regional contingencies (MRCs). As of now, it is underprepared to address a single MRC in the Indo-Pacific. The path that President Trump has set with the National Security Strategy, the National Defense Strategy, the One Big Beautiful Bill Act, and significant increases in defense spending in the coming years will go far to get the military back to where it needs to be—but much needs to be done in the years to follow.

The good news is that our allies—Japan, Australia, Germany, Poland, South Korea, and others—are taking significant steps to increase defense spending and field more credible combat capability to deter adversary aggression within their theaters. More actors such as the Philippines see that the United States remains committed to opposing revisionist actors from imposing their will on America’s partners and have become more committed themselves to opposing America’s adversaries.

The U.S. military is turning itself around. Within the first week of his Administration, President Trump announced the Golden Dome missile defense system designed to protect America and its allies from strategic attack. Subsequently, President Trump announced the Air Force’s next-generation air dominance fighter, the F-47. The Department of War is addressing challenges in acquisition, shipbuilding, and personnel and ordering thousands of additional missile interceptors and long-range strike missiles.

Where to Start

The Department of War periodically conducts formal defense reviews to inform decisions on capabilities and capacities across the Joint Force relative to the threat environment (current and projected) and evolutions in operating conditions, the advancement of technologies, and aspects of U.S. interests that may call for one type of military response over another.

Major changes in the global threat environment cause significant reassessments of the capabilities and capacities required for the U.S. military to secure the interests of the American people. In 1993, for example, then-Secretary of Defense Les Aspin conducted the Bottom Up Review (BUR) in

recognition that “the dramatic changes that [had] occurred in the world as a result of the end of the Cold War and the dissolution of the Soviet Union” had “fundamentally altered America’s security needs” and were driving an imperative “to reassess all of our defense concepts, plans, and programs from the ground up.”¹

The BUR formally established the two-MRC standard, the requirement that U.S. forces should be able “to achieve decisive victory in two nearly simultaneous major regional conflicts and to conduct combat operations characterized by rapid response and a high probability of success, while minimizing the risk of significant American casualties.”²

Since that study, the government has undertaken others as Administrations, national conditions, and world events have changed the context of national security. Quadrennial Defense Reviews (QDRs) were conducted in 1997, 2010, and 2014 and were accompanied by independent National Defense Panel (NDP) reports that reviewed and commented on them.

The QDR was replaced by the National Defense Strategy (NDS), released in 2018, 2022, and 2026,³ and the independent perspectives of the formal U.S. Department of Defense (DOD) review by the Commission on the National Defense Strategy, which released its views on the NDS starting in November 2018.⁴ Departing from their predecessors, neither document proposed specific force structures or end-strength goals for the services, but both were very clear in arguing that America’s military should be able to address more than one major security challenge at a time. The commission’s report in 2024, for example, even criticized the NDS for not making a stronger case for a larger military that would be capable of meeting the challenges posed by four named competitors—China, Russia, Iran, and North Korea—while also possessing the capacity to address lesser though still important military tasks that included presence, crisis response, and assistance missions.⁵

The Biden Administration’s 2022 NDS echoed the general goal for the U.S. military to “deter and prevent adversaries from directly threatening the United States and our allies, inhibiting access to the global commons, or dominating key regions,”⁶ all of which are themes that have remained remarkably consistent from one Administration to the next for several decades.

The new 2025 NSS likewise prioritizes the threat posed by China but, while naming other threats that include Russia, Iran, North Korea, and terrorist groups, advocates dealing with them by improving the forward posture of U.S. forces, our national resilience to attack, and U.S. collaboration with regional allies. This approach will be paired with substantial increases in defense spending, as already seen in the fiscal year (FY) 2026 defense budget and probably will be seen in the FY 2027 budget as well. President Trump has made clear that his goal is to rebuild and revitalize the U.S. military as a necessary component of his National Security Strategy.

Balancing Investment in Procurement and Research and Development

It has become fashionable to argue that existing systems like aircraft carriers and main battle tanks are becoming obsolete. Critics question their value in an era of technological advancement when new capabilities such as advanced autonomous systems and hypersonic missiles increasingly render the U.S. Navy's biggest and most prominent ships too large and too slow to evade missiles and drones.⁷

Critics point to Ukraine's sinking of the Russian missile cruiser *Moskva* to claim that American carriers would stand little chance of survival during a conflict with China.⁸ The U.S. Navy, they insist, should instead invest in various experimental drones and autonomous surface vessels.

These critics, however, are comparing apples to oranges. They are drawing conclusions far beyond the lessons of the war in Ukraine—conclusions that have no bearing on U.S. military requirements in a potential conflict with China in the Pacific. Further, they ignore decades of successful U.S. power projection operations, including the recent Operation Midnight Hammer and Operation Absolute Resolve—flawless tactical successes that utilized legacy American military platforms. The United States already has the world's most technologically advanced military, and the biggest concern for planners considering a conflict with China in the Indo-Pacific should be capacity, not capability. Quality has a quantity all its own, and China's investment in deep stores of precision-guided munitions and the shortages of these same munitions on the American side is a serious concern. Likewise, even though the U.S. Navy still has a qualitative edge over the People's Liberation Army Navy, the PLAN's

numerical superiority in battle force ships is a cause for concern.

New spending in the defense budget therefore needs to be focused on expanding capacity, procuring larger numbers of platforms and munitions that currently exist, with block buys of precision-guided munitions to include long-range anti-ship missiles (LRASM); extended-range joint air-to-surface standoff missiles (JASSM-ER); precision strike missiles (PrSM); and Standard Missile-6s (SM-6). For platforms, the U.S. military needs more ships and aircraft with larger procurement orders of *Virginia*-class submarines, *Arleigh Burke*-class destroyers, F-35 strike fighters, and B-21 bombers.

Our systems and troops also need sustainment, and the vast operating distances of the Indo-Pacific necessitate thinking on airlift, sealift, and sustainment that military planners have largely ignored since the end of the Cold War. To get our troops and weapons systems to the fight, the Air Force and Navy desperately need to be investing in larger procurement orders of dry cargo ships, fueling ships, KC-46 tankers, and C-17s, C-130J/KC130J, and C-5M for air transport.

This is not to say that the United States should not be investing in next-generation technologies. Quite the contrary: Keeping the American technological edge requires the development of new, modernized systems like the B-21 bomber and the F-47 air superiority aircraft. Wherever possible, however, research and development dollars should be spent on next-generation systems that are meant to be procured, and not on generalized research. For more general research, the Department of War has rightly realized that leveraging America's incredible private sector makes more sense than funding generalized Pentagon research and development programs. If the United States is going to beat China in the race to develop higher and higher levels of artificial intelligence, for example, Silicon Valley is far more likely to do so than a government agency is.

In short, the Department of War needs to be focusing new spending on purchasing new ships, planes, and munitions so that China's quantitative edge does not cancel out America's qualitative edge.

The U.S. Joint Force and the Art of War

This section of the *2026 Index* assesses the adequacy of military capabilities defined as the ability of American forces to engage and defeat an enemy's

forces when called upon to do so. In conducting this assessment, we accounted for both quantitative and qualitative aspects of military forces, informed by an experience-based and scholarly understanding of military operations.

What Is Not Being Assessed

In assessing the status of America's military forces, the *2026 Index* uses the primary measures used by the military services when they discuss their ability to employ combat power.

- The Army's unit of measure is the brigade combat team (BCT).
- The Marine Corps structures itself by battalions.
- The Navy measures itself by the number of battle force ships.
- The Air Force measures the total number of aircraft, sometimes broken down into fighters and bombers.

Obviously, this is not the totality of service capabilities and is not everything needed for war. Even the services would argue that "what they bring to the fight" is more than these simple metrics. Discussions about military power that take place among career professionals are endless and can be incomprehensible to most people who have not spent years studying such issues. Nevertheless, measures must be found. Vitally important capabilities also must be taken into account as critical enablers of combat forces. For example:

- Combat forces depend on a staggeringly large logistics system that supplies everything from food and water to fuel, ammunition, and repair parts.
- Military operations require engineer support, and the force needs medical, dental, and administrative capabilities.
- The military also fields units that transport combat power to and sustain it wherever they may be needed anywhere in the world.

The scope of the *2026 Index* does not extend to analysis of everything that makes hard power possible. It also does not assess the Reserve and National Guard components, although they account for roughly one-third of the U.S. military force and have been essential to operations for decades.⁹ As with other elements that are essential to the effective employment of combat power—logistics, medical support, strategic lift, training, and more—the U.S. military could not handle a major conflict without the Reserve and Guard forces. Nevertheless, to make the challenge of assessing the status of military strength manageable, the *2026 Index*, like its predecessors, looks at factors directly associated with the active component of each service: the baseline requirement for a given amount of combat power that is readily available in the event of a conflict.

The Defense Budget and Strategic Guidance

How much a nation spends on defense does not determine a military's capability, readiness, or capacity. How much is allocated to defense does not tell us much about the capacity, modernity, or readiness of the forces. Proper funding is a necessary but insufficient variable in determining a military's health. A larger defense budget, for example, is useless if the money is allocated inappropriately or wasted on useless programs. Nevertheless, there is a rough correlation between the percentage of the federal budget or national gross domestic product (GDP) that is spent on defense and the military's capabilities.

The U.S. government will always compare spending on defense with spending in other areas of government activity. In an ideal world, defense requirements are determined by identifying national interests that might need to be defended; assessing the nature of threats to those interests and what would be needed to deter and, if necessary, defeat those threats; and then determining what the country can afford or is willing to spend in order to field the military required to address these challenges. *Any difference between assessed requirements and the amount of money spent on military capabilities would constitute risk to American security interests.*

The *2026 Index* adopts this approach of weighing interests, threats, requirements, required military capabilities, and the associated budget. The composition of the force and the understanding of military risk have become more salient issues with the

shift toward confrontation with China and Russia. Certainly, Russia's war against Ukraine has revealed the reality of war: its appetite for resources and the relative effectiveness of military units possessing various types of equipment, munitions inventories, and histories of training.

Assessments of potential conflict between the United States and China tend toward theory in peacetime and can underestimate what would be needed to prevail in war. The 2017 National Security Strategy,¹⁰ 2018 National Defense Strategy, 2021 Interim National Security Strategic Guidance,¹¹ 2022 National Security Strategy,¹² 2022 National Defense Strategy,¹³ 2025 National Security Strategy,¹⁴ and 2026 National Defense Strategy all have recognized that meeting the challenges posed by great-power competitors requires a U.S. force that is modern, ready, and effective in all domains of warfare with a focus on high-end conflict with Communist China.

Purpose as a Driver in Force Sizing

The Joint Force is used for a wide range of purposes, by far the most important of which is major combat operations. Fortunately, such events are rare.¹⁵ Between (and even during) major combat operations, the military is used for a variety of non-combat missions, to include support to regional engagements, crisis response activities, deterrence operations, and humanitarian assistance, as well as to support civil authorities and diplomacy. One must ask, of course, whether the overreliance on the military for a variety of operations that fall well outside the realm of major combat operations undermines the military's ability to be prepared for major combat operations.

All of the U.S. Geographic Combatant Commands, or COCOMS¹⁶—Northern Command (NORTHCOM); European Command (EUCOM); Central Command (CENTCOM); Indo-Pacific Command (INDOPACOM); Southern Command (SOUTHCOM); and Africa Command (AFRICOM)—have engaged with countries in their regions. Such engagements range from small unit training events to larger bilateral and multilateral military exercises. Such efforts foster working relationships with other countries, help participants acquire an understanding of regional political-military dynamics and on-the-ground conditions, and signal U.S. security interests to friends and competitors. As confrontation with China becomes more acute,

planning across all COCOMS will need to account for the possibility of high-end protracted conflict with Communist China.

To support these efforts, the military Services provide forces that are based permanently in their respective regions or that operate in them on a rotational basis. To make these regional rotations possible, the Services maintain forces that are large enough to train, deploy, support, receive back, and again make ready a stream of units that can meet force requirements in a variety of scenarios.

The ratio between time spent at home and time spent on deployment is known as OPTEMPO (operational tempo), and each military Service attempts to maintain a ratio that both gives units enough time to educate, train, and prepare and allows individuals to maintain a semblance of a healthy home life. This ensures that units are fully rested and prepared for the next deployment cycle and that servicemembers do not become “burned out” or suffer in their personal lives because of excessive deployments.

Experience has shown that a ratio of at least 3:1 (three periods of time at home for every period deployed) is sustainable. If a unit is scheduled to deploy for six months, for example, it will be home for 18 months before again deploying. Thus, the size of the total force must be significantly larger than any sampling of its use at any point in time.

By contrast, sizing a force for major combat operations is an exercise informed by history—how much force was needed in previous wars—and then shaped and refined by analysis of current threats, a range of plausible scenarios, and expectations about what the military can do given training, equipment, employment concepts, and other factors. Inevitably, compromises are made that account for how much military the country is willing to buy. Generally speaking:

- **The Army** sizes to major warfighting requirements.
- **The Marine Corps** focuses on crisis response and the ability to fight one major war.
- **The Air Force** attempts to strike a balance that accounts for historically based demand across the spectrum because air assets can be shifted from one theater of operations to

another, and any peacetime engagement typically requires some level of air support.

- **The Navy** is driven by global presence requirements. To meet COCOM requirements for a continuous fleet presence at sea, the Navy must have three to four ships in order to have one at sea on patrol. A commander who wants one U.S. warship stationed off the coast of a hostile country, for example, needs the use of four ships from the fleet: one on station, one that left station and is traveling home, one that just left home and is traveling to station, and one that is otherwise unavailable because of major maintenance or modernization work.

The *2026 Index* focuses on the forces required to win two major wars as the baseline force-sizing metric for the Army, Navy, and Air Force and the one-war paradigm for the Marine Corps. The three large services are meant to be sized for global action in more than one theater at a time; the Marines, by virtue of overall size and most recently by direction of the Commandant, focus on one major conflict in the Indo-Pacific while ensuring that all Fleet Marine Forces are globally deployable for short-notice, smaller-scale actions.¹⁷ The military's effectiveness, both as a deterrent against opportunistic aggressors and as a valued training partner in the eyes of other countries, derives from its military effectiveness.

Our Approach

With this in mind, we assessed the state of America's military forces as it pertains to their ability to deliver hard power against an enemy in three areas:

- Capability,
- Capacity, and
- Readiness.

Capability. Examining the capability of a military force requires consideration of:

- The proper tools with the design, characteristics, technological advancement, and suitability that the force needs to perform its function of defeating America's enemies.

- The sufficiency of armored vehicles, ships, airplanes, and other equipment and weapons to defeat the enemy.
- The appropriate diversity of options to mitigate strategic vulnerability and give flexibility to commanders.
- The degree to which elements of the force mutually support one another, minimizing weaknesses, maximizing strengths, and gaining greater effectiveness.

A modern "major combat operation"¹⁸ along the lines of those upon which Pentagon planners base their requirements should feature a capable near-peer opponent possessing modern integrated air defenses; naval power (surface and undersea); advanced combat aircraft (to include bombers); a substantial inventory of short-range, medium-range, and long-range missiles; current-generation ground forces (tanks, armored vehicles, artillery, rockets, and anti-armor weaponry); cruise missiles; and a variety of strategic and non-strategic nuclear weapons. Such a situation involving an actor capable of threatening vital national interests would present a challenge that is comprehensively different from the challenges that the U.S. Joint Force has faced since the successful conclusion of the Cold War.

In the years since publication of the 2018 National Defense Strategy, the military has focused on its readiness for major conventional warfare, primarily against Communist China.¹⁹ In general terms, this focus was sustained through the release of the 2022 NDS, 2025 NSS, and the 2026 NDS, no doubt reflecting the realities of China's rapid expansion of its military capabilities and activities.

- The Army has invested in units and systems that are relevant to deterring China in the Indo-Pacific, especially the Multi-Domain Task Force (MDTF).
- The Marine Corps has undertaken a dramatic restructuring to posture itself more effectively for high-end warfare against a major opponent, focusing specifically on China and the littorals of the Indo-Pacific through Force Plan 2030.

U.S. Military Power: Summary

VERY WEAK

WEAK

MARGINAL

STRONG

VERY STRONG

- Both the Navy and the Air Force have acknowledged the evolved threat environment that will demand more of them in the coming decade than they have had to deal with during the past 20 years; however, both services face significant challenges, as will be shown in the assessments for these services

The *2026 Index* ascertains the relevance and health of military service capabilities by looking at such factors as the average age of equipment, military capabilities and capacity as compared to those of America's adversaries, and the status of modern replacement programs. While some of the information is quantitative, some of the assessments are based on judgment calls made by experts in the relevant areas of interest or addressed by senior service officials.

It must be determined whether the Services possess capabilities that are relevant to deterring and, if necessary, defeating America's adversaries.

Capacity. The U.S. military must have the right amount of effective capabilities. This *Index* employs the two-MRC metric as a benchmark for most of the force. This benchmark is the *minimum* standard for U.S. military capacity because one will never be able to employ 100 percent of the force at any given time. Some percentage of the force will always be unavailable because of long-term maintenance overhaul, especially for Navy ships; unit training cycles; and the need to keep some portion of the force uncommitted to serve as a strategic reserve.

Summarizing the totals, this *Index* concluded that a Joint Force capable of dealing with two MRCs simultaneously or nearly simultaneously would consist of:

- **Army:** 50 BCTs.
- **Navy:** at least 400 ships and 624 strike aircraft.
- **Air Force:** 1,200 fighter/attack aircraft.
- **Marine Corps:** 30 battalions.

America's security interests require that the Services have the capacity to handle two major regional conflicts successfully.

Readiness. The consequences of the sharp reductions in funding mandated by sequestration from 2011 until 2021 caused military service officials, senior DOD officials, and even Members of Congress to warn of the dangers of recreating the "hollow force" of the 1970s when units existed on paper but were staffed at reduced levels, minimally trained, and woefully ill-equipped.²⁰ To avoid this, the Services traded quantity/capacity and modernization to ensure that what they do have is "ready" for employment.

Over the past several years, the services continued their effort to find an appropriate balance among capability, capacity, and readiness, at first benefiting from a reduction in combat operations and the easing of COVID-related restrictions and disruptions but then forced to contend with a loss in spending power caused by rising inflation. (In fact, accounting for the record-high inflation experienced under the Biden Administration has been one of the most potent arguments for the second Trump Administration's dramatic increases in defense spending.)

A nation must have the right capabilities to defeat the enemy in a single engagement; it also must have enough of those capabilities to sustain operations during a protracted conflict. But sufficient numbers of the right capabilities are meaningless if the force is not ready to engage.

Scoring. In our final assessments, we tried not to convey a higher level of precision than we think is achievable using unclassified, open-source, publicly available information and not to reach conclusions that could be viewed as based solely on one individual's opinion. We believe that the logic underlying our methodology is sound. The *2026 Index* draws from a wealth of public testimony from senior government officials, from the work of recognized experts in the defense and national security analytic community, and from historical instances of conflict that seemed most appropriate to this project. New capabilities such as unmanned systems, cyber

tools, hypervelocity weapons, and artificial intelligence have the potential to change military force posture calculations. At the present time, however, they are not realized in any practical sense. Moreover, such new capabilities should be seen as adding to, not as substituting for, legacy capabilities.

The *2026 Index* is focused on the primary purpose of military power—to deter and, if necessary, defeat an enemy, such as China, Russia, Iran, or North Korea, in combat. To this we added the two-MRC benchmark; on-the-record assessments of what the services themselves are saying about their status relative to validated requirements; and the

analysis and opinions of various experts, both in and out of government, who have covered these issues for many years.

Taking everything together, we rejected scales that would imply extraordinary precision and settled on a scale that conveys broader characterizations of status that range from very weak to very strong. Ultimately, any such assessment is a judgment call informed by quantifiable data, qualitative assessments, thoughtful deliberation, and experience. We trust that our approach makes sense, is defensible, and is repeatable.

Endnotes

1. Les Aspin, Secretary of Defense, *Report on the Bottom-Up Review*, U.S. Department of Defense, October 1993, p. iii, <https://apps.dtic.mil/sti/pdfs/ADA359953.pdf> (accessed January 14, 2026).
2. *Ibid.*, p. 8.
3. See James Mattis, Secretary of Defense, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge*, U.S. Department of Defense, <https://media.defense.gov/2020/May/18/2002302061/-1/-1/1/2018-NATIONAL-DEFENSE-STRATEGY-SUMMARY.PDF> (accessed January 14, 2026).
4. Commission on the National Defense Strategy, *Providing for the Common Defense: The Assessment and Recommendations of the National Defense Strategy Commission*, <https://www.usip.org/sites/default/files/2018-11/providing-for-the-common-defense.pdf> (accessed January 14, 2026); press release, "National Defense Strategy Commission Releases Its Review of 2018 National Defense Strategy," United States Institute of Peace, November 13, 2018, <https://www.pressreleasepoint.com/national-defense-strategy-commission-releases-its-review-2018-national-defense-strategy> (accessed January 14, 2026). The commission's final report, published in July 2024, may be accessed at <https://s3.documentcloud.org/documents/25021844/report-of-the-commission-on-the-national-defense-strategy-2024.pdf> (accessed January 15, 2026).
5. Commission on the National Defense Strategy, *Executive Summary*, August 2024, p. 6, <https://www.rand.org/nsrd/projects/NDS-commission.html> (accessed January 22, 2026).
6. President Joseph R. Biden, Jr., *Interim National Security Strategic Guidance*, The White House, March 2021, p. 9, <https://bidenwhitehouse.archives.gov/wp-content/uploads/2021/03/NSC-1v2.pdf> (accessed January 14, 2026).
7. Suman Karki, "Are Aircraft Carriers Obsolete?" AviaTech Blog, January 2, 2025, <https://aviatechchannel.com/are-aircraft-carriers-obsolete/> (accessed February 23, 2026).
8. Kyle Mizokami, "China Has Developed 'Powerful Weapons' to Destroy U.S. Aircraft Carriers. The Effects Could Be Devastating," Popular Mechanics, February 25, 2025, <https://www.popularmechanics.com/military/navy-ships/a63917095/us-navy-aircraft-carrier-threats/> (accessed February 23, 2026).
9. For a detailed discussion of this force, see Richard J. Dunn III, "America's Reserve and National Guard Components: Key Contributors to U.S. Military Strength," in *2016 Index of U.S. Military Strength*, ed. Dakota L. Wood (Washington: The Heritage Foundation, 2015), pp. 61–73, https://www.heritage.org/sites/default/files/2019-10/2016_IndexOfUSMilitaryStrength_America's%20Reserve%20and%20National%20Guard%20Components_Key%20Contributors%20to%20US%20Military%20Strength.pdf. For the percentage of U.S. military capability that resides in the Guard/Reserve, see *ibid.*, p. 63.
10. *National Security Strategy of the United States of America*, The White House, December 2017, pp. 2–3, 25–26, and 28, <https://trumpwhitehouse.archives.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf> (accessed January 14, 2026).
11. Biden, *Interim National Security Strategic Guidance*, p. 14.
12. Biden, *National Security Strategy*, pp. 3, 20–21, and 23–27.
13. Austin, *2022 National Defense Strategy of the United States of America*, pp. iii, 2–5, and 10.
14. President Donald J. Trump, *National Security Strategy of the United States of America*, The White House, November 2025, pp. 6–11 and 19–26, <https://www.whitehouse.gov/wp-content/uploads/2025/12/2025-National-Security-Strategy.pdf> (accessed January 14, 2026).
15. Since World War II, the U.S. has fought four major wars: the Korean War (1950–1953); the Vietnam War (1965–1973); the Gulf War/Operation Desert Shield/Desert Storm (1990–1991); and the Iraq War/Operation Iraqi Freedom (2003–2011). Operation Enduring Freedom (OEF), commenced immediately following the terrorist attacks of September 11, 2001, was focused primarily on combat operations in Afghanistan but included related actions against terrorist organizations worldwide. OEF was concluded in 2014 when combat operations in Afghanistan were shifted to advisory support operations under the name Operation Freedom's Sentinel. While OEF was not at the same level of intensity as the other named wars, its duration and demand for a constant rotation of forces, to include continuous airpower support, took a similar toll in terms of wear on equipment, consumption of fuel and ammunition, and repeated deployments by personnel.
16. U.S. Space Command (USSPACECOM) is also considered a geographic command, but within the context of this discussion, SPACECOM's interactions with other countries and the extent to which it must deal with units and peoples operating on its terrain are very different from those of terrestrial commands.
17. In previous editions of the *Index*, the capacity of the Marine Corps was assessed against a two-war requirement of 36 battalions: a historical average of 15 battalions for a major conflict (twice that for two) and a 20 percent buffer, bringing the total to 36. The Corps has consistently maintained that it is a one-war force and has no intention of growing to the size needed to fight two wars. Its annual budget requests and top-level planning documents reflect this position. Having assessed that the Indo-Pacific region will continue to be of central importance to the U.S., that China is a more worrisome "pacing threat" than any other competitor, and that the Joint Force lacks the ability to operate within the range of intensely weaponized, layered defenses featuring large numbers of precision-guided munitions, the Corps is reshaping itself to optimize its capabilities and organizational structures for this challenge. This *Index* concurs with this effort but assesses that the Corps will still need greater capacity to succeed in war in the very circumstances for which the Marines believe they must prepare. For a detailed examination of the current

state of the Corps, see Dakota Wood, “The U.S. Marine Corps: A Service in Transition,” Heritage Foundation *Backgrounder* No. 3501, June 16, 2020, https://www.heritage.org/sites/default/files/2020-06/BG3501_0.pdf.

18. Defense references to war have varied over the past few decades from “major combat operation” (MCO) and “major theater war” (MTW) to the current “major regional contingency” (MRC). Arguably, there is a supporting rationale for such shifts as planners attempt to find the best words to describe the scope and scale of significant military efforts, but the terms are basically interchangeable.
19. Mattis, *Summary of the 2018 National Defense Strategy of the United States of America*, p. 4.
20. For more on the potential for a hollow force, see Association of the United States Army, “Preventing a Hollow Force Is Army’s Top Priority,” May 25, 2017, <https://www.ausa.org/news/preventing-hollow-force-army%E2%80%99s-top-priority> (accessed January 14, 2026), and J. V. Venable, “America’s Air Force Is in Bad Shape,” *National Review*, June 13, 2017, <http://www.nationalreview.com/article/448556/us-air-force-weakened-funding-cuts-shrinking-workforce-aging-fleet-hurt-preparedness> (accessed January 14, 2026).

U.S. Army

Wilson Beaver

Introduction¹

On April 30, 2025, Secretary of Defense (now Secretary of War) Pete Hegseth issued a memorandum, “Army Transformation and Acquisition Reform,” directing Secretary of the Army Dan Driscoll to begin to implement a “comprehensive transformation strategy” for the Army.² Consistent with this directive, on May 1, 2025, Secretary Driscoll and Army Chief of Staff General Randy George issued a “Letter to the Force: Army Transformation Initiative” to implement this strategy. The ATI consists of three primary lines of effort: “deliver[ing] critical warfighting capabilities, optimiz[ing] our force structure, and eliminating waste and obsolete programs.”³

To accomplish these goals, excess ground vehicles that are more relevant to counterinsurgency operations will be eliminated, and planned procurement of obsolete systems, such as the Gray Eagle, will be canceled. At the same time, systems identified as relevant to future Army operations, including long-range missiles, modernized unmanned aircraft systems (UAS), the M1E3 tank, the Future Long-Range Assault Aircraft, and a wide range of counter-UAS (C-UAS) capabilities, will be prioritized. Just as important will be new methods of agile funding, shifting from program-centric to capability-based portfolios in an effort to field equipment faster and keep up with the pace of innovation, which is especially relevant for UAS and C-UAS procurement.

The Army is also seeking to define its role in the Indo-Pacific, which has been identified as the primary theater of operations for the foreseeable future as the entire military retools itself for deterring and, if necessary, defeating the threat posed by the People’s Republic of China (PRC). New units like

the Multi-Domain Task Force (MDTF) will play a crucial role in the Joint Force mission in the Indo-Pacific, deploying a wide range of new capabilities even as the Army’s 31 Infantry Brigade Combat Teams continue to deploy and cross-train with allied and partnered militaries both in the Indo-Pacific and across the globe.

At the same time, the Army must not lose sight of the fact that the fundamentals of warfare have not changed and that, in pursuing innovation, one must avoid throwing out the proverbial baby with the bathwater. Drones, for example, have clear and proven combat and intelligence, surveillance, and reconnaissance (ISR) capabilities that, as demonstrated by the war in Ukraine, need to be developed and integrated. However, traditional infantry, armor, and artillery units have been just as instrumental in the conduct of the war, and the U.S. Army must remain at the forefront of these warfighting branches even while pursuing UAS and C-UAS dominance. The Army of the future must be innovative even as it is steeped in its own history and proven capabilities—capabilities that America’s soldiers need to deploy, engage, and destroy the enemies of the United States of America in close combat.

Service Overview

The U.S. Army was established more than 250 years ago on June 14, 1775, and ever since then has served as America’s primary agent for the conduct of land warfare. Although it is capable of all types of operations across the range of military operations and support to civil authorities, its chief value to the nation is its ability to defeat and destroy enemy land forces in battle.⁴ According to U.S. law:

U.S. ARMY AT A GLANCE



EST. 1775

MOTTO
"This We'll Defend"



Daniel P. Driscoll
Secretary of the Army



Gen. Randy A. George
Chief of Staff

MAJOR BASES



- 1 Fort Wainright
- 2 Joint Base Lewis-McChord
- 3 Fort Bliss
- 4 Fort Hood
- 5 Fort Benning
- 6 Fort Gordon
- 7 Fort Bragg
- 8 USAG Stuttgart
- 9 Caserma Ederle
- 10 Camp Humphreys

CURRENT BUDGET

IN BILLIONS FOR FY 2025

\$184.4

CURRENT PERSONNEL

ACTIVE-DUTY MILITARY

448,000

RESERVE MILITARY

170,000

CIVILIAN

223,000

KEY EQUIPMENT (estimated current inventory)



Patriot Battalions (15)



THAAD Batteries (7)



M142 HIMARS (368)



Typhon Batteries (2)



UH-60 Black Hawk (2,100)



AH-64 Apache (750)



Stryker ICV (4,500)



M1 Abrams MBT (2,640)



JLTV (15,000)



CH-47 Chinook (465)



M109A7 (300)



Bradley Fighting Vehicles (4,500)

SOURCE: Heritage Foundation research.

heritage.org

[The Army] shall be organized, trained, and equipped primarily for prompt and sustained combat incident to operations on land. It is responsible for the preparation of land forces necessary for the effective prosecution of war except as otherwise assigned and, in accordance with integrated joint mobilization plans, for the expansion of the peacetime components of the Army to meet the needs of war.⁵

More than any other U.S. military service, the Army has felt the impact of the past several decades of counterinsurgency operations in the Middle East. The Army prioritized funding and planning for counterinsurgency operations in Iraq and Afghanistan, and units were reorganized to support this mission. Modernization measures not considered to be in line with this priority, such as air defense systems, were cut. Now the Army is reorganizing once again to prepare itself for great-power competition, looking to align its funding and planning with a national security strategy that identifies competition with China as the primary security challenge facing the United States.

The Army Transformation Initiative

Secretary Hegseth's April 2025 memorandum initiated a comprehensive transformation strategy for the Army. The Army had already begun transformation and modernization initiatives in 2024 with its development of new MDTFs; Indirect Fire Protection Capability (IFPC) battalions; new capabilities in counter-small UAS (C-sUAS); and Maneuver Short-Range Air Defense (M-SHORAD) battalions. Under the ATI, these efforts will be built on and augmented with a series of reforms and new initiatives to transform the Army into a "leaner, more lethal force by adapting how we fight, train, organize, and buy equipment."

Secretary Hegseth's directive requires the Army to cut waste, increase lethality, reform force structures, and employ innovative processes and systems to keep pace with the rapidly evolving battlefield technologies observed in the Russo-Ukrainian war and other conflicts. As part of President Donald Trump's agenda to build a military that is fit for purpose in America's New Golden Age, Secretary Hegseth has sought to refocus the military on warfighting and to build out capabilities relevant to America's most pressing national security interests.

The U.S. Army specifically needs to attain the lethality necessary to compete in an ever-evolving and dangerous global environment, especially in terms of contending with the stunning growth of the Chinese military and the clearly expanding scope of Beijing's ambitions.⁶

As noted, the Army Transformation Initiative comprises three lines of effort: delivering critical warfighting capabilities, optimizing force structure, and eliminating waste and obsolete programs.⁷

- **Delivering Critical Warfighting Capabilities.** The ATI builds on the Transformation in Contact (TiC) concept, in which emerging technologies and innovative organizational structures are integrated into formations in training, giving soldiers the ability to "innovate, learn, refine requirements, and develop solutions faster."⁸ General George has elaborated on this concept:

We have been watching what's happening on the battlefield in Ukraine and the Middle East and, really, around the world... We've been doing something called transforming in contact, where we're actually getting bottom-up innovation from our troops, but it's not a lesson learned unless you've actually done something to change how you train and operate.⁹

This also means changing how the Army procures equipment. General George has commented on this as well, saying that programs of record for some capabilities may be outdated: "I'm not a fan when anybody talks about a program of record. What that means is you buy something and keep it forever." Instead, the systems the Army procures should be "modular, open systems architecture."¹⁰ As part of delivering capabilities to the warfighter, long-range missiles, a wide array of modern UAS, the new M1E3 tank, C-sUAS capabilities, and Future Long-Range Assault Aircraft will all be integrated into the Army.

- **Optimizing Force Structure.** The focus is on "filling combat positions with Soldiers. Every role must sharpen the spear or be cut away."¹¹ To achieve this goal, staff positions are being

cut, commands are being merged, and general officer positions are being reduced. Combat Aviation Brigades (CAB) will lose one Aerial Cavalry Squadron, and all Infantry Brigade Combat Teams will be converted to “Mobile Brigade Combat Teams” to emphasize mobility and lethality.

- **Eliminating Waste and Obsolete Programs.** Programs that are deemed outdated or redundant are being cut. This includes “the AH-64D, excess ground vehicles like HMMWV and JLTV, and obsolete UAVs like the Gray Eagle.”¹²

The Army in the Indo-Pacific

The Indo-Pacific is primarily a maritime theater. Strategically important countries in the region are separated by hundreds or even thousands of miles of open ocean. The United States is a treaty ally of Japan, Australia, South Korea, and the Philippines, nations that are threatened primarily by the naval, air, and missile forces of China. As a result, the U.S. Navy and Air Force would play the lead roles in a conflict with China. The Army, however, also has a critical role to play in the region, both with its existing assets and with new capabilities currently under development. In World War II, the U.S. Army played a crucial role in both theaters even though its role in the Pacific Theater has often been downplayed. The liberation of the Philippines, for example, was primarily a U.S. Army operation.

The Army’s two main roles in a modern Indo-Pacific conflict would be to provide logistics and air defense for forward airfields (a familiar role) and to provide shore-based anti-access capabilities—a relatively new role for which the Army began to ready itself only recently.¹³ The Army will need to operate in a contested logistics environment in which soldiers will rapidly have to secure and defend land in support of air defense, logistics and sustainment, and MDTFs.¹⁴ The ability to conduct these operations is, however, inherently joint. The Army will not be able to forward deploy in support of the joint mission without airlift and sealift to get soldiers into theater. Navy and Air Force planners need to invest far more in airlift and sealift capabilities to ensure that the right systems for military movement are available.

Secretary Driscoll and General George outlined the role the Army is already playing in the

Indo-Pacific in their May 2025 testimony before a subcommittee of the House Appropriations Committee:

In the Indo-Pacific we have forward-deployed formations almost continuously, participating in exercises like Super Garuda Shield 2024, an Indonesia-hosted exercise that actively involved 11 nations this year, and Balikatan 2025, a full-scale battle simulation alongside the Armed Forces of the Philippines. Army formations in the Indo-Pacific also stand prepared to provide the Joint Force with critical support—command and control, medical, intelligence, and logistics—through all stages of competition, crisis, and conflict.¹⁵

The Navy and Air Force will play the leading roles in a conflict in the Indo-Pacific and therefore draw the bulk of new funding for the near future. Given the difficulties involved in expanding the defense budget in a meaningful way, the Army may even be asked to downsize to further fund the acquisition of the ships, planes, and munitions that would be most critically needed if the United States were ever again engaged in a war in the Indo-Pacific. Given these difficulties, the Army may need to narrow its ambitions and commitments around the world to focus more on its role in the Indo-Pacific.¹⁶

The Marine Corps has already done something similar in a plan called Force Design 2030, divesting itself of equipment, cancelling planned purchases that would be irrelevant to a conflict in the Indo-Pacific, and reshaping the service away from how it was structured for counterinsurgency in Iraq and Afghanistan and toward near-peer adversary conflict in the Pacific.

The Army would have at least five core tasks in the Indo-Pacific if war were to break out. It would:¹⁷

- Serve as the “linchpin” service by establishing and protecting staging areas and joint operating bases for air and naval forces, including providing air and missile defense;
- Provide logistics for the joint force, especially in terms of secure communications;
- Provide command-and-control capacity;

- Use ground-based, long-range fires to interdict enemy missiles, suppress enemy air defense, and provide counter fires against mobile enemy targets; and
- Provide counterattack capability with ground combat forces.

In the Indo-Pacific, the U.S. Army must operate in a primarily naval theater of operations against an adversary that has the home field advantage. China is only a few hundred miles away from the potential conflict zones—as opposed to the United States’ main Pacific nodes of San Diego and Hawaii, which are thousands of miles away from the potential conflict zones—and has protected interior supply lines and numerical superiority in terms of equipment and munitions in theater.¹⁸

The Army can draw lessons from the outsized success of both the Ukrainians and the Houthis in land-based targeting of ships in recent years. The Ukrainians, with almost no navy to speak of and only short-range and intermediate-range missiles, have sunk Russian ships, targeted Russian port infrastructure, and largely denied the Russians the use of the Ukrainian littoral for offensive operations against Ukraine. The Russians have withdrawn most warships from Crimea and now keep them safely out of range—but also out of the fight. Likewise, the Houthis are threatening international commerce and targeting Western warships with nothing more than cheap drones and land-to-sea missiles.

Until 2019, the United States had been unable to construct ground-based missiles with a range between 300 miles and 3,400 miles because of the Intermediate-Range Nuclear Forces (INF) Treaty, which restricted both the United States and the Soviet Union (later Russia). The Chinese were never a party to this agreement and have been engaged in a substantial buildup of missile capabilities over the past several decades. China’s most recent national security white paper states that it is “strengthening its intermediate and long-range precision strike forces... so as to build a strong and modernized rocket force.”¹⁹

Since the end of the INF Treaty in 2019, the U.S. Army has been free to develop and field ground-based intermediate-range missiles. These missiles, coupled with air defense systems such as the Patriot missile battery, could make it exceedingly difficult

for the Chinese to operate in certain contested straits—including the waters between the northernmost tip of the Philippines and Taiwan. China has designed its existing anti-access/area denial (A2/AD) capabilities to counter American warships and aircraft and may have a more challenging time targeting and destroying mobile land-based assets. In the event of a conflict in the region, land-based air defense and anti-ship missiles distributed throughout the region would give the Chinese a complex problem to solve and add another layer of deterrence.

New Weapons and Units in the Army’s Arsenal

In 2021, the Army committed to fast-tracking and delivering multiple new fires systems by 2023. The Army has done a respectable job of meeting this target, surprising many doubters who were familiar with the Army’s failed modernization programs in the early 2000s.

Most of the new weapons and systems discussed below have been tested successfully and have begun to deploy, first to the Indo-Pacific and then to Europe, in recent years. The Army is further developing these new weapons and systems to improve its capability to deliver long-range precision fires that would be especially relevant to a conflict in the Indo-Pacific.

The Precision Strike Missile (PrSM). The PrSM is the next-generation surface-to-surface missile being developed by the Army to replace the Army Tactical Missile System (ATACMS).²⁰ Lockheed Martin, the missile’s developer, says the missiles have a range of up to 310 miles. Like the ATACMS missile, the PrSM will be launched from the mobile High Mobility Artillery Rocket System (HIMARS), although the launcher will now be capable of carrying two PrSM missiles, whereas previously it could carry only one ATACMS missile.

Hypersonic missiles, traveling at least five times the speed of sound, are a huge challenge for traditional air defense measures that the United States has yet to address adequately. If the Army could field a Long-Range Hypersonic Weapon (LHRW) battery successfully in the near future, that would go a long way toward addressing this capability gap.

The Multi-Domain Task Force. The Army has introduced a new type of unit, the MDTF, to accommodate these and other precision fires systems. The Army describes the MDTF as “theater-level

maneuver elements designed to synchronize precision effects and precision fires in all domains against adversary A2/AD networks in all domains, enabling joint forces to execute their operational plan (OPLAN)-directed roles.”²¹

The 1st MDTF was established in 2017 at Joint Base Lewis–McChord in Washington State, the 2nd MDTF was established in 2021 in Germany, and the 3rd MDTF was established in 2022 in Hawaii. Two more Army MDTFs will be established, with one to be stationed at Fort Carson and one rapidly deployable from Fort Bragg.²² In 2025, the Army announced that it would be building Multi-Domain Commands to oversee and direct MDTFs: Multi-Domain Command–Pacific, Multi-Domain Command–Japan, Multi-Domain Command–Europe, and Multi-Domain Command–Army.²³

The Strategic Mid-Range Fires System. This system, also called the Typhon missile system, has been developed to fire anti-ship missiles, air defense missiles, and land-to-land mid-range missiles. The system is mobile and therefore difficult for enemy forces to target, and its range varies by missile type.²⁴

The Long-Range Hypersonic Weapon (LRHW). The LRHW, also known as Dark Eagle, is a long-range hypersonic missile with a range of more than 2,000 miles.²⁵ In August 2025, the Army’s 3rd MDTF deployed an LRHW system outside of the continental U.S. for the first time as part of the Talisman Sabre 25 exercise in Australia.²⁶

The Army’s Indo-Pacific Role in Peacetime

To shape the region and establish an enduring advantage, the Army is deeply engaged in building allied and partner capabilities, especially through joint exercises and training. The U.S. military’s strategy in the Indo-Pacific necessitates building up capable partners and allies in the region to deter China from launching a war of aggression against its neighbors. The stronger that Japan, South Korea, Australia, Taiwan, and the Philippines—and to a lesser extent, Vietnam, India, and Indonesia—are, the more constrained China is in its ability to solve political questions in the region by force. The Army’s campaigning strategy in the Pacific demonstrates to Beijing the ability of the United States and its partners and allies to operate jointly, whether it is technically, procedurally, or simply at the human level. To further complicate matters for

Chinese military planners, the Army should consider expanding joint training and exercises to newer partners, especially Vietnam, Indonesia, and India.

The Army recently opened its first regional training complex in 50 years—the Joint Pacific Multinational Readiness Center (JPMRC)—with the goal of training both U.S. and allied forces in a Pacific environment.²⁷ This center maintains two permanent campuses, one in Hawaii and one in Alaska, and one mobile campus that cycles between allied and partnered countries for joint training. Over the past several years, the JPMRC has been hosted in Indonesia, Australia, and the Philippines.

The United States has long maintained bases in Europe where joint training exercises can take place, and this new center has filled a critical gap in allied readiness in the Pacific. The Army also conducts exercises such as Operation Pathways to practice establishing supply lines and command-and-control networks in the Western Pacific. Army units such as the Fifth Security Force Assistance Brigade deploy in support of joint exercises, acting as integrators between U.S. and allied troops.

These sorts of exercises are exactly what the Army should be doing at this point. The primary issue is that the U.S. commitment of troops and resources in the Pacific does not match the Indo-Pacific’s status as the primary region of concern in the National Defense Strategy (NDS). The Army continues to devote as many or more troops and resources to other theaters, especially to the U.S. European Command and U.S. Central Command. Thus, it is struggling with fully manning its units as a result of the recruiting crisis experienced during the Biden Administration. If the Army wants to be decisive in the joint effort to deter China in the Indo-Pacific, it will need to shift personnel and resources away from other theaters and to the Indo-Pacific.

The Army deserves praise for moving quickly on these new systems, for being proactive in its engagements with partnered and allied nations in the Pacific, and for being responsive to policymakers who are pushing it to reorient its procurement and force structure around the Indo-Pacific.

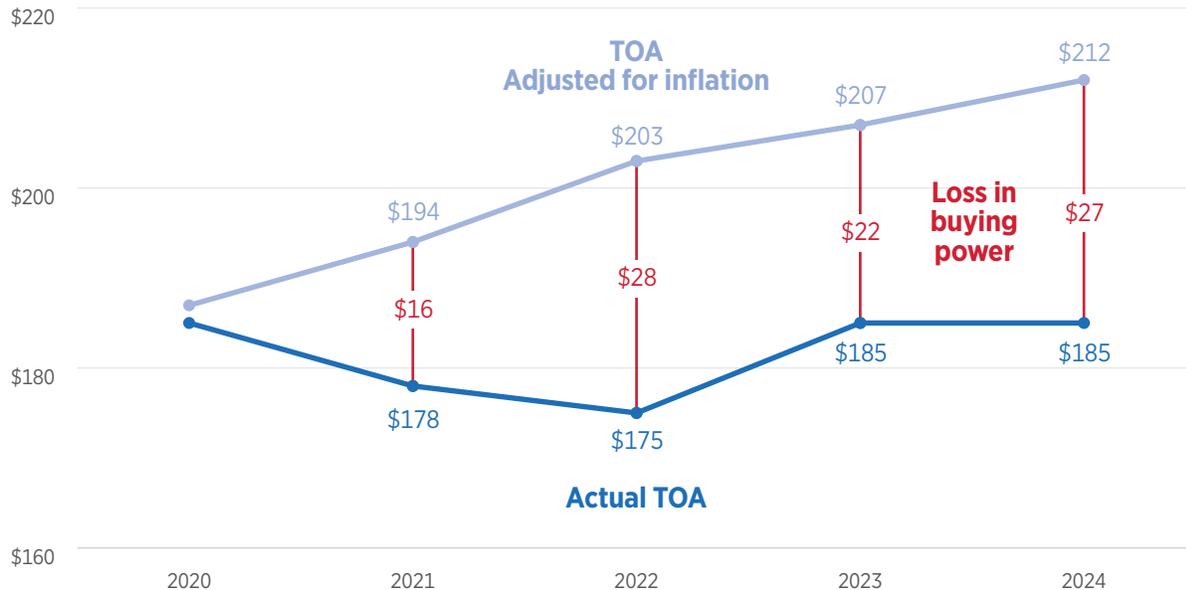
Budget

Chronic Underfunding. The U.S. Army is currently the world’s most powerful army in terms of the equipment it uses and the combat effectiveness of its formations, but it is also insufficiently modern

Army Budget Hit by Both Cuts and Inflation

Because of declining total obligation authority (TOA) in real terms and record high inflation during the Biden Administration, the Army experienced a substantial loss of buying power from 2020 to 2024. Combined losses from 2020 to 2024 totaled \$93 billion.

BILLIONS OF DOLLARS



SOURCES: Honorable Gabe Camarillo, Under Secretary of the Army, "Army Fiscal Year Budget Overview 2024," PowerPoint Presentation, p. 14, <https://www.asafm.army.mil/Portals/72/Documents/BudgetMaterial/2024/pbr/Army%20FY%202024%20Budget%20Overview%20Briefing.pdf> (accessed January 20, 2026), and Table S-9, "Economic Assumptions," in Executive Office of the President, Office of Management and Budget, *Budget of the U.S. Government, Fiscal Year 2024*, p. 167, <https://www.govinfo.gov/content/pkg/BUDGET-2024-BUD/pdf/BUDGET-2024-BUD.pdf> (accessed January 20, 2026).

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to meet even the modest requirements of the 2022 NDS, much less to handle two major regional contingencies (MRCs) simultaneously.²⁸

Even though the conflict in Iraq has ended and the military was withdrawn from Afghanistan, the Army's focus on counterinsurgency from 2001 to 2016 essentially precluded the service from modernizing the key combat capabilities that it needs now for near-peer competition. In 2011, for example, the Army cancelled its only mid-tier air defense program, the Surface Launched Advanced Medium-Range Air-to-Air Missile (SLAMRAAM), based on its assessment that it would not face a threat from the air in the foreseeable future.²⁹ In 2022,

the Army contracted to buy from Norway largely the same system, the National Advanced Surface-to-Air Missile System (NASAMS), that it cancelled in 2011.³⁰ The Army's last major modernization occurred in the 1980s with the fielding of the M-1 Abrams Tank, the M-2 Bradley Fighting Vehicle, and the Blackhawk and Apache helicopters.

The Army's ability to transition from counterinsurgency operations was further constrained by a period of fiscal austerity that began with the Budget Control Act (BCA) of 2011. The inability to fund what was needed led to difficult across-the-board trade-offs in equipment, manpower, and operations accounts. Downward budget pressure drove the

Department of Defense (DOD) in 2014 to consider cutting the Army's Active component end strength from more than 500,000 to 420,000. Also as a result of these funding cuts, multiple equipment modernization programs for the Army were canceled, including some that would have been relevant for the return of great-power competition in recent years.

The change of Administrations in 2017 forestalled those cuts in end strength. The addition of billions of dollars by Congress and the Trump Administration served to arrest the decline of the Army and significantly improve unit readiness, unfortunately, however, it proved insufficient to reverse the decline that began during the Obama years, and modernization efforts and end strength remained stalled.

Loss of Buying Power. Of all the services, the Army has fared the worst in terms of resources. Its funding levels plateaued with the FY 2020 budget and since then have declined in constant dollars. The Army received approximately \$181 billion in FY 2019, \$186 billion in FY 2020, \$177 billion in FY 2021, \$185 billion in FY 2022, \$185 billion in FY 2023, \$186 billion in FY 2024, and approximately \$186 billion again in FY 2025, amounting to a relatively flat budget over the past half-decade while the costs of manpower, matériel, and energy have increased. The second Trump Administration looks set to begin reversing this trend, with an FY 2026 request of \$197 billion for the Army, a 6.9 percent increase over the FY 2025 budget.³¹

Testifying before the House Appropriations Committee's Subcommittee on Tactical Air and Land Forces in April 2023, Lieutenant General Erik Peterson, then Army Deputy Chief of Staff for Programs, summarized the situation in starkly candid terms:

Several years of ruthless prioritization, eliminating, reducing and deferring lower priority and less necessary modernization efforts, as well as divesting of legacy capability affords virtually no further flexibility in our fiscal top line. [¶] We have made the easy choices, the difficult choices, and the hard choices over the past several years. We are now down to the excruciating choices....³²

Former Army Chief of Staff General James McConville's more than \$1.9 billion Unfunded Priority

List for FY 2024, containing dozens of critical items, is testament to what the Army was not able to include in its budget request: air defense systems, organic industrial base modernization, and helicopter replacement—among many other programs.³³

Capacity

Capacity refers to the sufficiency of forces and equipment needed to execute the National Defense Strategy. One of the ways the Army quantifies its warfighting capacity is by its number of Brigade Combat Teams (BCTs).

Brigade Combat Teams. BCTs are the Army's primary combined-arms, close-combat force. They often operate as part of a division or joint task force, both of which are the basic building blocks for employment of Army combat forces. BCTs are usually employed within a larger framework of U.S. land operations but are equipped and organized so that they can conduct limited independent operations as circumstances demand.³⁴

BCTs range between 4,000 and 4,700 soldiers in size. There are three types: Infantry, Armored, and Stryker. At its core, each of these formations has three maneuver battalions enabled by multiple other units such as artillery, engineers, reconnaissance, logistics, and signal units.³⁵

The simplest way to understand the status of hard Army combat power is to know the readiness, quantity, and modernization level of BCTs. With respect to the number of BCTs in the force, the Army announced in 2013 that because of end strength reductions and the prior Administration's priorities, the number of Regular Army BCTs would be reduced from 45 to 33.³⁶ Subsequent reductions reduced the number of Regular Army BCTs from 33 to 31, where they remain today.

When the Trump Administration and Congress reversed the planned drawdown in Army end strength and authorized personnel growth beginning in 2018, instead of "re-growing" the numbers of BCTs, the Army chose to "thicken" the force and raise the manning levels within the individual BCTs to increase unit readiness. Army end strength was reduced during the Biden Administration, but the second Trump Administration's first President's Defense Budget request reversed this trend in 2025, increasing Army Active Component end strength from the 442,300 authorized for FY 2025 to the 454,000 authorized for FY 2026.³⁷

TABLE 2

Major Army Combat Formations

Brigade Combat Teams	Regular Army	Army National Guard	Total
Infantry Brigade Combat Teams	14	20	34
Stryker Brigade Combat Teams	6	2	8
Armored Brigade Combat Teams	11	5	16
Total	31	27	58

Aviation Brigades	Regular Army	Army National Guard	Total
Combat Aviation Brigades	11	–	11
Expeditionary Combat Aviation Brigades	–	8	8
Theater Aviation Brigades	–	2	2
Total	11	10	21

SOURCES:

- U.S. Department of the Army, *Department of the Army Fiscal Year (FY) 2026 Budget Estimates, Volume I, Operation and Maintenance, Army, Justification of Estimates*, June 2025, pp. 3, <https://www.asafm.army.mil/Portals/72/Documents/BudgetMaterial/2026/Discretionary%20Budget/Operation%20and%20Maintenance/Regular%20Army%20Operation%20and%20Maintenance%20Volume-1.pdf> (accessed January 23, 2026).
- U.S. Department of the Army, *Department of the Army Fiscal Year (FY) 2026 Budget Estimates, Volume I, Operation and Maintenance, Army National Guard, Justification Book*, June 2025, pp. 42 and 98, <https://www.asafm.army.mil/Portals/72/Documents/BudgetMaterial/2026/Discretionary%20Budget/Operation%20and%20Maintenance/National%20Guard%20Army%20Operation%20and%20Maintenance.pdf> (accessed January 23, 2026).

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President Trump deserves significant credit for ending the recruiting crisis of the past several years with the last month of 2024 after his election victory seeing the highest recruiting numbers for the Army in 15 years.³⁸

Combat Aviation Brigades. The Regular Army also has a separate air component that is organized into Combat Aviation Brigades. CABs are made up of Army rotorcraft such as the AH-64 Apache and perform various roles including attack, reconnaissance, and assault. The number of Army aviation units also has been reduced. The Regular Army now has 11 CABs.³⁹

Functional or Multifunctional Support Brigades. In addition to the institutional Army, a number of functional or multifunctional support brigades provide air defense; engineering; explosive ordnance disposal; chemical, biological, radiological, and nuclear protection; military police;

military intelligence; and medical support among other types of battlefield support. Special operations forces such as the 75th Ranger Regiment, six Special Forces Groups, and the 160th Special Operations Aviation Regiment are also included in these numbers.

New Concepts and Supporting Force Structure. At the same time that it faces the need to cut units to meet its new end strength, the Army is also trying to adapt its force structure to meet the anticipated new demands of near-peer competition. The foundations for these changes are contained in the Army's Multi-Domain Operations (MDO) concept, published in December 2018, which describes how the Army views the future.⁴⁰

In January 2022, the Army announced that it planned to modify its force structure for MDO under the designation "Army 2030." Other than that announcement, the Army has been silent on future

force structure, and its plans are seemingly in flux as it grapples with recruiting shortfalls from the past Administration. As part of its adaptation to MDO, the Army did reactivate V Corps Headquarters on October 16, 2020, to provide operational planning, mission command, and oversight of rotational forces in Europe.⁴¹ On June 8, 2022, the Army reactivated the 11th Airborne Division in Alaska as an element of its arctic strategy.⁴²

To relieve the stress on the use of BCTs for advisory missions, the Army has activated six Security Force Assistance Brigades (SFABs), one in the National Guard and the other five in the Regular Army, although the Army announced in 2025 that it plans to eliminate two SFABs.⁴³ These units, each one of which is composed of 816 soldiers, are designed specifically to train, advise, and mentor other partner-nation military units. The Army had been using BCTs for this mission, but because train-and-assist missions typically require senior officers and noncommissioned officers, a BCT comprised predominantly of junior soldiers was a poor fit. Other than the National Guard SFAB, the five active SFABs are regionally aligned to combatant commands.⁴⁴

Force Too Small to Execute the National Defense Strategy. Army leaders have consistently stated that the Army is too small to execute the NDS at less than significant risk. For FY 2026, the Defense Budget Request has requested a total authorized end strength of 954,000 for the U.S. Army:

- 454,000 in the Regular Army,
- 172,000 in the Army Reserve, and
- 328,000 in the Army National Guard (ARNG).⁴⁵

In March 2021, General McConville stated that “I would have a bigger...sized Army if I thought we could afford it, I think we need it, I really do.... I think the regular Army should be somewhere around 540–550 [thousand],” and “we’re sitting right now at 485,000.” (Of course, the Army is “sitting” now at 452,000.) He further observed that “I’ve probably already had to give up the growth that we’re going to have planned” and that “[w]e’re probably not going to grow the Army even though I’d like to, more, because end strength is something we have to take a look at.”⁴⁶

Overall end strength dictates how many BCTs the Army can form, and by cutting end strength, the service not only will be unable to add more combat units or other in-demand units such as air and missile defense units, but also will have to reduce manning levels in the units it possesses. This will drive a higher operational tempo (OPTEMPO) for Army units and increase risk both for the force and for the Army’s ability to carry out its mission.

Many outside experts agree that the U.S. Army is too small. In 2017, Congress established the National Defense Strategy Commission to provide an “independent, non-partisan review of the 2018 National Defense Strategy.” Among its findings, the commission unanimously reported that the NDS now charges the military with facing “five credible challengers, including two major-power competitors, and three distinctly different geographic and operational environments.” The commission assessed that “[t]his being the case, a two-war force sizing construct makes more strategic sense today than at any previous point in the post–Cold War era.” In other words, “the United States needs a larger force than it has today if it is to meet the objectives of the strategy.”⁴⁷

In addition to the increased strategic risk of not being able to execute the NDS within the desired time frame, the combination of an insufficient number of BCTs and a lower-than-required Army end strength has resulted in a higher-than-desired level of OPTEMPO. Former Assistant Deputy Chief of Staff, G-3/5/7, Major General Sean Swindell recently stated that the Army had tried to reduce the demands on the force but that this “effort has been going in the opposite direction.”⁴⁸ The Army will either need to have its OPTEMPO reduced or need to grow in strength.

Army Force Posture

The Army also has transitioned from a force with a third of its strength typically stationed overseas, as it was during the Cold War, to a force that is based mostly in the continental United States. An average of 311,870 troops were stationed in Europe from 1986 to 1990, and the majority were Army soldiers. After the Berlin Wall fell, that number decreased to 109,452 from 1996 to 2000, and the numbers have continued to drop to approximately 84,000 U.S. troops as of early 2025.⁴⁹

In 2025, the 173rd Airborne Brigade in Italy and the 2nd Cavalry Regiment and 12th Combat

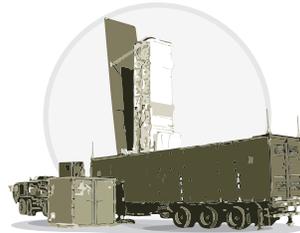
FIGURE 1

Army Weapons Systems to Be Deployed to the Indo-Pacific



Precision Strike Missile (PrSM)

A next-generation, long-range precision strike surface-to-surface missile. It replaces the ATACMS missile system and provides increased range and survivability. Its reported range is 310+ miles and will soon be extended.



Strategic Mid-Range Fires (SMRF)

Also known as the Typhon. This mobile fires system is capable of carrying surface-to-surface missiles, including anti-ship and surface-to-air missiles. Its range varies depending on the missile type.



Long-Range Hypersonic Weapon (LRHW)

A ground-launched, long-range hypersonic weapon designed to defeat enemy anti-access/area denial (A2/AD) capabilities, enemy long-range fires, and other targets. Still in testing, its reported range is 1,725+ miles.

SOURCE: Heritage Foundation research.

 heritage.org

Aviation Brigade in Germany are all permanently stationed in Europe. Army units are also forward deployed to Poland, the Baltics, Romania, and Bulgaria contributing to collective deterrence alongside NATO allies.⁵⁰ Despite likely shifts in forces to the Indo-Pacific, some Army units are likely to remain in Europe and continue to contribute to collective deterrence in NATO. As a general rule, these troops should be forward positioned to decrease logistics issues involved in getting them to Poland or the Baltic states. Given their role within NATO planning, the Army's units stationed in Europe need to be among the most interoperable of any Army units and maintain a high training operational tempo with allied militaries.

Army units are actively contributing to the mission to defend the homeland, with more than 9,000 Active, Reserve, and National Guard troops deployed to the border to support the Department of Homeland Security with its mission as of May 2025.⁵¹

Among Army units that deploy periodically are Armored Brigade Combat Teams (ABCTs) and Stryker Brigade Combat Teams (SBCTs) and Patriot Battalions that rotate to and from Europe, Kuwait,

and Korea. Rather than relying on forward-stationed BCTs, the Army currently rotates ABCTs to Europe and Kuwait and Stryker BCTs to Korea on a “heel-to-toe” basis so that there is never a gap.

Proponents of rotational BCTs argue that they arrive fully trained, that they remain at a high state of readiness throughout their typically nine-month overseas rotation, and that the cost of providing for accompanying military families is avoided. Those who favor forward-stationed forces point to a lower overall cost (when their equipment remains in place), forces that typically are more familiar with the operating environment, and a more reassuring presence for U.S. allies. Both types of force postures have merit, depending on strategic intent, not only for the reasons mentioned, but also because the mechanisms by which a unit is deployed, received into theater, and integrated with the force stationed abroad should be practiced on a regular basis.

In 2025, the strategic consensus among American conservatives is that the Army's footprint abroad needs to be further reduced with more funding made available to the Navy and the Air Force. In Europe, this will likely mean a reduction both in the number of permanently stationed troops and in

the number of rotational forces, although it is very likely that some Army forces will remain.⁵²

Capability

Capability in this context refers to the quality, performance, suitability, and age of the Army's various types of combat equipment. In general, the Army is using equipment developed in the 1970s, fielded in the 1980s, and incrementally upgraded since then. This "modernization gap" was caused by several factors: the predominant focus on the wars in Iraq and Afghanistan after 9/11; pressures caused by budget cuts, especially those associated with the BCA; and failures in major modernization programs like the Future Combat System, Ground Combat Vehicle, and Crusader artillery system.

Army leaders today clearly view this situation as a serious challenge. General James Rainey, former head of Army Futures Command, has said that "[w]e need to approach 2040 with a sense of urgency now" because "[t]ransforming the Army to ensure war-winning future readiness...is the best guarantee that our successful materiel modernization efforts will produce lethal formations that will deter our enemies, and, if required, dominate the land domain in conflict."⁵³

The Army embarked on an ambitious modernization program to put 24 new systems into the hands of soldiers in FY 2023. Among these systems were hypersonic missiles, a precision strike missile, a directed energy air defense capability, and the Lower Tier Air and Missile Defense Sensor.

Loss of Competitive Advantage. As an example of how Army equipment had been falling behind that of U.S. competitors, the Army Tactical Missile System (ATACMS), first introduced in 1991, had been the Army's only ground-launched precision missile with a range greater than 100 kilometers (km). Because of restrictions in the Intermediate Range Nuclear Forces Treaty and other factors, it was limited to a maximum range of 300 km. The INF, however, expired in 2019, and the Army's development and production of the PrSM missile since then has gone some way toward correcting this deficiency.⁵⁴

China and Russia have much more substantial inventories of conventional and precision ground-launched missiles and rockets. China has nine major ground-launched missile systems and more than 425 launchers. These capable systems can

range from 600 km (DF-11A and DF-15) to 4,000 km (DF-26).⁵⁵ Russia, on the other hand, at least before the war in Ukraine, had the world's widest inventory of missiles: at least four conventional ground-launched missile systems that can range from 120 km (SS-21) to 2,500 km (SSC-8).⁵⁶

Similarly, the U.S. Army's Patriot missile system is an excellent system, but Saudi Arabia, Turkey, and India have either purchased or recently expressed interest in buying the Russian competitor system, the S-400.⁵⁷ Why would they do this? One answer is that the Patriot system is tremendously expensive. A Patriot battery (one-fourth of a battalion) costs about \$3 billion for the launchers and a basic load of missiles; an S-400 battery has been estimated to cost \$500 million.⁵⁸

Combat Systems

Within the Army's inventory of equipment are thousands of combat systems, including small arms, trucks, aircraft, soldier-carried weapons, radios, tracked vehicles, artillery systems, missiles, and drones. The following sections provide updates on some of the major systems as they pertain to Armored, Stryker, and Infantry BCTs and Combat Aviation Brigades.

Armored Brigade Combat Team (ABCT). The ABCT's role is to "close with the enemy by means of fire and movement to destroy or capture enemy forces, or to repel enemy attacks by fire, close combat, and counterattack to control land areas, including populations and resources."⁵⁹ The Abrams Main Battle Tank (most recent version in production: M1A2 SEPv3, first unit equipped in FY 2020⁶⁰) and Bradley Fighting Vehicle (most recent version: M2A4, first unit equipped in April 2022⁶¹) are the primary ABCT platforms.

The M-1 tank and Bradley Fighting Vehicle first entered service in 1980 and 1981, respectively. An ABCT has 87 M-1 Abrams tanks and 152 Bradley Fighting Vehicle variants. Despite upgrades, the M-1 tank and the Bradley are now at least 40 years old, and their replacements will not arrive until the platforms are at least 50 years old.

Optionally Manned Fighting Vehicle (OMFV). The Army's replacement program for the Bradley, the OMFV, was on an aggressive timeline, but the Army cancelled the request for proposals (RFP) in January 2020 and rereleased an RFP for what it called a "concept design" in December

2020. In 2025, American Rheinmetall and General Dynamics Land Systems (GLDS) were approved to continue designing the replacement for the Bradley, which has now been dubbed XM30, after the Army approved Milestone B, the engineering and manufacturing development (EMD) phase of the process.⁶²

A New Tank? A potential clean-sheet replacement for the M-1 tank is even further down the road. Major General Glenn Dean, Program Officer for Ground Combat Systems, reportedly has said that “funding to pursue what could be next for Abrams would likely not appear in a budget cycle until fiscal 2025 at the earliest.”⁶³ Meanwhile, the Army has another upgrade for the Abrams platform in the works: the M1A2 SEPv4, which would incorporate a “3rd Generation Forward Looking Infrared (3GEN FLIR)” in addition to “new color cameras to the gunner/commander primary sights” as well as “an improved laser range finder, integration of a laser warning receiver system, improved lethality via Fire Control System (FCS) digital communication with a new Advanced Multi-Purpose round, improved accuracy via integration of a meteorological sensor, and improved onboard diagnostics.”⁶⁴

Armored Multi-Purpose Vehicle (AMPV). The venerable M113 multi-purpose personnel carrier is also part of an ABCT and fills multiple roles such as mortar carrier and ambulance. It entered service in 1960 and is being replaced by the new AMPV, which after numerous delays entered low-rate initial production on January 25, 2019. The system’s first fieldings took place on March 13, 2023.⁶⁵ The Army’s FY 2024 budget includes a request for procurement of 91 AMPVs. At that rate of procurement and given prior year procurements, it will take the Army at least 25 years from 2024 to meet its objective of 2,897 AMPVs (putting it in FY 2049).⁶⁶

Stryker Brigade Combat Team (SBCT). The SBCT “is an expeditionary combined arms force organized around mounted infantry” and is able to “operate effectively in most terrain and weather conditions” because of its rapid strategic deployment and mobility.⁶⁷ SBCTs are equipped with approximately 321 eight-wheeled Stryker vehicles.⁶⁸ These vehicles are among the Army’s newest combat platforms, having entered service in 2001.

In response to an Operational Needs Statement, the SBCT in Europe received Strykers fitted with a 30 mm cannon to provide an improved anti-armor

capability.⁶⁹ Based on the success of that operation, the Army decided to outfit at least three of its SBCTs that are equipped with the Double V-hull, which affords better underbody protection against such threats as improvised explosive devices (IEDs), with the 30 mm autocannon. The Army is also integrating Javelin anti-tank missiles on the Stryker platform and began to train crews on this capability in May 2022.⁷⁰

Infantry Brigade Combat Team (IBCT). The IBCT “is an expeditionary, combined arms formation optimized for dismounted operations in *complex terrain*,” which the Army defines as “a geographical area consisting of an urban center larger than a village and/or of two or more types of restrictive terrain or environmental conditions occupying the same space.”⁷¹ IBCTs have fewer vehicles and rely on lighter platforms such as trucks; High Mobility Multipurpose Wheeled Vehicles (HMMWVs); Joint Light Tactical Vehicles (JLTVs); and Infantry Squad Vehicles (ISVs) for mobility.

Joint Light Tactical Vehicle (JLTV). The JLTV aspires to combine the protection offered by Mine Resistant Ambush Protected Vehicles (MRAPs) with the mobility of the original unarmored HMMWV. The vehicle features design improvements that increase its survivability against anti-armor weapons and IEDs. As part of the Army Transformation Initiative, the Army is canceling procurement of excess ground vehicles like the JLTV and HMMWV, considering them outdated, and shifting to lighter, more agile platforms.⁷²

Infantry Squad Vehicle (ISV). Airborne BCTs are the first IBCTs to receive a new platform to increase their speed and mobility. The ISV provides enhanced tactical mobility for an IBCT nine-soldier infantry squad with equipment. The ISV is the big winner among ground combat vehicles in the Army Transformation Initiative, with increased orders of ISVs coming along with divestment of JLTVs and HMMWVs. ISVs offer greater deployability and lower costs than the JLTV, although there has been some concern about the ISV’s minimal armor. The ISV is also an Army Transformation Initiative poster child in that it features 90 percent commercial off-the-shelf parts and is based on the Chevrolet Colorado ZR2 platform.⁷³ Army planners hope that investments in commercially available options like this will lower costs and shorten supply chains across the board.

Mobile Protected Firepower (MPF). The Army had developed a light tank, previously called Mobile Protected Firepower (MPF) and then officially named the M-10 Booker, to provide IBCTs with the firepower to engage enemy armored vehicles and fortifications.⁷⁴ The M-10 Booker was among the ground combat vehicles canceled under the ATI. Army Secretary Driscoll explained the decision: “The Booker is a classic example of sunk cost fallacy, and the Army doing something wrong.... We wanted to develop a small tank that was agile and could be dropped into places our regular tanks can’t. We got a heavy tank.”⁷⁵

Combat Aviation Brigade (CAB). CABs are composed of AH-64 Apache attack, UH-60 Black Hawk medium-lift, and CH-47 Chinook heavy-lift helicopters. The Army has been methodically upgrading these fleets for decades, but the FY 2024 budget request continued the reduction in legacy aircraft procurement that began in FY 2022, presumably to create “budget room” for the planned introduction of two new aircraft: the Future Long-Range Assault Aircraft (FLRAA) and Future Attack Reconnaissance Aircraft (FARA). The reduction in legacy aircraft procurement is a continued reflection of downward budget pressure and incurs additional risk for the Army as its legacy helicopters are expected to be around for decades.⁷⁶ In 2025, the FARA was cancelled, but the FLRAA was funded and continued.⁷⁷ The ATI pledges to “consolidate aviation sustainment requirements and increase operational readiness.”⁷⁸

UH/HH-60. The Army is upgrading its fleet of Black Hawks, including by equipping some with the ability to launch drones. Long-term, however, the Army is likely to begin divesting itself of Black Hawks. Long-range assault missions currently covered by the Black Hawk will be carried out by the new tiltrotor helicopters in development, and some missions currently carried out by the Black Hawk are likely to be handled by drones in the future. According to Secretary Driscoll, “I see Black Hawks are going to be with us for a while, but I do think we’re going to have to adapt what we’re doing. There just may be less Black Hawks.”⁷⁹

CH-47. There is no planned replacement on the horizon for the CH-47F Chinook, a rebuilt variant of the Army’s CH-47D heavy-lift helicopter, which is expected to remain the Army’s heavy-lift helicopter for the foreseeable future.

AH-64. The Army is divesting itself of up to half of its Apache fleet with attack squadrons remaining but recon battalion being cut and their mission reassigned to drones. One Aerial Cavalry Squadron per CAB in the active component will be cut.⁸⁰ This change is seen as permanent with the Army planning to cut 6,500 aviation jobs from the active-duty ranks as part of the divestment and restructuring.⁸¹

Overall, the Army’s equipment inventory, while increasingly dated, is maintained well. Under its current modernization plans, “the Army envisions all three vehicles [the M-1 Abrams Tank, M-2/M-3 Bradley Fighting Vehicle (BFV), and M-1126 Stryker Combat Vehicle] to be in service with Active and National Guard forces beyond FY2028.”⁸²

Future Programs. In addition to seeing to the viability of today’s equipment, the military must look to the health of future equipment programs. Although future modernization programs do not represent current hard-power capabilities that can be applied against an enemy force today, they are a leading indicator of a service’s overall fitness for future sustained combat operations. In future years, the service could be forced to engage an enemy with aging equipment and no program in place to maintain viability or endurance in sustained operations.

The U.S. military services are continually assessing how best to stay a step ahead of competitors: whether to modernize the force today with currently available technology or wait to see what investments in research and development produce years down the road. Technologies mature and proliferate, becoming more accessible to a wider array of actors over time. After 20 years of a singular focus on counterinsurgency followed by concentration on the current readiness of the force, the Army is now playing catch-up in equipment modernization.

New Organizations and Emphasis on Modernization. In 2017, the Army established eight cross-functional teams (CFTs) to improve the management of its top modernization priorities, and in 2018, it established a new four-star headquarters, Army Futures Command, to lead modernization efforts. Army Futures Command is now being merged with Training and Doctrine Command (TRADOC) as part of the ATI in an effort to streamline efforts and reduce overhead.⁸³

Even though it has been six years, it is still too early to assess whether these new structures,

commands, and emphasis will result in long-term improvement in the Army's modernization posture. The Army aspires to develop and procure an entire new generation of equipment based on its six modernization priorities: "long range precision fires, next generation combat vehicles, future vertical lift, network, air and missile defense, and Soldier lethality."⁸⁴

Although the Army has put in place new organizations, plans, and strategies to manage modernization, the future is uncertain, and Army programs remain in a fragile state with only a few in an active procurement status. The Army has shown great willingness to make tough choices and reallocate funding for its modernization programs, but this has usually been at the expense of end strength or reduction in the total quantity of new items purchased.

As budget challenges such as nuclear deterrence programs, inflation, rising personnel costs, health care, and the need to invest in programs to respond to China's increasingly aggressive activities continue to present themselves, the Army desperately needs time and funding to modernize its inventory of equipment. Recent modernization programs seem generally to be on track with some exceptions like the Self-Propelled Howitzer Modernization (SPH-M) program⁸⁵ and the Improved Turbine Engine Program (ITEP),⁸⁶ which have suffered some setbacks. The Army also is experiencing some success, one example being the number of Stryker vehicle-mounted Maneuver Short Range Air Defense (M-SHORAD) systems that have been delivered to Europe.⁸⁷

Readiness

BCT Readiness. Over the past four years, the Army has made steady progress in increasing the readiness of its forces. Its goal is to have 66 percent of the Regular Army and 33 percent of National Guard BCTs "at the highest levels of readiness."⁸⁸

As of July 14, 2023, the Army reported that "83 percent of Active Component Brigade Combat Teams are at the highest levels of tactical readiness."⁸⁹ This is 17 percentage points above its goal and two percentage points above last year's reported level. This means that 25 of the Army's 31 active BCTs were at either C1 or C2, the two highest levels of tactical readiness, and ready to perform all or most of their wartime missions immediately.

There also are 27 BCTs in the Army National Guard: five Armored, 20 Infantry, and two Stryker. The Army has allocated two Combat Training Center (CTC) rotations for two National Guard BCTs. These two BCTs "are resourced to achieve company-level proficiency, while the remaining 25 BCTs and enabler units are on a path to platoon minus-level proficiency and will meet Directed Readiness Table requirements."⁹⁰ These training levels usually reveal the extent to which additional training time would be required before the unit could be deployed. Given the paucity of data provided by the Army, it is hard to assess the current readiness of ARNG units.

Steady Decline in Training Resources. When measuring resourcing for the training of BCTs, the Army formerly used full-spectrum training miles (FSTMs), which represents the number of miles for which formations are resourced to drive their primary vehicles on an annual basis. In FY 2024, the Army changed the terminology to Composite Training Miles but explained that they are the same thing. Since FY 2019, these training resources have been declining. In FY 2021, the Army budgeted 1,598 FSTMs to train BCTs to 100 percent of the requirement.⁹¹ In FY 2024, only 1,137 composite training miles were funded for non-deployed units.⁹² This is a cut of 28 percent, suggesting that unless the Army's training strategy radically changed, BCTs are funded only to 72 percent of the training requirement.

Uncertain Training Level Goals. Starting with the FY 2022 budget justification books, the Army began to omit the Unit Proficiency Level Goal, which for years has been to train a BCT to operate as a BCT; it is now likely training to operate as a battalion or company. This implies that brigade combat teams will not be effective in executing brigade-level or brigade-size tasks if called into action. Having competent companies or battalions is one thing; being able to orchestrate their actions to achieve higher-order tactical and operational tasks is another thing entirely.

CTC Rotations. The Army uses Combat Training Centers to train its forces to desired levels of proficiency. Specifically, this important program "requires Soldiers to perform individual and collective tasks and missions in a realistic environment under mental and physical stress that approaches conditions found in combat."⁹³ The institutional

training domain “is a key enabler for unit readiness.”⁹⁴ For FY 2024, the Army resourced 22 BCT-level CTC rotations: eight at the National Training Center, eight at the Joint Readiness Training Center, four at the Joint Multinational Readiness Center, and two exportable rotations. Two of these 22 rotations were for Army National Guard Brigades.⁹⁵

New Readiness Model. The Army has transitioned from one readiness model to another. Its Sustainable Readiness Model, implementation of which began in 2017, was intended to give units more predictability. Its new Regionally Aligned Readiness and Modernization Model (ReARMM)

is designed to “better balance operational tempo (OPTEMPO) with dedicated periods for conducting missions, training, and modernization.”⁹⁶ ReARMM features units that spend eight months in a modernization-training-mission cycle while preparing to deploy to a specific part of the world. The Army shifted to this new model on October 1, 2021. Since announcing the model in 2021, the Army has been silent on the topic.

In general, the Army continues to be challenged by structural readiness problems as evidenced by too small a force attempting to satisfy too many global presence requirements and Operations Plan (OPLAN) warfighting requirements.

Scoring the U.S. Army

Capacity Score: Weak

Historical evidence shows that, on average, the Army needs 21 BCTs to fight one major regional conflict. Based on a conversion of roughly 3.5 BCTs per division, the Army deployed 21 BCTs in Korea, 25 in Vietnam, 14 in the Persian Gulf War, and approximately four in Operation Iraqi Freedom—an average of 16 BCTs (or 21 if the much smaller Operation Iraqi Freedom initial invasion operation is excluded).

In the 2010 Quadrennial Defense Review, the Obama Administration recommended a force capable of deploying 45 Active Component BCTs.⁹⁷ Previous government force-sizing documents discuss Army force structure in terms of divisions and consistently advocate for 10 to 11 divisions, which equates to roughly 37 Active Component BCTs.

Considering the varying recommendations of 35 to 45 BCTs and the actual experience of nearly 21 BCTs deployed per major engagement, our assessment is that 42 BCTs would be needed to fight two MRCs. Taking into account the need for a strategic reserve, the Army force should also include an additional 20 percent of the 42 BCTs, resulting in an overall requirement of 50 BCTs.

Previous editions of the *Index of U.S. Military Strength* counted a small number of Army National Guard BCTs in the overall count of available BCTs. Because the Army no longer mentions Army National Guard BCTs at the highest state of readiness, they are no longer counted in this edition of the *Index*. Increasing the readiness levels of Army National Guard BCTs could go a long way toward fixing this

issue and helping the Army to reach the two-MRC benchmark. The Army has 31 Regular Army BCTs with a two-MRC construct requirement of 50. The Army’s overall capacity score therefore remains unchanged from 2022.

- **Two-MRC Benchmark:** 50 Brigade Combat Teams.
- **Actual FY 2025 Level:** 31 Regular Army Brigade Combat Teams.

The Army’s current BCT capacity equals 62 percent of the two-MRC benchmark and is therefore scored as “weak.”

Capability Score: Marginal

The Army’s aggregate capability score remains “marginal.” This aggregate score is a result of “marginal” scores for “Age of Equipment,” “Size of Modernization Programs,” and “Health of Modernization Programs.” The Army is scored “weak” for “Capability of Equipment.”

Readiness Score: Very Strong

The Army reports that 83 percent of its 31 Regular Army BCTs are at the highest state of readiness.⁹⁸ The Army’s internal requirement is for “66 percent... of the active component BCTs [to be] at the highest readiness levels.”⁹⁹ Using the assessment methods of this *Index*, this results in a percentage of service requirement of 100 percent, or “very strong.”

U.S. Military Power: Army

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Capacity		✓			
Capability			✓		
Readiness					✓
OVERALL			✓		

ABOUT THE ASSESSMENT CATEGORIES

OVERALL ASSESSMENT. The overall assessment of a military service is measured against its ability to perform its respective role in a two-major regional contingency (MRC) scenario. The assessment of the U.S. Marine Corps is sized against a single major regional contingency (MRC) scenario. This benchmark is the *minimum* standard for U.S. hard-power capacity with the understanding that maintenance, operational tempo, training cycles, crisis response, treaty commitments, and/or strategic reserve considerations can cause some forces to be unavailable. Other factors that influence this assessment are the availability of logistical support to enable combat power (fueling ships, supply ships, cargo aircraft, etc.) and the ability to reconstitute combat power for protracted conflict (defense industrial base capacity, etc.).

CAPACITY. The U.S. military must have a sufficient quantity of the right capability or capabilities to meet its mission sets. Capacity (numbers) can be viewed in at least three ways:

- Compared to a stated objective for each category by each service,
- Compared to amounts required to complete various types of operations across a wide range of potential missions as measured against a potential adversary, and
- As measured against a set benchmark for total national capability.

CAPABILITY. Examining the capability of a military force requires consideration of:

- The proper tools (material and conceptual) with the design, performance characteristics, technological advancement, and suitability that the force needs to perform its function against an enemy successfully;
- The sufficiency of armored vehicles, ships, airplanes, and other equipment and weapons needed to win against the enemy;
- The appropriate variety of options to preclude strategic vulnerabilities in the force and give flexibilities to battlefield commanders; and
- The degree to which elements of the force reinforce each other in covering potential vulnerabilities, maximizing strengths, and gaining greater effectiveness through synergies that are not possible in narrowly stovepiped, linear approaches to war.

READINESS. While capacity and capability considerations are central to the warfighting ability of the U.S. military, readiness performs a crucial role in determining whether combat power is prepared when it is needed. Factors that are considered include (among others):

- Sufficient staffing levels,
- Fulfillment of training requirements, and
- Age and maintenance of equipment.

Overall U.S. Army Score: Marginal

The Army’s overall score is calculated based on an unweighted average of its capacity, capability, and readiness scores. The unweighted average is 3.33; thus, the overall Army score is “marginal.” This score was derived from the aggregate score for capacity (“weak”); capability (“marginal”); and readiness (“very strong”). This score is the same as the assessment in the *2024 Index*, which rated the Army as “marginal” overall.

Policy Recommendations

In view of the above scores and what they indicate about the Army’s current capacity and capability, as well as its overall rating of “marginal,” the U.S. Army needs to:

- **Maintain its modernization programs.** The Army must not lose sight of the fact that the fundamentals of warfare have not changed and that in pursuing innovation, one cannot abandon tried-and-true warfighting concepts. Drones, for example, are critical new capabilities that have clear and proven combat and ISR capabilities, as demonstrated by the war in Ukraine. However, traditional infantry, armor, and artillery units have been just as instrumental in the conduct of the war, and the U.S. Army must remain at the forefront of these warfighting branches even while pursuing UAS and C-UAS dominance.
- **Prioritize MDTFs and Long-Range Fire Battalions.** Given how critical they are to

detering Chinese aggression against Taiwan, equipping and fielding MDTFs and Long-Range Fire Battalions should be among the Army's highest priorities. These units should either be rotated or forward deployed to the Western Pacific as much as possible.

- **Emphasize joint planning.** If the Army is to succeed in its identified role in the Indo-Pacific, it will need to be brought into theater by the airlift and sealift capabilities that the Air Force and Navy provide. The Navy and Air Force need the Army to secure and defend airfields and logistics and sustainment hubs and need to invest far more in airlift and sealift systems.
- **Maximize interoperability.** The U.S. Army should be as interoperable as possible with its allies in both the Indo-Pacific and NATO, and cross-training with these allies to increase interoperability should be a continuing and high-level priority.

Endnotes

1. It should be noted that this chapter also reflects the considerable research contributions made by Thomas W. Spoehr, author of the U.S. Army chapter in several previous editions of the *Index of U.S. Military Strength*.
2. U.S. Secretary of Defense Pete Hegseth, Memorandum for Senior Pentagon Leadership, “Subject: Army Transformation and Acquisition Reform,” April 30, 2025, <https://media.defense.gov/2025/May/01/2003702281/-1/-1/1/ARMY-TRANSFORMATION-AND-ACQUISITION-REFORM.PDF> (accessed December 11, 2025). Cited hereinafter as Hegseth Memorandum.
3. Secretary of the Army Dan Driscoll and Chief of Staff of the Army General Randy George, “Letter to the Force: Army Transformation Initiative,” May 1, 2025, https://www.army.mil/article/285100/letter_to_the_force_army_transformation_initiative (accessed December 11, 2025).
4. Thomas W. Spoehr, “U.S. Army,” in *2024 Index of U.S. Military Strength*, ed. Dakota L. Wood (Washington: The Heritage Foundation, 2024), pp. 409–437, https://www.heritage.org/sites/default/files/2024-01/2024_IndexOfUSMilitaryStrength_0.pdf.
5. 10 U.S. Code § 7062(b), <https://www.law.cornell.edu/uscode/text/10/7062> (accessed December 11, 2025).
6. Driscoll and George, “Letter to the Force: Army Transformation Initiative.”
7. *Ibid.*
8. *Ibid.*
9. Association of the United States Army, “George: Army Transformation Needs Speed, Agility,” May 29, 2025, www.ausa.org/news/george-army-transformation-needs-speed-agility (accessed December 12, 2025).
10. *Ibid.*
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U.S. Navy

Brent D. Sadler

Introduction

The U.S. Navy is not where the nation needs it to be, and President Donald Trump has signaled a break from past decades in his repeated commitment to revive the nation’s maritime power. Most notable was Congress’s commitment (with the President’s backing) to include a substantial \$8.4 billion increase in shipbuilding funding in the annual National Defense Authorization Act (NDAA)¹ and the one-time reconciliation bill known as the One Big Beautiful Bill Act (OBBA).² At the time of the *2024 Index*, the Navy’s fleet included 297 warships; now the number is 287 and shrinking well below what threats dictate. Compounding this is a growing deficit of 30,395 sailors and officers; closing this gap will require maintaining this year’s hugely successful recruitment into the next *Index*.

The Navy, as the foremost element of national power, cannot be allowed to degrade further if China is to be deterred. This year marks another sad assessment of the Navy’s capacity, capability, and readiness for winning a modern major war: Reversing this trend is a national imperative. The worldwide demand for warships has not slackened; it has increased as the world has grown more violent with active combat in the Red Sea and the Caribbean as of the time this edition of the *Index* was being prepared. Yet despite fewer warships and sailors, compared to the operational tempo (OPTEMPO) of the Cold War’s 600-ship Navy, the fleet has continued to operate by as much as 15 percent above the 17 percent historic levels.

This *Index* makes clear that conventional approaches have not worked in the past decade, as witnessed year after year in past assessments. There is no more time for modest modifications. Bold actions are needed to operate the fleet we have today

in new ways, expand the industrial capacity to build and sustain the larger fleet that we need, and invest in future capabilities.

Congress and naval leadership must never forget the lives lost in the 2017 collisions of the USS *John S. McCain* (DDG 56) and USS *Fitzgerald* (DDG 62). Findings of subsequent investigations revealed that overwork of green crews and overconfidence regarding operational risk were contributing factors—a lesson that remains relevant today. Incidents like the October 2021 grounding of the submarine *Connecticut* in the South China Sea and the September 2024 grounding of fleet oiler *Big Horn* make clear that life at sea is dangerous and requires vigilance and high competence even in peacetime. This *Index*, as have those since 2021, reminds readers of this reality and that success at sea is not cheap.

Being witness to increasingly aggressive Chinese military operations, it is clear that we are losing our ability to deter China—and with perilous consequences. This year’s *Index* reminds us again of where we stand and what we must do.

Service Overview

Navies exist to assure access to markets and influence events on land for political ends and to prevail in maritime combat when war occurs. To these ends, the U.S. Navy, Marine Corps, Coast Guard, and Merchant Marine (known collectively as the sea services) have enabled America to project power across the oceans, controlling activities on the seas whenever and wherever needed.

According to the Department of the Navy’s annual budget briefing for fiscal year (FY) 2026, the service’s “enduring priorities” have been updated by the Secretary of the Navy and include:

U.S. NAVY AT A GLANCE



EST. 1775

MOTTO
"Always Courageous"



John C. Phelan
Secretary of the Navy



Adm. Daryl Caudle
Chief of Naval Operations

MAJOR BASES



- 1 Naval Station Pearl Harbor
- 2 Naval Base San Diego
- 3 Naval Base Kitsap-Bremerton
- 4 Naval Station Norfolk
- 5 Naval Submarine Base King's Bay
- 6 Naval Support Mayport
- 7 Naval Support Activity Naples
- 8 Naval Support Bahrain
- 9 Commander Fleet Activities Yokosuka
- 10 Naval Base Guam

CURRENT BUDGET

IN BILLIONS FOR FY 2025

\$210.4

CURRENT PERSONNEL

ACTIVE-DUTY MILITARY

333,000

RESERVE MILITARY

58,000

CIVILIAN

202,000

KEY EQUIPMENT (estimated current inventory)



Nuclear Ballistic Missile Submarines (14)



Nuclear Attack Submarines (47)



Guided Missile Destroyers (74)



F-35C (100+)



F/A-18E/F (416)



P-8A Poseidon (118)



Aircraft Carriers (11)



Zumwalt (2)



Amphibious Warfare Assault Ship (9)



Ticonderoga Class Cruiser (7)



Littoral Combat Ship (28)

SOURCE: Heritage Foundation research.

heritage.org

- “Strengthen Shipbuilding and the Maritime Industrial Base,” which is a change from “Strengthening Maritime Dominance” used since FY 2024;
- “Foster an Adaptive, Accountable and Innovative Warfighter Culture,” which updates the Administration’s earlier “Building a Culture of Warfighting Excellence” that replaced the Biden-era “Taking Care of People through Building a Culture of Warfighting Excellence” and aligns more with the new Trump Administration’s focus on lethality; and
- “The Health, Welfare and Training of Our People and Their Families,” which emphasizes the well-being of the sailors and the quality of their readiness.³

The Biden-era “Enhancing Strategic Partnerships” has been removed.

Given the comprehensive threat from China, the Navy has introduced a new strategic framework for its operations and investment called maritime statecraft. This draws heavily from the book *U.S. Naval Power in the 21st Century* and a concept called naval statecraft. The concept was first introduced by the Secretary of the Navy Carlos Del Toro in a speech calling for a new statecraft founded on a strong naval force, backed by a robust commercial maritime industry, to execute a successful strategic comprehensive competition in today’s new cold war with China.⁴ The prioritization of rebuilding the nation’s maritime strength was amplified by President Donald Trump before Congress and the establishment of a new office dedicated to this end.⁵ Given the state of the nation’s navy and maritime services, this will be a herculean task.

All told, it will take years to recover from the past 36 years of naval decline. For the Navy, the so-called peace dividend after the collapse of the Soviet Union resulted in more than \$1.32 trillion in deferred investments and reduced spending from 1989–2025, antiquated infrastructure, and too many shuttered shipyards to build and sustain today’s too-small fleet. The flight of experienced naval architects who are needed to oversee design, building, and repair of warships has contributed to cost overruns and delays that the Navy cannot sustain.

To strengthen the nation’s maritime power, outgoing President Joseph Biden’s proposed \$257.6 billion Navy budget for FY 2025 was \$1.83 billion more than the FY 2024 enacted budget—an increase of 0.7 percent.⁶ This amount was relatively anemic in view of the need to recapitalize infrastructure, expand the supply base, recruit more sailors, and increase the number of warships necessary to deter a rapidly metastasizing threat from Communist China. However, this may be changing with the one-time reconciliation bill and a total increase of 11.1 percent over last year’s Navy budget.⁷ If these dollars are used to deliver the capacity, capability, and readiness outputs that are needed, the long, slow decline of the Navy’s ability to deter and win a major war should be reversed, but this will require years of increased resourcing matched with aggressive and smart execution of those funds.

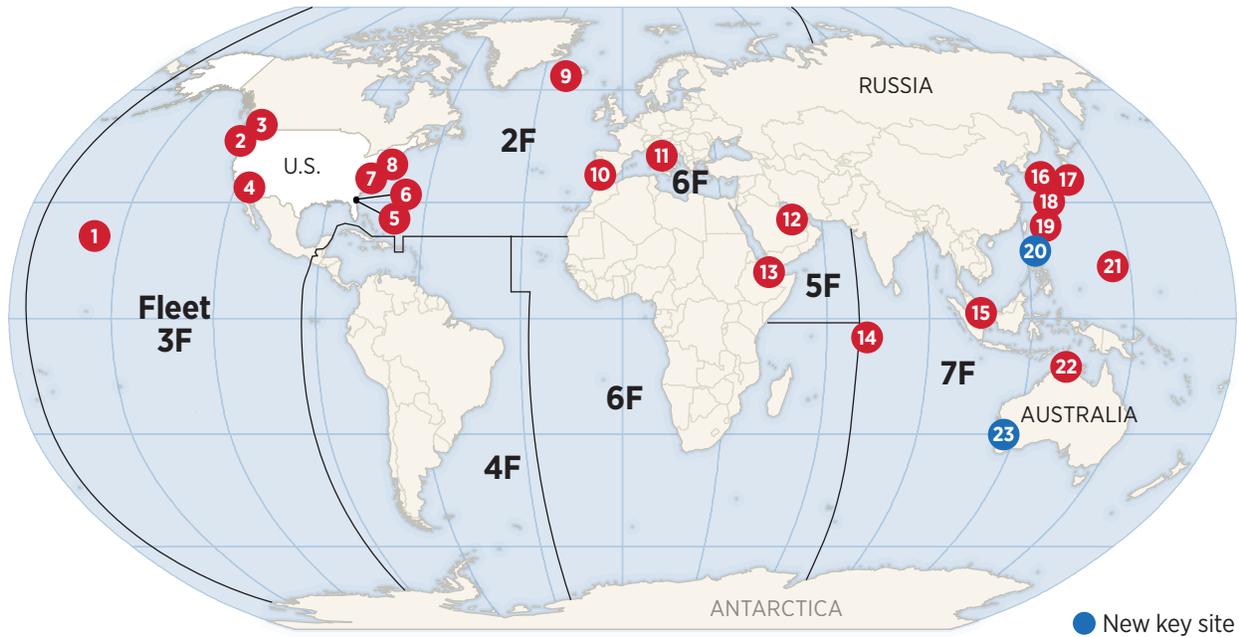
At the same time, investment in “wonder weapons” is not a solution to all of the Navy’s ills. Unmanned platforms, future-generation fighters, and long-range weapons are necessities, but their delivery and effectiveness remain in question until they can be proven in combat at-sea. Today’s fleet is needed to operate where required and as the training platform for crews. It must operate within range of the enemy’s weapons and continually refine concepts of operations for winning tomorrow’s wars.

The Navy therefore remains under immense strain to maintain readiness for combat while also conducting daily peacetime operations to counter the activities of China and Russia. Since publication of the *2024 Index of U.S. Military Strength*, there have been several significant developments that are important to the Navy. For example:

- In its first year, the Navy’s Maritime Industrial Base staff certified a cold spray welding technique avoiding the need to dry dock, used additive manufacturing techniques to produce and install three chill water valves on an operational warship, and helped to place more than 10,000 new maritime industrial workers.⁸
- During combined exercise Balikatan in April 2025, the U.S. Marine Corps deployed elements of the 3rd Marine Littoral Regiment with Navy-Marine Expeditionary Ship Interdiction System (NMESIS) to the Batanes island group in the Luzon Strait.⁹

Key U.S. Naval Installations

The U.S. Navy's global operation has been bolstered in recent years by the addition of key installations: 10 sites in the Philippines, most notably Naval Base Camilo Osias, and a nuclear submarine and support ship site in Perth, Australia.



- | | |
|--|--|
| <p>1 Joint Base Pearl Harbor-Hickham, HI
U.S. Pacific Fleet headquarters</p> <p>2 Naval Base Kitsap</p> <p>3 Naval Station Everett, WA</p> <p>4 Naval Base San Diego and Naval Base Coronado, CA
U.S. Third Fleet headquarters</p> <p>5 Naval Station Mayport, FL
U.S. Fourth Fleet headquarters</p> <p>6 Naval Submarine Base King's Bay, GA</p> <p>7 Naval Base Norfolk and Joint Expeditionary Base Little Creek, VA
U.S. Fleet Forces Command and U.S. Second Fleet headquarters</p> <p>8 Naval Submarine Base New London, CT</p> <p>9 Keflavik, Iceland—Expeditionary Maritime Operations Center</p> <p>10 Naval Station Rota, Spain</p> <p>11 Naval Support Activity Gaeta, Italy
U.S. Sixth Fleet headquarters</p> | <p>12 Naval Support Activity, Bahrain
U.S. Fifth Fleet headquarters</p> <p>13 Lemonnier, Djibouti—Camp Lemonnier</p> <p>14 Diego Garcia—Navy Support Facility Diego Garcia</p> <p>15 Singapore—Commander Logistics Group Western Pacific</p> <p>16 Buson, South Korea—Fleet Activities Chinhae Navy Base</p> <p>17 U.S. Fleet Activity Yokosuka, Japan
U.S. Seventh Fleet headquarters</p> <p>18 U.S. Fleet Activity Sasebo, Japan</p> <p>19 Okinawa, Japan—Naval Base White Beach</p> <p>20 Luzon Island, Philippines—Naval Base Camilo Osias</p> <p>21 Naval Base Guam—Navy Expeditionary Force Command Pacific headquarters</p> <p>22 Darwin, Australia—Marine Rotational Force Darwin</p> <p>23 Perth, Australia—Submarine Rotational Force West</p> |
|--|--|

NOTE: Fleet boundaries are approximate.

SOURCE: Heritage Foundation research.

 heritage.org

- Admiral Lisa Franchetti was relieved as Chief of Naval Operations (CNO) on February 21, 2025, and replaced by Admiral Daryl Caudle six months later, signaling a break with past conventions.
- In September 2024, the Navy oiler *Big Horn* ran aground, sustaining significant damage and ending its provisioning of fuel to sustain ongoing combat operations against the Houthis.¹⁰
- In July 2024, the Navy demonstrated an at-sea method to rearm warship vertical launch cells that are used to launch cruise missiles and air and missile defense munitions.¹¹ The method is called Transferrable Rearming Mechanism (TRAM) and is a limited means to mitigate a long-known deficiency in sustaining warships within striking distance of enemy forces without executing prolonged transits to rear-area ports to restock.
- On February 22, 2024, the Navy established the Robotics Warfare Specialist for enlisted ratings with the goal of developing deep expertise in the maintenance of autonomous platforms.¹²
- On January 16, 2024, the Navy completed its first Western Pacific deployment of a flotilla of four unmanned vessels that included the USV *Ranger*, which had launched a Standard Missile-6 at a target successfully in 2021.¹³
- In January 2024, following a series of reports of significant delays in numerous naval shipbuilding programs, the Secretary of the Navy ordered a 45-day review.¹⁴ This review determined that the top-priority strategic missile submarine *Columbia* is 12–16 months behind, the aircraft carrier *Enterprise* is 18–26 months behind schedule, *Virginia*-class submarines are 24 to 36 months late, and the new frigate *Constellation* is three years behind schedule.¹⁵
- On October 19, 2023, Iran’s proxy in Yemen, the Houthis, began attacks on shipping in the Red Sea in support of Hamas’s war against Israel, which had begun on October 7. Houthis

attacks on shipping continue into 2025. A mid-July 2024 report gave a rare insight into the scale of those combat operations: 155 standard missiles, 125 tomahawk cruise missiles, 60 air-to-air missiles expended.¹⁶

Strategic Framework. In December 2020, to address today’s maritime competition more effectively, the sea services released a naval strategy titled *Advantage at Sea*.¹⁷ It has not yet been fully executed, but there has been some progress regarding forward presence operations that challenge Chinese maritime coercion.¹⁸

The Navy also apparently continues to adjust its deployment patterns to meet new demands caused by the war in Ukraine and combat operations against the Houthis. Since June 2023, these demands have slowed the trend toward more presence in the Western Pacific and a reduced carrier and large amphibious force presence in the North Atlantic and the Eastern Mediterranean in order to fuel a return to the Indian Ocean.¹⁹

As the U.S. military’s primary maritime arm, the Navy is charged with providing the enduring forward global presence that this strategy requires while retaining war-winning forces. The Navy therefore continues to focus its investments on several functional areas: power projection, control of the seas, maritime security, strategic deterrence, and domain access. This approach is informed by several key documents. In addition to the Trump Administration’s 2025 National Security Strategy (NSS) and 2026 National Defense Strategy (NDS), they include:²⁰

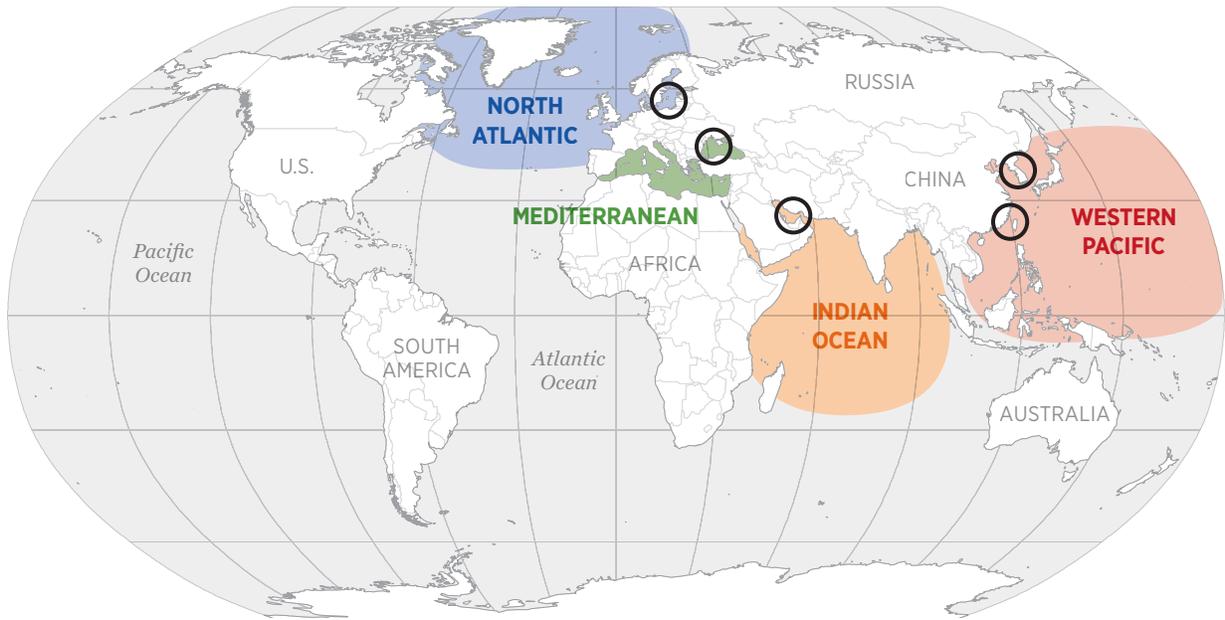
- The December 2020 *Advantage at Sea* naval strategy, and
- The Global Force Management Allocation Plan (GFMAP).²¹

In addition, in the summer of 2025, the Trump Administration issued an Interim National Defense Strategic Guidance that has been informing FY 2026 and reconciliation budgets. It provides that:

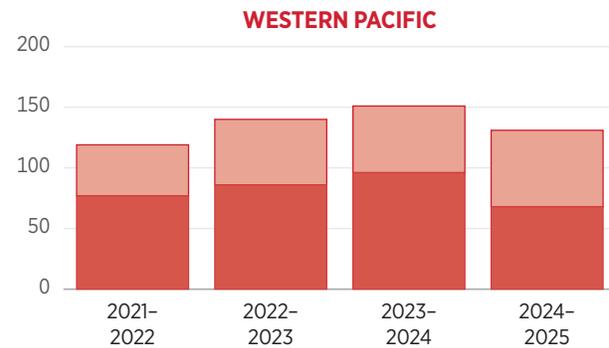
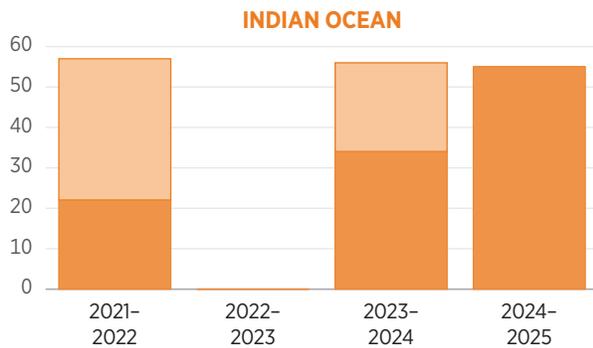
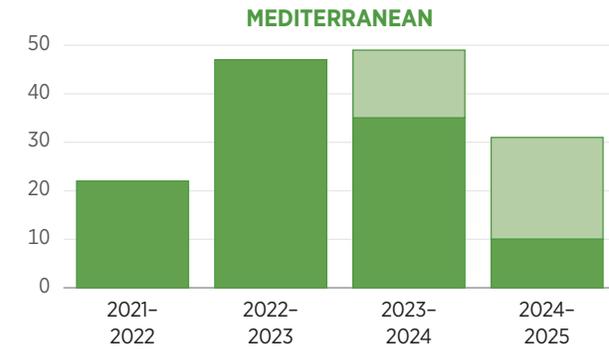
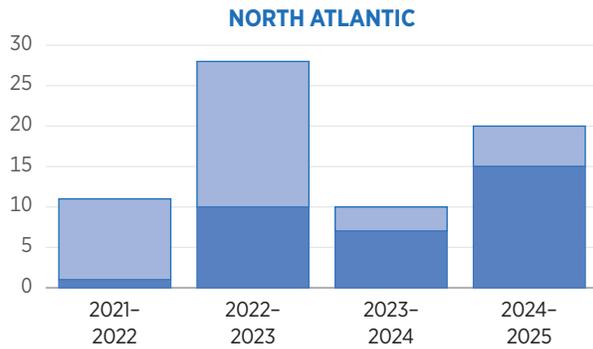
- The United States faces one of the most dangerous strategic environments in our Nation’s history characterized by:

U.S. Navy Global Presence

○ Potential sites for major war



Weeks present in region ■ CSG ■ ARG/ESG



NOTES: Time frames are June to June. CSG — Carrier Strike Group, ARG — Amphibious Ready Group, ESG — Expeditionary Strike Group.
SOURCE: Heritage Foundation research based on data from U.S. Naval Institute Staff, "Fleet Tracker," U.S. Naval Institute News, <https://news.usni.org/category/fleet-tracker> (accessed January 21, 2026).

- **A vulnerable homeland** arising from years of unsecured borders and increasingly capable air and missile threats;
- **China’s unprecedented military buildup** and the direct threat that it poses to America’s security and economy; and
- **A range of other threats**, including Russia, Iran, North Korea, and select terrorist organizations.
- **President Trump has charged the Department with supporting his America First defense policy agenda and achieving his vision of peace through strength.**
- To do so, the Strategic Guidance is built around **three priority lines of effort**:
 - **Defend the Homeland**
 - **Deter China in the Indo-Pacific**
 - **Empower allies and partners to do more**
- **Success demands clear prioritization, strategic discipline, and fiscal responsibility.**

U.S. official strategic guidance requires the Navy to act beyond the demands of conventional warfighting. China and Russia use their fleets to establish a physical presence in regions that are important to their economic and security interests in order to influence the policies of other countries. To counter their influence, the U.S. Navy similarly sails ships in these waters to reassure allies of U.S. commitments and signal to rivals that they do not have a free hand to impose their will. This means that the Navy must balance two key missions: ensuring that it has a fleet that is ready for war while also using that fleet for peacetime “presence” operations. Both missions require crews and ships that are materially ready for action and a fleet that is large enough to maintain presence and marshal enough combat power to win in battle.

On September 18, 2024, the Chief of Naval Operations released an update to Navigation Plan 2022 (NAVPLAN 2022).²² NAVPLAN provides guidance for the Navy’s contribution to the execution of the

National Defense Strategy. Today, the CNO continues to emphasize forward presence in the United States’ daily competition with rivals like China and prioritizes investments in key capabilities. New and notable in NAVPLAN 2024 is a goal to achieve 80 percent combat surge readiness by 2027; the current rate is approximately 67 percent.²³

All of this reflects a continuation of demands stemming from the Distributed Maritime Operations concept that has been deemed critical to defeating Chinese anti-access/area denial (A2/AD) capabilities. Prior NAVPLANs lacked a clear timeline; now the deadline for delivering capabilities and meeting readiness goals is set as no later than January 1, 2027.²⁴ This date is picked explicitly to meet China’s own goal of being ready to prevail in a war over Taiwan.²⁵ To pace this threat, NAVPLAN 2022 offered a plan calling for a fleet of 350 manned and 150 unmanned warships along with 3,000 naval aircraft. This was revised upwards in June 2023 to 381 battle-force manned ships and incorporated into NAVPLAN 2024. Seven goals called Project 33 include achieving 80 percent readiness, field operations centers for distributed combat operations, greater numbers of field unmanned platforms, and restoration of critical infrastructure like aging shipyards.²⁶ The new CNO, Admiral Daryl Caudle, so far has not signaled an intent to change direction.

Admiral Caudle’s first message to the fleet as CNO does indicate that several changes are coming. In this message, he signaled new potentially traditional naval uniforms, better living conditions during extended maintenance periods, and better facilities and platforms resourced to national needs, his mantra being “Built in the Foundry—Tempered in the Fleet—Forged to Fight.”²⁷ While little detail is given in his public statements since becoming CNO, past comments as Fleet Forces Commander indicate an awareness that nuclear maintenance capacity is inadequate and that we need additional public shipyards.²⁸

All told, NAVPLANs have neither galvanized political support nor delivered actionable long-range shipbuilding plans to Congress. Considering current trends, it seems unavoidable that the fleet will reach a nadir of 280 warships in 2027—exactly when a larger fleet is required.²⁹ Despite some progress in NAVPLAN 2024, the disconnect between strategy, plans, and resourcing persists with the latest Battle Force Ship Assessment and Requirement, which

indicates that the Navy is short 80 warships (rather than 50 per earlier plans) with which to execute the National Defense Strategy.³⁰ During the years since 2016's 355-fleet goal was memorialized in law by Congress, the threat from China has continued to grow, pressurizing the Navy to revise upward its assessed fleet composition and needs.

Numbers alone in warships do not capture the needed composition of various warship classes—the fleet design. Both the Secretary of the Navy and the CNO have indicated that a new fleet design is forthcoming.³¹ As of February 24, 2026, the annual congressionally mandated 30-year shipbuilding plan had not been released, and the congressionally mandated annual report on *Military and Security Developments Involving the People's Republic of China*, a critical resource for responsible officials charged with defining the threat as a rationale for the new fleet design and long-range build plan, was not released until December 2025.

This *Index* focuses on the following elements as the primary criteria by which to measure U.S. naval strength:

- **Sufficient capacity** to defeat enemies in major combat operations and provide a credible peacetime forward presence to maintain freedom of shipping lanes and deter aggression,
- **Sufficient technical capability** to ensure that the Navy is able to defeat potential adversaries, and
- **Sufficient readiness** to ensure that the fleet can “fight tonight” given proper material maintenance, personnel training, and physical well-being.

Capacity

Force Structure. The Navy is unique relative to the other services because its capacity requirements must meet two separate objectives:

1. During peacetime, the Navy must maintain a global presence in distant regions both to deter potential aggressors and to assure allies and security partners.
2. The Navy must be able to win wars. To this end, the Navy measures capacity by the size of its

battle force, which is composed of ships it considers directly connected to combat missions.³²

This *Index* continues the benchmark set in the *2019 Index*: 400 ships for combat operations against China, as well as adequate response to opportunistic adversaries with a 20 percent strategic reserve, and historical levels of 100 ships that are forward deployed in peacetime.³³ This 400-ship fleet is centered on providing:

- 13 Carrier Strike Groups (CSGs);
- 13 carrier air wings with a minimum of 624 strike fighter aircraft;³⁴ and
- 15 Expeditionary Strike Groups (ESGs).³⁵

Unmanned platforms are not included because they have not matured as a practical asset. They hold great potential and will likely be a significant capability, but until they are developed and fielded in larger numbers, their impact on the Navy's war-fighting potential remains speculative. The same holds true across the fleet when it comes to new classes of ships. The Navy is investing in research, modeling, war gaming, and intellectual exercises to improve its understanding of the potential utility of new ship and fleet designs, but until new ships are added to the fleet, it is hard to know how they will affect the Navy's ability to perform its missions. Consequently, this *Index* measures what is known and can be known in naval affairs, assessing the current Navy's size, modernity, and readiness to perform its most important missions today.

Relative to the above metric, the Navy's fleet of 287 warships as of October 1, 2025³⁶—10 ships less than the figure cited in the *2024 Index*—is inadequate and places greater strain on the ability of ships and crews to meet existing operational requirements. To alleviate the operational stress on an undersized fleet, the Navy has attempted since 2016 to build a larger fleet. However, for myriad reasons, it has been unable to achieve sustained growth and in fact has underdelivered by approximately 10 ships each year since 2016.³⁷ In the past, the Navy has had some success in meeting operational requirements with fewer ships by posturing ships forward as it has done in Rota, Spain; on Guam; and potentially as part of AUKUS (the trilateral

Australia–United Kingdom–United States security pact) in Australia.

At a February 2022 naval conference, the Chief of Naval Operations stated, “I’ve concluded—consistent with the analysis—that we need a naval force of over 500 ships.”³⁸ The Navy’s subsequent June 2023 Battle Force Ship Assessment and Requirement report specified that the fleet needed to include:

- 12 aircraft carriers (the Navy currently has 11);
- 87 large surface warships (CG, DDG) (the Navy currently has 85);
- 73 small warships (LCS) (the Navy currently has 27);
- 31 large amphibious warships (LSD, LPD, LHA, LHD) (the Navy currently has 32);
- 66 attack submarines (SSN) (the Navy currently has 47);
- 12 ballistic missile submarines (SSBN) (the Navy currently has 14);
- 46 combat logistics ships (T-AO, T-AOE, T-AKE, NGLS) (the Navy currently has 34); and
- 54 command and support ships (LCC, AS, T-ESD, T-EPF, T-ESB, LSM, ARS/ATF, and T-AGOS) (the Navy currently has 30).³⁹

Based on the CNO’s military advice and Heritage Foundation analysis, today’s fleet remains too small to meet today’s threats with maximum effectiveness.

Posture/Presence. Although the Navy remains committed to sustaining forward presence, it has struggled to meet the requests of regional Combatant Commanders. The result has been longer and more frequent deployments to meet a historical steady-state forward presence of 100 warships.⁴⁰ In 1985, at the height of the Cold War, less than 15 percent of the nation’s 571-ship fleet was deployed, and throughout the 1990s, deployments seldom exceeded the six-month norm: Only 4 percent to 7 percent of the fleet exceeded six-month deployments on an annual basis.⁴¹

Using the Navy’s aircraft carrier fleet—the most taxed platform—as a sample set, for the past 20

years, approximately 25 percent of the aircraft carrier fleet has been deployed. Following the 2017 deadly collisions involving USS *McCain* and USS *Fitzgerald*, overall fleet deployment dropped temporarily to less than 20 percent, but it surged again to almost 30 percent in 2020.⁴² High operational tempo (OPTEMPO) remains an issue as the Navy works to secure U.S. interests against China’s distant naval deployments and provocations, North Korea’s ballistic missile submarine, Iranian attacks on and interdiction of commercial shipping in the Persian Gulf, and an active Russian Navy.

The numbers reported by the Navy on September 8, 2025, are typical for a total battle force of 287 deployable ships with 105 warships at sea for an OPTEMPO of 36.1 percent, well above Cold War levels of approximately 20 percent.⁴³ Given Combatant Commanders’ requirements for naval presence, there is impetus to have as many ships forward deployed as possible by:

- **Homeporting.** The ships, crew, and their families are stationed at the port or based abroad (for example, a CSG in Yokosuka, Japan).
- **Forward Stationing.** Only the ships are based abroad, and crews are rotated out to the ship.⁴⁴ This deployment model is currently used for Littoral Combat Ships (LCS) and *Ohio*-class guided missile submarines (SSGNs) manned with rotating blue and gold crews, effectively doubling the normal forward deployment time (for example, LCS in Singapore).

These options allow one forward-based ship to provide a greater level of presence than four ships based in the continental United States (CONUS) can provide by offsetting the time needed to transit ships to and familiarize their crews with distant theaters.⁴⁵ This is captured in the Navy’s GFM planning assumptions: a forward-deployed presence rate of 19 percent for a CONUS-based ship compared to a 67 percent presence rate for an overseas-homeported ship.⁴⁶ To date, the Navy’s use of homeporting and forward stationing has not mitigated the reduction in overall fleet size’s effect on forward presence.

Shipbuilding Capacity. To meet stated goals for fleet size, the Navy must build faster and maintain more ships, exceeding its current capacity. However, significant shortfalls in both government and

commercial shipyards make it hard to accomplish either task—and inconsistent planning and inconsistent defense budgets make it even more difficult. Given the limited ability to build ships, the Navy will struggle to meet the congressionally mandated 355-ship goal,⁴⁷ to say nothing of the 400-ship goal advocated in this *Index*.

Congress overrode smaller shipbuilding plans for FY 2022 and FY 2023 that were submitted by the Biden Administration and added funding for new orders each year that exceeded 20 warships. Despite this, subsequent procurement and delivery rates have not kept pace with the threat from China. Nor have congressional mandates reversed this trend: The Navy last met a congressionally mandated goal of 12 aircraft carriers in 2006⁴⁸ and is meeting its mandated fleet of no fewer than 31 large amphibious warships only after strenuous protests by Senator Dan Sullivan (R-AK) in 2023.⁴⁹

World events demonstrated the danger of having inadequate amphibious forces in April 2023 when Americans were stranded amid factional war in Sudan.⁵⁰ Despite such consequences, the current long-range shipbuilding plan does not reverse downward trends in the fleet and will result in a drop to 280 manned ships by FY 2027.⁵¹

Meanwhile, a combination of misaligned congressional willingness to fund a larger fleet, a former Administration loath to resource it, and a Navy unable to control its requirements has resulted in shipbuilders that too often are unwilling to invest in needed workforce and delay capital investments. From 2005 to 2020, the Navy's procurement of new warships increased the size of the fleet from 291 to 296 warships; at the same time, China's navy grew from 216 to 360 warships.⁵² If the Navy is to build a larger fleet, more shipbuilders will have to be hired and trained—a lengthy process that precedes any expansion of the fleet. The Navy estimates that to meet its demand for nuclear submarines, it will need to hire an additional 100,000 new workers over the next 10 years.⁵³

Complicating matters is that, according to the most recent labor statistics, wages in the nation's shipbuilding sector have not consistently kept pace with inflation and wider labor wages. In 2021, wages in the shipbuilding and repair sector shrank by 2.7 percent; they then exceeded national averages for two years only to fall behind again in 2024.⁵⁴ As a consequence, the sector's labor pool shrank 1.5

percent in the third quarter of 2024.⁵⁵ This pattern does not appear to have abated in 2025.

A critical concern is the urgency of the need to increase production of nuclear-powered warships, most notably nuclear-powered submarines that would be vital in any conflict with China. Limited nuclear shipbuilding capacity⁵⁶ will constrain the Navy's plans to increase the build rate from two attack submarines per year to three while concurrently building one ballistic missile submarine.⁵⁷

To support a larger nuclear-powered fleet, the Navy has sought assistance for relevant public shipyards to increase their workforce, awarding a \$503 million contract to Blue Forge Alliance.⁵⁸ While this contract was supported by the Navy, a dubious \$2.4 billion contract was awarded to Deloitte Consulting to expand submarine industrial capacity.⁵⁹ So far, these efforts have yet to yield a return on the investment as the *Virginia*-class attack submarine program remains behind schedule and continues to contend with rising labor costs that resulted in a stopgap \$1.95 billion to cover the cost of keeping two boats under construction.⁶⁰

Moreover, since 2023, the Navy has reported *Virginia*-class labor deficits that have contributed to cost overruns and production delays, causing the Navy to miss its stated goal of a delivery rate of 1.5 boats a year by October 1, 2024, and raising concerns that it may not be able to meet its goal of two per year by 2028 if conditions do not change.⁶¹ This is exacerbating concerns about whether the AUKUS nuclear submarine production effort with Australia and the United Kingdom, which will require the delivery of 2.33 boats per year, will prove to be executable.⁶²

A key element of the AUKUS effort is the forward "rotational" basing of American nuclear submarines in HMAS Stirling, Australia. The first of these submarines are due to arrive per the so-called optimal pathway in 2027, which will have a multiplicative effect on U.S. submarine presence: Each forward-based warship is equivalent to four based in the continental U.S. Failing to deploy American nuclear submarines according to this plan would further degrade the capacity needed to deter China.

It still remains true that current funding will not build or maintain the larger fleet that both the Navy and this *Index* say is needed and that Congress has mandated. Nothing has changed to alter CNO Admiral Michael Gilday's 2021 assessment that

current budgets can only “sustain a Navy of about 300 to 305 ships.”⁶³ In addition, the Government Accountability Office (GAO) has noted that a brittle defense industrial base continues to drive up costs and create delays.⁶⁴

Manpower. In 2018, the Navy assessed that its manpower would need to grow by approximately 35,000 to achieve an end strength of 360,395 sailors to support a 355-ship Navy.⁶⁵ The last time the Navy had a similar number of ships was in 1997 when it had 359 ships and 398,847 personnel.⁶⁶ As of February 22, 2026, the Navy consisted of 340,000 active-duty officers and sailors,⁶⁷ up by 4,813 from the 335,187 reported in the *2024 Index* but still significantly below what is needed to meet its 2034 fleet goal.

After several negative years of recruiting and retention efforts, things are beginning to reverse course. Four months into the 2025 fiscal year, the Navy announced that it was already on track to meet recruiting goals for the second consecutive year.⁶⁸ Despite this good news, however, budgeted total end strength fell from 344,441 in FY 2022 to 332,300 in FY 2025, which might limit the Navy’s ability to take advantage of better recruiting.⁶⁹ Because authorized manning numbers should reflect the fleet needed rather than what can be recruited today, it remains to be seen whether retention rates can be sustained to meet long-range manning needs. According to statements made in late 2024 by the Secretary of the Navy and Chief of Naval Operations, the service’s retention rates have been at historic highs—perhaps an indication that the Navy has made a long-overdue course correction in its outreach to potential new recruits.⁷⁰

Despite recent improvement in recruitment, missed past recruitment goals and lackluster retention have left a legacy of overworked sailors at sea, as evidenced by unfilled billets aboard ship. This places greater demand on a smaller active-duty end strength, and the consequences will be seen in the fleet’s operational capabilities.

The GAO has reported persistent crew manning shortfalls. A GAO report published in May 2021 revealed that some ships had crew shortfalls as high as 15 percent, which compounded crew fatigue as smaller crews had to make up the workload. This was a contributing factor in several fatal collisions in 2017.⁷¹ The problem persists with the number of gapped billets rising to 22,000 for junior

enlisted sailors in 2023 on top of a persistent deficit of 10,000 stretching back as far as 2016.⁷² In January 2025, Navy leadership indicated that in order to fill the remaining 20,000 gapped at-sea billets, it will have to meet recruitment and retention goals for three consecutive years—and this would not guarantee meeting the 355-ship crew requirements.⁷³

Finally, the effort to attract people to join the Navy is made more difficult by wages that are not keeping up with inflated costs of living. In the battle for people, pay raises in recent years have consistently lagged behind inflation. In an effort to address this pay gap, a 14.5 percent pay raise for the most junior sailors went into effect on April 1, 2025.⁷⁴

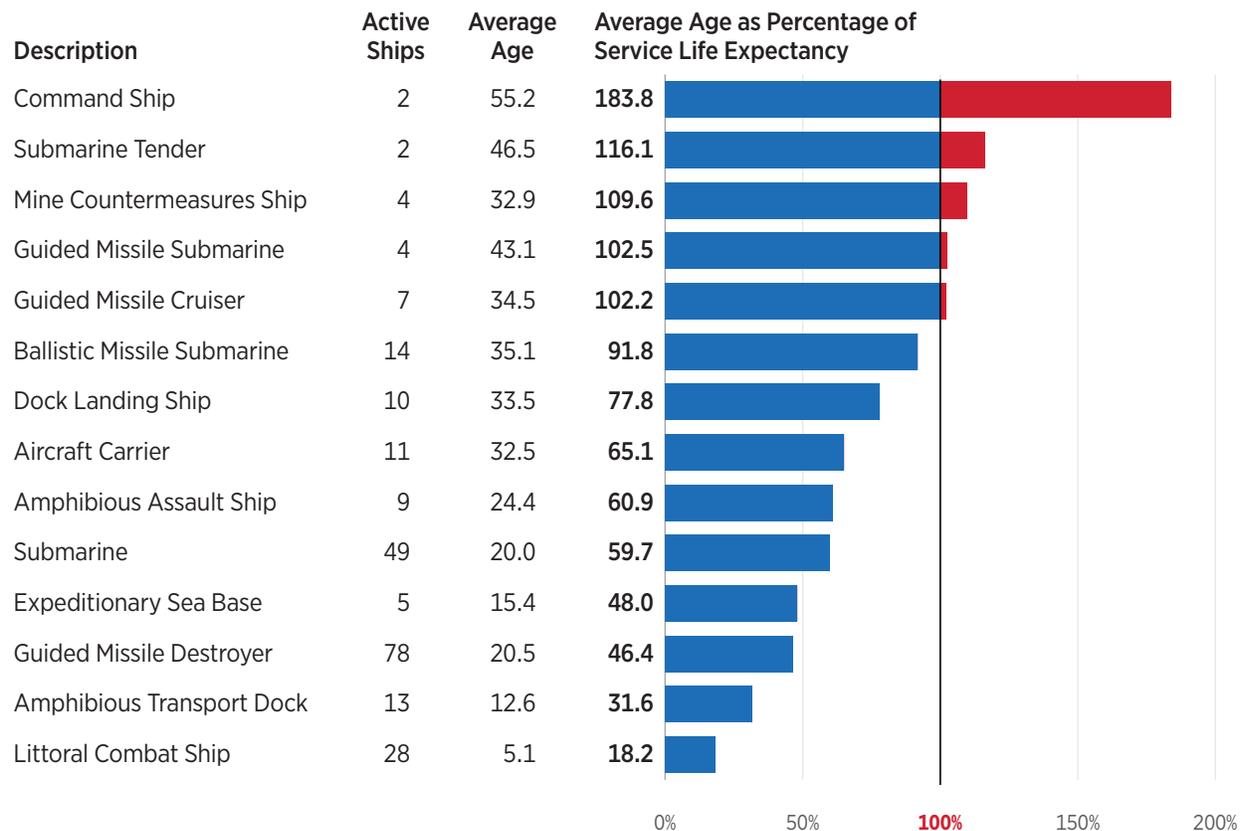
The U.S. Coast Guard. This year, the *Index of U.S. Military Strength* for the first time examines the contribution of the U.S. Coast Guard. In wartime, the Coast Guard would become part of the Navy and support specific combat roles. The Navy therefore expects the Coast Guard to be ready for nine specific wartime missions, which are detailed in a 2008 memorandum of agreement between the Department of Homeland Security (DHS) and the Department of Defense (DOD). These nine missions include “Maritime interception/interdiction operations,” “Military environmental response,” “Theater security cooperation,” “Coastal sea control operations,” “Rotary wing air intercept operations,” “Combatting terrorism operations,” “Maritime operational threat response,” “Military cyberspace operations,” and “Port operations, security and defense.”⁷⁵

A critical mission is escort of shipping that sustains military operations across the Pacific, which the current fleet of cutters is not designed to execute.⁷⁶ With appropriate modification, the current fleet of 20 National Security Cutters could be able to support this critical mission.⁷⁷ Overall, however, the wartime contribution and training routines for the U.S. Coast Guard today make it unlikely that it will contribute appreciably to combat operations.

Capability

A complete measure of naval capabilities requires an assessment of U.S. platforms against enemy weapons in plausible scenarios. The Navy routinely conducts war games, exercises, and simulations to assess this, but insight into its assessments is limited by their classified nature. This *Index* therefore assesses capability based on

Navy Ships Nearing—or Past—End of Service Life



NOTE: Figures are based on calculations through February 3, 2026.

SOURCE: U.S. Navy, Naval Sea Systems Command, Naval Vessel Register, “Fleet Size,” <http://www.nvr.navy.mil/NVRSHIPS/FLEETSIZE.HTML> (accessed February 3, 2026).

remaining hull life, mission effectiveness, payloads, and the feasibility of maintaining the platform’s technological edge.

Most of the Navy’s fleet consists of older platforms: Of its 20 classes of ships, only eight are in series production.⁷⁸ The FY 2025 shipbuilding budget of \$32.4 billion was 0.7 percent higher than the FY 2024 budget: 12.6 percent of the Navy’s budget of \$257.586 billion and a slackening of past increases that have been as high as 4.5 percent.⁷⁹ The current proposed FY 2026 budget plus the enacted reconciliation bill would represent a 22 percent increase over FY 2025 with new orders of 19 warships.⁸⁰ The following are highlights by platform.

Ballistic Missile Submarines (SSBN). The *Columbia*-class submarine will relieve the aging *Ohio*-class SSBN fleet. Because of the implications of this change for the nation’s strategic nuclear deterrence, the *Columbia*-class SSBN remains the Navy’s top acquisition priority. To ensure the continuity of this leg of the U.S. nuclear triad, the first *Columbia*-class SSBN must be delivered on time for its first deterrent patrol in 2031.⁸¹ In November 2020, the Navy signed a \$9.47 billion contract with General Dynamics Electric Boat for the first-in-class boat and advanced procurement for long-lead-time components of the second hull.⁸² The lead ship’s keel-laying ceremony occurred on

June 4, 2022.⁸³ The FY 2025 budget completes the payments for procurement of the second boat, but anticipated delays of as many as 16 months stand to jeopardize the viability of the nation's assured second strike nuclear deterrent force.⁸⁴

However, concerns persist in Congress that the U.S. Department of War may not be fully utilizing special authorities granted to the Navy to ensure that this critical program is adequately resourced. Specifically, the National Sea-Based Deterrence Fund (NSBDF) established by Congress in 2024 has saved more than \$1.4 billion using flexible funding but “has yet to utilize the core function of the NSBDF—namely, to provide increased flexibility to repurpose funds into it to buy down the fiscal impact of the program on our other shipbuilding priorities.”⁸⁵ Because this priority program is currently facing extended delays, its utility must be reviewed and its full utilization must be ensured.

Nuclear Attack Submarines (SSN). SSNs are multi-mission platforms whose stealth enables clandestine intelligence collection; surveillance; anti-submarine warfare (ASW); anti-surface warfare (ASuW); insertion and extraction of special operations forces; land attack strikes; and offensive mine warfare. The newest SSN class, the Block V *Virginia* with the Virginia Payload Module (VPM) enhancement, is important to the Navy's overall strike capacity, enabling the employment of 28 more Tomahawk cruise missiles than were employed in earlier SSN variants.⁸⁶ Construction of Block V submarines began in September 2019 with the *Oklahoma* (SSN 802) to be delivered in May 2027 and three more boats to be delivered before the end of the decade.⁸⁷ As noted previously, a limited shipyard workforce is causing this program to be delayed by as many as two years.

Aircraft Carriers (CVN). The Navy has 11 nuclear-powered aircraft carriers: 10 *Nimitz*-class and one *Ford*-class. The Navy has been making progress in overcoming nagging issues involving several advanced systems, notably advanced weapons elevators, and stemming from the *Ford*'s first operational deployment in the fall of 2022 to the North Atlantic.⁸⁸ Further bolstering confidence in this new class, the *Ford* deployed to the Mediterranean in May 2023 to sustain a persistent carrier presence there following Russia's February 2022 invasion of Ukraine.⁸⁹ The *Ford* began a planned deployment cycle in June 2025 and has conducted allied naval operations in the high North Atlantic region.⁹⁰

The second ship in this class, the *John F. Kennedy* (CVN 79), was christened on December 7, 2019, but its scheduled delivery to the Indo-Pacific theater has slipped from 2022 to 2027 to support late modifications for fifth-generation fighters like the F-35; the Navy's carrier fleet will drop to 10 during 2026–2027.⁹¹ The most recent reporting indicates that the *Kennedy* will arrive at its new homeport, Naval Base Kitsap in Bremerton, Washington, no earlier than FY 2029.⁹² The *Kennedy* is to be followed by the *Enterprise* (CVN 80), which is in early construction with delivery planned for 2028.

The U.S. lead in this category of naval power may be waning as China completes construction of its first super carrier. As the U.S. Navy struggles to build, maintain, and crew a fleet of 11 aircraft carriers, China is rapidly catching up both in numbers and in platform capability. Its newest carrier, the Type-003, like the *Ford*-class, will utilize electromagnetic catapults that give its air wing greater range and sortie rates, thus significantly narrowing the capability gap.⁹³ The Type-003 is China's second indigenously built carrier and a significant engineering milestone. There had been renewed emphasis on having the ship delivered before the October 2022 Chinese Communist Party (CCP) Congress,⁹⁴ and after a sprint by the shipyard, the new 80,000-ton Type-003 aircraft carrier was launched in June 2022.⁹⁵ U.S. Department of Defense reporting indicated that the Type-003 would enter service in 2025; the first two carriers have engaged in routine deployments and intimidation operations against Taiwan.⁹⁶

In a further indication of the rising threat to American naval dominance, speculation has mounted over a new Type-004 super carrier spotted in satellite imagery under construction in Dalian shipyard, potentially nuclear powered, and with up to four electromagnetic catapults, matching the *Ford* class.⁹⁷ China's growing naval aviation and aircraft carrier capabilities place added stress on U.S. naval aviation and air defenses.

Large Surface Combatants. The Navy's large surface combatants consist of the *Ticonderoga*-class cruiser, the *Zumwalt*-class destroyer, and the *Arleigh Burke*-class destroyer. The President's FY 2024 budget decommissioned five aged *Ticonderoga*-class cruisers.⁹⁸ Current plans had the Navy decommissioning four more cruisers in FY 2025, decommissioning another three the next

year, and retiring the final two in 2027.⁹⁹ These decommissionings represent a significant decrement of the Navy's sea-launched firepower with the loss of a total of 1,342 vertical launch tubes. Attempts to repurpose or extend the life of the aging *Ticonderoga*-class cruisers has not progressed after years of deferred upgrades and past incomplete maintenance.¹⁰⁰

Since publication of the *2024 Index*, the Navy has added four *Arleigh Burke*-class DDG 51 destroyers, bringing the total on active duty in the fleet to 74. In 2008, the Navy declined to pursue a new cruiser to provide air and missile defense for carrier strike groups, choosing instead to pursue a final iteration of the *Arleigh Burke* class, Flight III.¹⁰¹ This will remain a stopgap measure until a more capable new destroyer, the DDG(X), joins the fleet, probably in the next decade. The DDG(X) will include the capability to launch long-range hypersonic strike missiles in new larger vertical launching system (VLS) cells.¹⁰²

The Navy's other modern destroyer, the *Zumwalt* class, was never intended as a cruiser replacement and continues operations and testing to employ it as a long-range strike platform. The *Zumwalt* class was envisioned as bringing advanced capabilities to the fleet, but the program has suffered technological problems and cost overruns, and the Navy has ended future procurement. The three that have already been purchased and are being built include the *Zumwalt* (DDG-1000) and *Michael Monsoor* (DDG-1001), which have been commissioned into service, and the *Lyndon B. Johnson* (DDG-1002), which is completing checks and installation of hypersonic missile capable-VLS.¹⁰³ In September 2022, the *Zumwalt* had conducted its first (albeit truncated) deployment to Seventh Fleet's Western Pacific area of operations.¹⁰⁴ The *Michael Monsoor* has completed combat system installation, and the Navy had been planning to deploy her to the Western Pacific by the end of 2025.¹⁰⁵

To reach 355 ships by 2034, the Navy plans several class-wide service life extensions, notably the extension of the DDG-51-class's service life from 35 to 40 years and modernization of older hulls. The FY 2020 budget included \$4 billion for modernization of 19 destroyers from FY 2021 through FY 2024.¹⁰⁶ Since publication of the *2024 Index*, the Navy has expanded this to a 20-ship \$17 billion modernization plan that includes a major electronic warfare

upgrade (AN/SLQ-32(V)7 Block III). The first destroyer undergoing this upgrade is the *Pinkney*, which was nearing completion in late 2024, to be followed by *James E. Williams* (DDG-95); *Chung Hoon* (DDG-93); and *Halsey*.¹⁰⁷ These electronics and sensor upgrades would be critical for combat operations in the Western Pacific against China's modern military.

Small Surface Combatants. The Navy's small surface combatants consist principally of the *Avenger*-class mine countermeasures (MCM) ship; the Littoral Combat Ship (LCS); and the *Constellation*-class frigate (FFG), which began production in 2021. In January 2021, the Navy halted production of the mono-hull LCS *Freedom* variant until issues involving the design of its propulsion system could be resolved. After that decision was made, in April 2023, the final *Freedom* variant was launched.¹⁰⁸ In the meantime, the top speed of affected ships (currently 40-plus knots) is reportedly limited to 34 knots.¹⁰⁹ Under the Navy's FY 2020 30-year shipbuilding plan, the fleet of 23 LCSs was expected to grow to 34 and be joined by 18 frigates by FY 2034.¹¹⁰ Since then, the Navy has reversed course and terminated the LCS anti-submarine mission module program (10 units originally planned) and plans to decommission the remaining nine *Freedom* mono-hull variants.¹¹¹

On August 20, 2020, the Navy decommissioned three of its aging *Avenger*-class MCM ships, leaving eight in service overseas in Sasebo, Japan, and Manama, Bahrain. These represent the only ship class dedicated to countering the mine threat.¹¹² The current long-range shipbuilding plan confirms that the Navy intends to operate four of these aged MCMs through FY 2027; four MCMs based in Bahrain are to be decommissioned in FY 2025.¹¹³

As the MCMs are retired, the Navy is relying on the development of LCS mine countermeasure mission packages to provide this capability. At an April 2022 webinar, the CNO indicated that these mission modules were on track to reach initial operational capability (IOC) by the end of 2022.¹¹⁴ Since then, the Navy has canceled its ASW mission modules because of insurmountable engineering challenges, and on May 1, 2023, it announced that the MCM modules had achieved IOC.¹¹⁵ In March 2025, two LCS (*Santa Barbara* and *Canberra*) deployed for the first time with operational ASW mission modules.¹¹⁶ In an unanticipated move, the

Navy began to arm LCS with the naval strike missile, giving these ships a long-range anti-ship capability that they had lacked despite notable operations by the class in the South China Sea.¹¹⁷ On December 9, 2021, the San Diego–based *Independence*-variant *Oakland* received this new capability.¹¹⁸

Installation and procurement of surface warfare modules and associated surface-to-surface missile modules (LCS SSMM) are progressing; the procurement of 18 LCS SSMM planned for FY 2024 included offensive and defense systems and associated munitions.¹¹⁹ In fall 2024, the Navy executed a rapid upgrade to the LCS SSMM capable of countering unmanned aircraft systems (C-UAS) drones. The Navy stated that “[r]ecent events in the U.S. 5th Fleet Area of Responsibility (AoR) underscore the importance of equipping our warships with up-to-date C-UAS systems to keep emerging threats at bay.”¹²⁰

Rather than procuring additional LCS, the Navy has been focused on a new frigate. On April 30, 2020, the Navy awarded Fincantieri a \$795 million contract to build the lead ship of the new *Constellation*-class frigate at its Marinette Marine shipyard in Wisconsin based on a proven design that is currently in service with the French and Italian navies.¹²¹ Plans are for the frigate to perform as a multi-mission warship with 32 VLS cells, as many as 16 containerized naval strike missiles (NSM), and one helicopter.¹²² In June 2023, 90 percent of functional design and 80 percent of detail design work had been completed despite construction having already begun, adding risk to the program that is now seen in delays and cost increases.¹²³

In May 2021, the Navy contracted for the second ship in the class, the USS *Congress* (FFG-63).¹²⁴ The Navy purchased a third ship in FY 2022 with a total of six procured through FY 2024. The plan is for 20 frigates built at two shipyards,¹²⁵ but the Navy has yet to decide on a second shipyard to begin construction of frigates that was supposed to begin in FY 2023.¹²⁶ Early in 2024, the Secretary of the Navy directed a 45-day shipbuilding review in large part because of reports of significant delays with the frigate program; the review confirmed a three-year delay with delivery likely in 2029.¹²⁷

Amphibious Ships. Then-Commandant of the Marine Corps General David Berger issued his “Commandant’s Planning Guidance” in July 2019 and “Force Design 2030” in March 2020. Both documents signaled a break with past Marine Corps

requests for amphibious lift, specifically moving away from the requirement for 38 amphibious ships to support an amphibious force of two Marine Expeditionary Brigades (MEB).¹²⁸ The Commandant envisioned a larger yet affordable fleet of smaller, low-signature amphibious ships—the Landing Ship Medium (LSM)¹²⁹—that enable littoral maneuver and associated logistics support in a contested theater.¹³⁰ As of February 2026, the Secretary of the Navy had indicated that he intends to cancel the *Constellation*-class frigate.

However, the amphibious fleet remains centered on fewer large ships, and the Commandant’s vision still remains years away from being realized with Congress holding the line at “not less than 31 operational amphibious warfare ships.”¹³¹ The Marine Corps did not provide an annual report in 2024 regarding the progress of Force Design 2030, but the Commandant of the Corps did commit to the effort on May 16, 2024, before Congress.¹³² The reconciliation bill passed on July 3, 2025, included orders for nine Medium Landing Ships (formerly known as the LSM), which are intended to meet Marine Corps requirements for littoral regiments operating in the first island chain.¹³³ Regardless of such commitments, however, until the Navy can provide the Marine Corps with needed sealift, whether Force Design will be fully implemented will remain an open question.

The Navy’s Future Naval Force Study (FNFS)¹³⁴ and December 2020 30-year shipbuilding plan acknowledged the growing importance of the LSM, which will have to be produced rapidly and in sufficient numbers to actualize the naval forces’ distributed concepts of operations (for example, Marine Littoral Regiments and Distributed Maritime Operations). The need for 18 LSM was further affirmed in June 2023 with the most recent Battle Force Ship Assessment and Requirement (BFSAR), also called Force Design 2045.¹³⁵

According to the most recent long-range shipbuilding plan, issued in March 2024, the Navy is developing the LSM. This is a change from plans referenced in the *2024 Index* to purchase the first LSM in FY 2025.¹³⁶ The Marine Corps had intended to have the ship under contract by the summer of 2022, but because of delays, it has begun to use alternative platforms to train and work out operational concepts so that it will be ready when the ship eventually is delivered.¹³⁷

As of October 1, 2025, the Navy had nine amphibious assault ships in the fleet (seven *Wasp*-class LHD and two *America*-class LHA); 13 amphibious transport docks (LPD); and 10 dock landing ships (LSD).¹³⁸ The FY 2021 budget included \$250 million in additional funds to accelerate construction of LHA-9 following the July 2020 catastrophic fire on *Bonhomme Richard* (LHD-6).¹³⁹ The decision to decommission the damaged ship further exposed limitations in shipyard capacity, as repairs would have had a negative effect on other planned shipbuilding and maintenance.¹⁴⁰

In December 2022, construction began on the USS *Fallujah* (LHA-9), which, like the *Bonhomme Richard*, is to be configured for F-35B joint strike fighters and MV-22 Osprey tilt-rotor aircraft at a cost of \$2.4 billion.¹⁴¹ The employment of advanced F-35B fighter jets is limited to two *America*-class amphibious warships (one homeported in Japan) and is a critical capability against Chinese advanced weapon systems.¹⁴²

The Navy's LSDs, the *Whidbey Island*-class and *Harpers Ferry*-class amphibious vessels, are scheduled to reach the end of their 40-year service lives beginning in 2025. The USS *Harrisburg* (LPD-30), Flight II of the *San Antonio*-class Landing Platform Dock amphibious ships, began construction in April 2020 and when delivered will be the first of 13 ships to replace the legacy LSD ships. The 12th Flight I *San Antonio*-class ship (LPD 28) was delivered six months later than reported in the *2022 Index*.¹⁴³ LPD-32 is the most recently purchased of the 13 originally envisioned *San Antonio*-class Flight IIs.

Decisions made in 2014 and 2018 committed the Navy to building less capable and cheaper Flight II LPDs to replace the aging *Harpers Ferry*-class and *Whidbey Island*-class amphibious warships.¹⁴⁴ The Marine Corps has sought procurement of LPD-33 and had kept it at the top of its unfunded requirements list.¹⁴⁵ A three-way dispute involving the then-Secretary of Defense's staff, the Navy, and the Marine Corps over the future of the large amphibious warship fleet remains contentious and unresolved,¹⁴⁶ but three of these Flight II two LPDs are nevertheless currently under contract.¹⁴⁷

Unmanned Systems. The Navy does not include unmanned ships when counting the size of its battle force. Previous long-range shipbuilding plans envisioned the purchase of 13 Large Unmanned Surface Vessels (LUSV); one Medium Unmanned

Surface Vessel (MUSV); and eight Extra Large Undersea Unmanned Vessels (XLUUV) by FY 2026.¹⁴⁸ That plan has been shelved, but the Navy continues to test and evaluate numerous prototype unmanned platforms.

The FY 2025 budget deferred procurement of LUSV for two years to FY 2027 with procurement increasing to three per year by FY 2029.¹⁴⁹ On May 18, 2021, an experimental LUSV, the *Nomad*, transited the Panama Canal on its way to Surface Development Squadron (SURFDESRON) 1 based in California.¹⁵⁰ SURFDESRON 1 operates MUSV *Sea Hunter* prototypes, LUSV, and the *Zumwalt* destroyer to advance the Navy's unmanned surface warship capabilities.¹⁵¹ Since publication of the *2024 Index*, the Navy has continued to make notable progress with its unmanned fleet to include a months-long deployment to the Western Pacific with stops in Japan, Guam, and Australia by a flotilla of four unmanned vessels.¹⁵²

The Navy reached a significant milestone in September 2021 when its small fleet of unmanned surface ships launched and hit a target with an SM-6 interceptor missile.¹⁵³ After years in a laboratory and in controlled at-sea navigational tests, unmanned ships are now deploying in operational settings. That same month, Task Force 59, based in the Persian Gulf and comprised of smaller unmanned drones and vessels, conducted International Maritime Exercise 2022 (IMX22), an exercise in the Red Sea that involved 10 nations and more than 80 unmanned platforms.¹⁵⁴ In a sign of growing confidence, the Navy announced that it will establish a similar unmanned vessel task force at Fourth Fleet based in Mayport, Florida.¹⁵⁵ While reporting does not indicate that this task force has been established, Fourth Fleet has conducted its first manned-unmanned platform exercise called Southern Spear to refine tactics important in monitoring and interdicting such illicit maritime activities as drug trafficking and illegal fishing.¹⁵⁶

Logistics, Auxiliary, and Expeditionary Ships. Expeditionary support vessels are highly flexible platforms of two types: those that are used for prepositioning and sustaining forward operations and others that are used for high-speed lift in uncontested environments. The Navy has five of the former (Expeditionary Sea Base [ESB] vessels) and 14 of the latter (shallow-draft Expeditionary Fast Transport [EPF] vessels).

In March and April 2022, ESB *Hershel Williams* (ESB 4) demonstrated the versatility of these ships during maritime security missions with African coast guards and navies. In August 2021, it conducted a counter-piracy exercise with the Brazilian navy. At the same time, China was attempting to secure a base in Equatorial Guinea.¹⁵⁷ The Navy christened ESB 6, USNS *John L. Canley*, on June 25, 2022.¹⁵⁸ ESB 7, USNS *Robert E. Simanek*, began construction in San Diego, California, with its keel laid in October 2021.¹⁵⁹ *Canley* entered service with the Navy on February 17, 2024, and *Simanek* joined the fleet on September 12, 2024.¹⁶⁰

With their shallow draft and versatile cargo capacity, EPFs offer unique capabilities that are well suited to austere but uncontested waters. Specifically, these ships can transport 600 short tons of military cargo (for example, main battle tanks) 1,200 nautical miles at 35 knots. In March 2021, the Navy revised its contract with Austal USA for \$235 million to modify EPF 14 and the future EPF 15 to enable them to serve as high-speed hospital ships with the capability of embarking a V-22 tilt-rotor aircraft.¹⁶¹ The keel for EPF 14 configured as a hospital ship was laid on January 26, 2022, and construction of EPF 15 in the same configuration commenced the same month.¹⁶² EPF 14, USNS *Cody*, was launched on March 20, 2023, and as of January 11, 2024, was in active service with the Military Sealift Command.¹⁶³

The Navy's Combat Logistics Force (CLF) includes dry-cargo and ammunition ships (T-AKE); fast combat support ships (T-AOE); and oilers (AO). The CLF provides critical support, including at-sea replenishment, that enables the Navy to sustain the fleet at sea for prolonged periods. The Navy's future oiler *John Lewis* (T-AO 205) was procured in 2016 and launched five years later on January 12, 2021; 20 ships of this class are planned.¹⁶⁴ However, because of a flooding incident at the graving dock, delivery of *John Lewis* was delayed, and this caused cascading delays of 12 to 15 months in construction of the second through sixth ships.¹⁶⁵ The lead ship of the class, *John Lewis*, was delivered to the Navy in July 2022¹⁶⁶ and conducted its first at-sea refueling in March 2025.¹⁶⁷ As of February 24, 2026, four oilers of this class had been delivered.¹⁶⁸

The capability of oilers has increased in importance since Secretary of Defense Lloyd Austin's March 7, 2022, decision to dismantle Red Hill fuel

storage facilities in Hawaii. A plan specifying how the Navy will mitigate the loss of these massive Pacific fuel storage facilities was due by May 31, 2022, but details are scant.¹⁶⁹ Given the delays in construction of oilers and the increased demand for them without Red Hill, it remains unlikely that the Navy could meet the fleet's operational energy needs in a high-tempo crisis.¹⁷⁰ This risk was made clear on September 25, 2024, by the grounding of the oiler *Big Horn* and its impact on combat operations against the Houthis by the *Abraham Lincoln* carrier strike group, which was being supported by the *Big Horn*.¹⁷¹

Strike Platforms and Key Munitions. The FY 2025 budget continues the Navy's focus on long-range offensive strikes launched from ships, submarines, and aircraft. A notable capability enhancement, Conventional Prompt Strike (CPS), a maneuverable hypersonic non-nuclear weapon for long-range strikes, was set to deploy initially in FY 2025 on the *Zumwalt*-class destroyer but has been delayed until FY 2027.¹⁷² Block V Maritime Strike Tomahawk (MST) kits with improved targeting procurement are entering their sixth year.¹⁷³ In late 2024, the Navy revealed its plan to procure 1,345 of these anti-ship cruise missiles.¹⁷⁴

To counter the threat posed by the Chinese PL-15 long-range air-to-air missile, which has an operational range of 186 miles, the Navy is working with the Air Force to develop the AIM-120 Advanced Medium-Range missile, the operational range of which has not been made public.¹⁷⁵ In March 2021, the Air Force reported a record long-range kill of a drone target by this developmental missile from one of its F-15C fighters.¹⁷⁶ Development of such a capability appears to be progressing. The Navy and Air Force are working on an extended range AIM-120E missile, and photos online point to even more capable weapons like the so-called AIM-260 or the modified SM-6 for air launch called the AIM-174B.¹⁷⁷

Shore-Based Anti-Ship Capabilities. Following the August 2019 U.S. withdrawal from the Intermediate-Range Nuclear Forces (INF) Treaty, new intermediate-range (500–1,000 miles) conventional ground-launched strike options became politically viable. This is especially important in Asia where such capable missiles deployed to the first island chain would have great relevance in any conflict with China. In March 2025, the Secretary of Defense announced the Marine Corps' deployment

to the Philippines of an anti-ship land launch cruise missile, the Naval Strike Missile (NSM) known as NMESIS, with its sensors and launcher.¹⁷⁸ The development of such capabilities is driven by the need to hold at risk China’s rapidly modernizing and growing Navy.

A first step was taken with the FY 2020 budget that included \$76 million to develop ground-launched cruise missiles.¹⁷⁹ The FY 2021 budget included an additional \$59.6 million to procure 36 ground-based anti-ship missiles.¹⁸⁰ Confidence spiked when a photo of the launch of a U.S. Marine Corps truck-mounted Naval Strike Missile—ostensibly part of NMESIS—was released in April 2021.¹⁸¹ The FY 2023 budget funded low-rate initial production of 115 Naval Strike Missiles and associated development of Marine Corps platoon-level targeting systems.¹⁸² The FY 2025 budget continues to support procurement of these weapon systems: 12 NSM missiles for the Navy and 90 for the Marine Corps along with 22 shore-launched tactical Tomahawk missiles.¹⁸³ Ukraine’s use of shore-based anti-ship missiles to sink Russia’s Black Sea flagship, the *Moskva*, in April 2022 has sparked renewed interest in such systems.

Electronic Warfare (EW). The purpose of electronic warfare is to control the electromagnetic spectrum (EMS) by exploiting, deceiving, or denying its use by an enemy while ensuring its use by friendly forces. It is therefore a critical element of successful modern warfare. The final dedicated EW aircraft, the EA-18G Growler, was delivered in July 2019, meeting the Navy’s requirement to provide this capability to nine carrier air wings (CVW), five expeditionary squadrons, and one reserve squadron.¹⁸⁴ Anticipating the EA-18G’s retirement in the 2030s, the Navy has been exploring follow-on manned and unmanned systems, but no new developments have been reported since publication of the *2024 Index*.¹⁸⁵ To ensure that the EA-18G remains relevant on the battlefield until 2030, an anticipated upgrade or Block II modification with the improved Next Generation Electronic Attack Unit (NGEAU) is being pursued. A significant enhancement of the Navy’s electronic warfare capability—IOC and combat use of a new jammer, AN/ALQ-249(V)1 (NGJ-MB)—was achieved in 2024.¹⁸⁶

The Navy’s earlier proposal to retire all of its expeditionary electronic attack squadrons by FY 2025 came as a surprise.¹⁸⁷ Unless there is a replacement

capability, retirement of these aircraft removes the EW coverage provided by these units from forward airfields, shifting the support burden to nearby naval platforms and the other services. Given this uncertainty, Congress stipulated in the FY 2023 NDAA that the Secretary of the Navy may not retire an EA-18G aircraft until September 30, 2027, and required that no later than 180 days after the NDAA’s enactment, “the Secretary of the Navy and the Secretary of the Air Force shall jointly submit to the congressional defense committees a report that includes a strategy and execution plan for continuously and effectively meeting the airborne electronic attack training and combat requirements of the joint force.”¹⁸⁸ The status of that report is unknown, and the most recent Defense Department Strategic Management Plan includes few details.¹⁸⁹

Air Early Warning. The E-2D forms the hub of the Naval Integrated Fire Control Counter Air (NIFC-CA) system and provides critical theater air and missile defense capabilities. The Navy’s FY 2021 budget supported the procurement of four aircraft with an additional 10 to be procured over the following two years.¹⁹⁰ The FY 2023 budget completed this plan by including procurement of the final five new E-2D aircraft, which are important air control platforms.

High Energy Laser (HEL). More than a year of sustained naval combat operations against the Houthis, who have used drones and cruise missiles to attack vessels in the Red Sea, has demonstrated the value of laser defense systems. These HEL systems provide the potential to engage targets or shoot down missiles without being limited by how much ammunition can be carried onboard ship. An early milestone was achieved when USS *Portland* (LPD-27) used its HEL Weapon System Demonstrator to shoot down an unmanned aerial vehicle (UAV) over the Pacific on May 16, 2020.¹⁹¹ This was followed by the Navy’s decision to begin installation of a HEL system—the 60 kW High-Energy Laser with Integrated Optical Dazzler and Surveillance (HELIOS)¹⁹²—on destroyers in 2021 beginning with the USS *Preble*.¹⁹³

HELIOS is a scalable laser system that is integrated into the ship’s weapons control and radar systems and can dazzle and confuse threats, disable small boats, or shoot down smaller air threats. The Navy’s FY 2024 budget sustained the installation of HELIOS on the USS *Preble* and development of a

100 kW HEL demonstrator system on the USS *Portland*.¹⁹⁴ The FY 2025 budget continues modest investments in this capability: \$5.7 million to include at-sea testing on *Preble*.¹⁹⁵

In April 2022, the Navy demonstrated the ability of its Layered Laser Defense HEL system to shoot down a drone simulating a cruise missile.¹⁹⁶ Successful tests of this sort and the ongoing deployment of HELIOS on the destroyer *Preble* will be followed by installation of a much stronger 100 kW laser on *Portland* (LPD-27) that approaches the power needed for missile defense.¹⁹⁷ However, until field testing against meaningful threat platforms is conducted across a range of weather conditions, the effectiveness of such systems will remain unproven. This effort is further complicated by the Navy's lack of a range on which to test these systems under real-world combat conditions until the Army's White Sands Missile Range updates are completed.¹⁹⁸

Command and Control. Networked communications are essential to successful military operations. The information passed over these networks includes sensitive data on such subjects as targeting and logistics, and this makes cyber security, communications, and the information systems that generate and relay this information critical elements of the War Department's information enterprise.

On October 1, 2020, the CNO signed two memos establishing Project Overmatch. The goal of Project Overmatch was to achieve situational awareness and effective command and control of a geographically dispersed naval force. In his two memos, the CNO directed that investments be made to deliver network architectures, unmanned capabilities, and data analytics to ensure that the Navy can operate and dominate in a contested environment.¹⁹⁹ The CNO also directed the Navy to leverage related Air Force efforts on the Joint All-Domain Command and Control program (JADC2),²⁰⁰ now a Joint Force effort involving all of the military branches.

Remarkably, despite the significance of this effort, little has been publicly released on Project Overmatch. It is known to involve three classified funding lines with initial deployment or program capabilities slated for 2023, but no updates have been provided.²⁰¹ In unofficial venues, it has been hinted that the first platform to employ JADC2 capabilities will be an aircraft carrier, but public statements indicate that the objective is to connect all platform data flows from across the U.S. Joint Force

(potentially including partner forces), analyze them for classification, and make predictive targeting recommendations.

Since those reports in 2023, there has been no verified reporting to indicate that this deployment has occurred, although Rear Admiral Doug Small, Commander of Naval Information Warfare Systems Command, declared in April 2024 that the Navy "is ahead of the [CNO's] objectives" for Project Overmatch.²⁰² If successful, artificial intelligence paired with resilient communications and "big data" analytics might enable a key element of Distributed Maritime Operations (DMO).

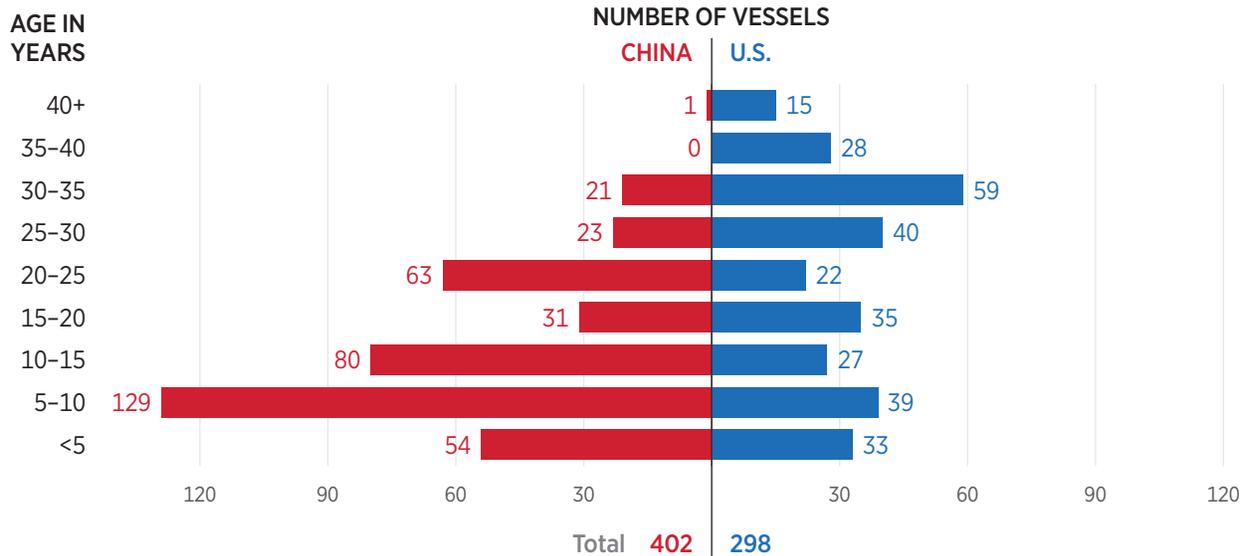
Readiness

In the 1980s, the Navy had nearly 600 ships in the fleet and kept roughly 100 (17 percent) deployed at any one time. On February 2, 2026, the fleet's OPTEMPO was 19.5 percent. With fewer ships carrying an unchanging operational workload, training schedules become shorter and deployments become longer. The commanding officer's discretionary time for training and crew familiarization is a precious commodity that is made scarcer by the increase in operational demands on fewer ships.

FY 2019 marked the first time in 10 years (and the last as of this edition of the *Index*) that DOD and the Navy did not have to operate under a continuing resolution for at least part of the fiscal year.²⁰³ Having a full fiscal year to plan and execute maintenance and operations helped the Navy to continue on its path to restoring fleet readiness. CNO Admiral John Richardson explained to the Senate Armed Services Committee in April 2018 that it would take until late 2021 or 2022 to restore fleet readiness to an "acceptable" level if adequate funding was maintained; without "stable and adequate funding," it would take longer.²⁰⁴ Unfortunately, the Navy began FY 2020 under another continuing resolution that delayed planned maintenance for the USS *Bainbridge* (DDG 96) and USS *Gonzalez* (DDG 66), revealing yet again that for the Administration and Congress, the need to correct deficiencies in America's naval power was not enough to ensure that they delivered a budget on time.²⁰⁵

Given this recent history and the demands of unplanned and urgently needed ship repairs brought about by such incidents as the October 2021 grounding of the submarine *Connecticut*, the Navy remains deficient in its ability to return ships to sea.

Comparison of Chinese and U.S. Naval Fleets in the Pacific



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Impact of COVID-19. The eruption of the COVID-19 pandemic in 2020 caused many problems for the U.S. Navy. The USS *Theodore Roosevelt* (CVN 71), for example, was forced to quarantine for 55 days in Guam; the major biannual international Rim of the Pacific Exercise (RIMPAC) was scaled down; 1,629 reservists were called to active duty to backfill high-risk shipyard workers conducting critical maintenance; and the Navy was restricted to using “safe haven” COVID-free ports. In May 2020, the CNO said that “shipyards saw productivity drop to about 70 percent during March and April because many of the workers there are older and more vulnerable to the COVID-19 disease.”²⁰⁶

Given vaccination rates and the ebbing danger, the Navy appears to be past the COVID epidemic, and its response to account for and mitigate the

effects of COVID-driven restrictions has been a success overall. According to the Navy’s February 10, 2023, final COVID report, total cumulative COVID cases among active-duty uniformed Navy personnel numbered 109,310 with 17 deaths, 3,350 unvaccinated servicemembers remaining on active duty, and a total of 1,878 sailors separated for refusing the vaccine.²⁰⁷ Previous reporting indicated that 214 religious waivers were granted. Ideally, the Navy would implement lessons learned from this experience to prepare for future pandemics and biological attacks, but there is as yet little evidence that the service has conducted such a study, implemented new pandemic guidelines, or sought new capabilities to combat a future pandemic.

Maintenance and Repairs. Naval Sea Systems Command completed its Shipyard Optimization

Total Launch Capacity for Long-Range Strike or Anti-Ship Missiles

CATEGORY	U.S.	CHINA	ADVANTAGE %
Anti-Ship/Strike Missiles	9,194	3,782*	U.S. 158%
Torpedo Tubes	288	476	China 65%
Submarine Launched Ballistic Missiles	280	72	U.S. 289%
Troop Transport	30,623	16,640	U.S. 84%
Fixed Wing Aircraft	857	131	U.S. 554%

* Includes 550 launchers for DF-21D (CSS-5 mod 5); DF-26 (CSS-18); and DF-27 (under development).

NOTES: For U.S. vertical-launch systems, figures shown above assume all cells are carrying long-range strike weapons; actual load-out of strike weapons would be less because ships would have significant additional air and missile weapons loaded. For troop transport, figures reflect totals only for naval amphibious warships and do not include repurposed commercial shipping vessels.

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and Recapitalization Plan in September 2018.²⁰⁸ Seven years later, the improvement of public shipyard capacities is not progressing as rapidly as it should. According to the Navy’s Shipyard Infrastructure Optimization Program (SIOP), as of August 2025, “[n]early 50 facilities projects, valued at more than \$1 billion, [had] been completed,” “[o]ver 300 items of industrial plant equipment, valued at \$700 million, [had] been delivered,” and “[n]early 50 construction projects, valued at over \$6 billion, [were] in progress, including three new dry docks.” In addition, “Pearl Harbor’s dry dock project will add a Virginia-class submarine dry dock capability in the Pacific Ocean.”²⁰⁹

Attempts by Congress to accelerate this effort have not been effective.²¹⁰ At a May 10, 2022, Senate hearing, it became apparent both that the original costs were significantly underestimated and that timelines were slipping. There was measured improvement in 2024 with 67 percent of warship maintenance being completed on time, up from 41 percent in 2023 and 36 percent in 2022,²¹¹ but a

January 2025 GAO report emphasizes such “persistent challenges” as “limited spare parts, a lack of sufficient and qualified maintenance personnel, and a continual need to defer maintenance.”²¹² Overall, the capacity to sustain the fleet remains far from adequate.

Training, Ranges, and Live-Fire Exercises. Ship and aircraft operations and training are critical to fleet readiness. The Navy has sought to meet fleet readiness requirements by funding 58 underway days for each deployed warship and 24 underway days for each non-deployed warship per fiscal quarter.²¹³ As the Navy’s limited fleet must contend with a daunting Chinese fleet, wartime contributions from the U.S. Coast Guard will have greater importance. However, GAO audits indicate that defense readiness is a consistently low priority. Between 2011 and 2020, the Coast Guard devoted only 4 percent of its operational hours to defense readiness at an average of 7 percent of total operational expense.²¹⁴

As the *Big Horn* grounding makes clear, the Navy relies on logistics ships crewed by U.S. merchant

mariners. But here too there is high risk; due to a lack of ready merchant mariners, the Military Sealift Command has idled 17 logistics ships (oilers and dry-stores ships). To ensure that it is ready for a potential war in the Pacific, the nation will need a ready naval force to include the Navy, Coast Guard, and Merchant Marine.²¹⁵

To improve warfighting proficiency, the Navy is expanding and updating instrumentation of the training range at Naval Air Station Fallon, Nevada, to enable practice with the most advanced weapon systems.²¹⁶ The National Defense Authorization Act for Fiscal Year 2023 details the way ahead with expectations of future resourcing to achieve the needed improvements.²¹⁷ This training range fits into the larger five-year Pacific Deterrence Initiative (PDI) that, led by Indo-Pacific Command, is intended partly to transform the way the Navy trains for high-end conflict and improve training with U.S. allies in the Pacific.²¹⁸

Of particular importance to the Navy are PDI investments to modernize the Pacific Missile Range Facility (PMRF); the Joint Pacific Alaska Range Complex (JPARC); and the Combined/Joint Military Training (CJMT) Commonwealth Northern Mariana Islands in order to improve training for operations across all domains: air, land, sea, space, and cyber.²¹⁹ To this end, the FY 2025 request for PDI amounts to \$9.9 billion, which includes funding to improve training and testing ranges such as those in Guam, Alaska, and Kwajalein Atoll.²²⁰ This continues the FY 2024 budget's \$9.1 billion for PDI (\$3 billion more than in FY 2023). Especially important are long lead time infrastructure projects in Guam and Tinian in the northern Marianas.

Finally, not forgotten are the 2017 collisions of the USS *John S. McCain* (DDG 56) and USS *Fitzgerald* (DDG 62) in which 17 sailors were lost. Findings

of the subsequent investigations, which highlighted the importance of operational risk management and unit readiness, remain relevant.²²¹ To ensure that these tragic events are not repeated, the Secretary of the Navy's *Strategic Readiness Review* made several broad institutional recommendations:

- “The creation of combat ready forces must take equal footing with meeting the immediate demands of Combatant Commanders.”
- “The Navy must establish realistic limits regarding the number of ready ships and sailors and, short of combat, not acquiesce to emergent requirements with assets that are not fully ready.”
- “The Navy must realign and streamline its command and control structures to tightly align responsibility, authority, and accountability.”
- “Navy leadership at all levels must foster a culture of learning and create the structures and processes that fully embrace this commitment.”²²²

A reminder that the above recommendations remain relevant was the October 2021 grounding of the submarine *Connecticut* in the South China Sea and the September 2024 grounding of fleet oiler *Big Horn*. The subsequent investigation found that the *Connecticut* incident was avoidable even while operating in poorly surveyed waters—a reminder of the risk as well as the vigilance required at sea.²²³ As of the time this edition of the *Index* was being prepared, the Navy has not made public any statement regarding the causes of or remedies for the conditions that contributed to the grounding of *Big Horn*.

Scoring the U.S. Navy

Capacity Score: Very Weak

This *Index* assesses that the Navy needs a battle force consisting of 400 manned ships to do what is expected of it today. The Navy's current battle force fleet of 287 ships and intensified operational tempo combine to reveal a service that is much too small relative to its tasks. Contributing to a lower assessment is the Navy's persistent inability to arrest and reverse the

continued diminution of its fleet as adversary forces grow in number and capability. If it continues on its current trajectory, the Navy will shrink further to 280 ships by 2027. Depending on the Navy's ability to realize aggressive growth, reverse early decommissioning plans, increase its end strength, and develop creative service life extensions, its capacity score will probably remain “very weak” for the foreseeable future.

Capability Score: Marginal

The Navy's overall capability score remains "marginal" with downward pressure as the Navy's technological edge narrows against peer competitors China and Russia. The combination of a fleet that is aging faster than old ships are being replaced and the rapid growth of competitor navies with modern technologies has only intensified the danger for U.S. naval power. Without meaningful progress in fielding systems that are able to defend against an array of threats, greater integration of unmanned systems into the fleet, and development of a family of new long-range weapons, especially in air-to-air combat, the Navy's capability score could well decline to "weak" in the next *Index*. However, the Navy appears to be poised for rapid progress, at least with unmanned systems, with the standing up of operational units in Fourth Fleet and Third Fleet.

Readiness Score: Very Weak

The Navy's readiness score is decremented to "very weak." This is due to the Navy's persistent struggle to recapitalize antiquated, inadequate maintenance infrastructure and expand its shipyard workforce to meet current needs. The effectiveness of training and exercises measured against China will be an increasingly critical metric in this score, with particular importance assigned to how the Navy applies combat lessons from the Red Sea to a war against China. Finally, the decrement to "very weak" is due in large part to the sidelining of 17 logistic ships that are critical to sustaining combat operations. Should current positive trends in recruitment continue, added emphasis on fleet-level exercises be realized, and operational lessons from combat in the Red Sea be implemented across the Navy for a China threat, then this score will begin to trend upward. But achieving this needed improvement will require considerable Department of War and congressional action in the near term.

Overall U.S. Navy Score: Weak

The Navy's overall score in the *2026 Index* remains "weak," driven by lower scores in capacity and readiness. To correct this trend, the Navy will have to eliminate several readiness and capacity bottlenecks while seeing to it that America has an operational fleet with the numbers and capabilities postured to counter Russian and Chinese naval advances. There is added urgency given both that

China is aggressively posturing itself to obtain maximum advantage over Taiwan and that it will be several years before the U.S. Navy's efforts to improve itself can achieve the desired results.

Policy Recommendations

As already stated, resources in the form of budgets are critical but alone will not improve the Navy's capacity, capability, and readiness to win the next major war—a war that by all accounts appears to be becoming more and more likely with China over the fate of democratic Taiwan. This potential as well as the Chinese Communist Party's military threat must inform action to put more firepower in Asia by 2027. With this in mind, the United States needs to:

- **Reestablish First Fleet** focused on waging a maritime counterinsurgency in the South China Sea, bolstering the U.S. military presence and access that are needed to sustain a prolonged wartime effort, and provide oversight to accelerate the arrival of the first American submarine at HMAS Stirling as part of the AUKUS initiative.²²⁴
- **Commit to a sustained and assured procurement plan** for growing the fleet while also expanding naval shipbuilding industrial capacity.²²⁵
- **Execute a national shipbuilding program.** Getting the shipyards and workforce needed to build and repair warships requires a national effort. The Navy must integrate its efforts with those of the U.S. Coast Guard, the Merchant Marine, and the commercial shipping industry. Ensuring that this expanded industrial capacity is ready and secure will necessarily require better efforts to secure the associated supply chains—a task critical to the Navy but also requiring teamwork across government and with industry.²²⁶
- **Open needed new shipyards.** It was originally planned that a second shipyard would be named to build *Constellation*-class frigates in order to meet the Navy's urgent need for this class of warship. The Navy has planned to procure at least 20 of these vessels. At this

U.S. Military Power: Navy

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Capacity	✓				
Capability			✓		
Readiness	✓				
OVERALL		✓			

ABOUT THE ASSESSMENT CATEGORIES

OVERALL ASSESSMENT. The overall assessment of a military service is measured against its ability to perform its respective role in a two-major regional contingency (MRC) scenario. The assessment of the U.S. Marine Corps is sized against a single major regional contingency (MRC) scenario. This benchmark is the *minimum* standard for U.S. hard-power capacity with the understanding that maintenance, operational tempo, training cycles, crisis response, treaty commitments, and/or strategic reserve considerations can cause some forces to be unavailable. Other factors that influence this assessment are the availability of logistical support to enable combat power (fueling ships, supply ships, cargo aircraft, etc.) and the ability to reconstitute combat power for protracted conflict (defense industrial base capacity, etc.).

CAPACITY. The U.S. military must have a sufficient quantity of the right capability or capabilities to meet its mission sets. Capacity (numbers) can be viewed in at least three ways:

- Compared to a stated objective for each category by each service,
- Compared to amounts required to complete various types of operations across a wide range of potential missions as measured against a potential adversary, and
- As measured against a set benchmark for total national capability.

time, the program is facing severe delays, but the design has matured. Construction should begin at a second yard as construction also progresses at the current shipyard in Marinette, Wisconsin. It is also time to break ground on a fifth public shipyard. Until 1996, the Navy had eight public shipyards that conducted all nuclear maintenance on submarines and aircraft carriers. Today, there are four, and nuclear maintenance is behind schedule despite efforts since 2018 to modernize and optimize these yards as part of the Shipyard Infrastructure Optimization Program (SIOP). The Secretary of the Navy would have to notify Congress when a site was selected, and it is estimated that the initial cost of a fifth shipyard would be \$10 billion.²²⁷

CAPABILITY. Examining the capability of a military force requires consideration of:

- The proper tools (material and conceptual) with the design, performance characteristics, technological advancement, and suitability that the force needs to perform its function against an enemy successfully;
- The sufficiency of armored vehicles, ships, airplanes, and other equipment and weapons needed to win against the enemy;
- The appropriate variety of options to preclude strategic vulnerabilities in the force and give flexibilities to battlefield commanders; and
- The degree to which elements of the force reinforce each other in covering potential vulnerabilities, maximizing strengths, and gaining greater effectiveness through synergies that are not possible in narrowly stovepiped, linear approaches to war.

READINESS. While capacity and capability considerations are central to the warfighting ability of the U.S. military, readiness performs a crucial role in determining whether combat power is prepared when it is needed. Factors that are considered include (among others):

- Sufficient staffing levels,
- Fulfillment of training requirements, and
- Age and maintenance of equipment.

- **Get firepower to sea.** China is arming so that it can be ready to wage and win a war with America by 2027—the same time that, unless something is done, the Navy’s at-sea firepower will reach its nadir. At present, there are few options to redress this danger: specifically, rapid deployment of Army and Marine Corps littoral combat forces with long-range weapons to East Asian allies and rapid fielding of armed unmanned platforms. The most viable option today is a ship like the USV (unmanned surface vehicle) *Ranger* that deployed to the Western Pacific in 2023 and in 2021 demonstrated a capability to launch weapons like the SM-6. Orders should be placed at two shipyards of similar design based on lessons learned from the *Ranger*. Arming these platforms and meeting urgent munitions needs will require a block

buy of key naval munitions: Standard Missile-3 (SM-3); Standard Missile-6 (SM-6); Advanced Capability (ADCAP) heavyweight torpedoes; and Tomahawk cruise missiles. The U.S. military's precision-guided munition inventory is classified, but recent expenditures in the Red Sea and in defending Israel from Iranian attack indicate that these inventories are obviously under pressure.²²⁸

- **Accelerate the building of needed submarine tenders and cruisers.** The existing two submarine tenders (AS), both of which are based in Guam, are years beyond their design lifetime, and replacements are critically needed to sustain a forward operating nuclear submarine force in the Western Pacific. The Navy will be retiring its aged submarine tenders *Frank Cable* and *Emory S. Land* in 2029 and 2030, respectively, but it has only just begun to design replacements, which means that the Navy must find assets that can execute the submarine tender mission until a replacement is put to sea, most likely in the next decade. It will also be necessary to accelerate design and begin advance procurement of long lead-time components for CG(X). The Navy's remaining nine *Ticonderoga*-class cruisers will reach the end of their lifespans by 2038. Since 2000, the Navy has attempted to build a replacement that can provide air defense for carrier strike

groups, but the newest *Arleigh Burke*-class destroyers (Flight III) with limited weapons load and space constraints for embarked air defense component command staff at best provide a partial cruiser replacement.²²⁹

- **Execute new fleet-level operations and exercises.** The Navy will fight not as independent units or just as carrier strike groups, but increasingly at a numbered fleet scale comprising over a dozen warships to include robust logistics ships. It is essential that new tactics be practiced and that those tactics and the platforms needed to execute them in war be refined. During the interwar years of the 1920s and 1930s, a series of such exercises ensured that the fleet was ready and able to defeat Imperial Japan in the Pacific. In fact, these exercises ensured that the fleet and its sailors were ready and able to adapt rapidly to every enemy adaptation as the Pacific War progressed.²³⁰

To be clear, aggressive execution of the above recommendations is not a panacea and will only begin to reverse a too-long slide into operational irrelevance. Reviving the nation's Navy and ensuring that peace is sustained with a fleet that is ready and armed to prevail in a war against China will be a decade-long endeavor. A dangerous condition of competition and contest with China is upon us in a new cold war that has no clear endpoint.

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U.S. Air Force

Jason Camilletti

Introduction

Air superiority is a precondition for all U.S. military operations, and while each airman takes pride in his or her contributions to and in being part of the great air superiority legacy, today's readiness and capacity for that mission are nowhere close to what America needs. Unfortunately, the Air Force's lack of readiness and capacity is not limited to its air superiority portfolio. For far too long, we have asked the Air Force to do too much with too little. For years, budgets have been insufficiently scoped, and strategic risk has accumulated quietly but dangerously.

As a result, the Air Force is now the oldest, smallest, and least ready it has ever been, despite the determination of countries like China and Russia to challenge the status quo. The more risk the Air Force is forced to absorb, the more likely it becomes that a competitor will choose to act against America. A properly sized, capable, and ready Air Force is essential to reducing strategic risk and deterring peer conflict.

During President Trump's first term, his National Defense Strategy (NDS) called for America's military to prepare to fight a peer competitor. But for our servicemembers to be prepared for such an eventuality, we must properly resource and equip our military.

Unfortunately, at programmed funding levels, the Air Force cannot sustain today's operational tempo while also building the capability and capacity needed to compete with China. The strategic environment no longer permits delay: Continued underinvestment will only deepen the problem. Thankfully, the reconciliation bill, or One Big Beautiful Bill Act (OBBBA), that Congress passed in July 2025 is an important step toward resourcing

the Air Force so that it can execute the nation's missions and be ready to "fly, fight, and win" anytime and anywhere.¹

History

Congress established the U.S. Air Force in 1947 and charged it with the fundamental role of controlling and exploiting the air domain. Space's rise to prominence in the early 1950s brought with it a host of capabilities that would expand the service's portfolio over time. When Congress created the Space Force in December 2019, the Air Force was able to return to its air-breathing roots and refocus its efforts on the air domain.

Despite this refocus, however, the U.S. Air Force is smaller, older, and less ready today than at any other point in its history. This matters because America's military advantage is predicated on its ability to own the skies and hold adversary targets at risk across the globe with timely and pinpoint accuracy, using either conventional or nuclear weapons. No other military service is uniquely charged with achieving air superiority and executing global strike. The Air Force's responsibility to America is to field an appropriately sized, capable, and ready force that can execute these critical, Joint Force-enabling military functions.

Yet for decades since the end of the Cold War, this responsibility has gradually been marginalized. The current situation for the Air Force is not due to any single mistake or decision; it is the cumulative result of insufficient resourcing, force structure divestments, trade-offs favoring efficiency over effectiveness, and continual demand on the service for lower-end support rather than high-end warfighting readiness.

In March 2025, then-Lieutenant General Adrian Spain, who is now the four-star commander of

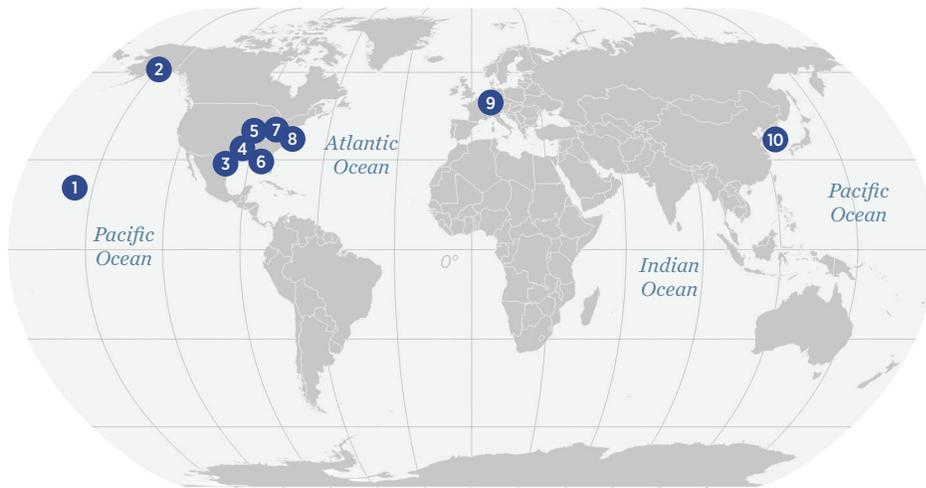
U.S. AIR FORCE AT A GLANCE

EST. 1947  **MOTTO**
"Aim High ... Fly-Fight-Win"

 **Dr. Troy E. Meink**
Secretary of the Air Force

 **Gen. Kenneth S. Wilsbach**
Chief of Staff

MAJOR BASES



- 1 Hickam Air Force Base
- 2 Elmendorf Air Force Base
- 3 Randolph Air Force Base
- 4 Barksdale Air Force Base
- 5 Scott Air Force Base
- 6 Hurlburt Field
- 7 Wright-Patterson Air Force Base
- 8 Langley Air Force Base
- 9 Ramstein Air Base
- 10 Osan Air Base

CURRENT BUDGET

IN BILLIONS FOR FY 2025

\$184.1

CURRENT PERSONNEL

ACTIVE-DUTY MILITARY

317,000

CIVILIAN

176,000

KEY EQUIPMENT (estimated current inventory)



SOURCE: Heritage Foundation research.

 heritage.org

the Air Force's Air Combat Command, said that the "strategic environment, mostly permissive and without a significant challenger, allowed the luxury of segmented attention, priority, and risk."² These trends began at the end of the Cold War, were accelerated following the September 11 terrorist attacks, and were further intensified by the budgetary and operational impacts of sequestration.

For example, after the collapse of the Soviet Union, the United States emerged as the world's policeman, conducting operations in such countries as (among others) Kuwait, Bosnia and Herzegovina, and Somalia. The United States soon embarked upon a global war on terrorism. During this time, the service was skewed toward intelligence, surveillance, and reconnaissance (ISR) missions and counter-terrorism operations. Unfortunately, while combatant commanders' demand for Air Force supporting capabilities soared, supply dwindled and got older, particularly for higher-end warfighting functions.

To fulfill operational requirements without causing budgets to soar, the Air Force traded a larger inventory of aging aircraft for a smaller, more modern fleet while maintaining a high level of readiness. This was arguably the right decision at the time, balancing the immediate demands of a permissive conflict with the long-term need to remain prepared for high-end, contested warfare. The service hoped to keep decades-long modernization programs on track while sustaining global operational commitments. Initially, this strategy worked as the service sustained operations, kept modernization on track, and the force was ready.

With the arrival of sequestration in 2013, the Air Force made greater cuts.³ As a consequence, by 2016, the Air Force was left with just 55 total force fighter squadrons—the aggregate of Active Component (AC) and Reserve Component (RC) squadrons—and the readiness levels within those squadrons were very low. Only four of the Air Force's 32 active-duty fighter squadrons were ready for conflict with a near-peer competitor.⁴

Sequestration was not the only problem. Over the past 20 years, funding has been inconsistent with Congress adopting 58 continuing resolutions (CRs) from FY 2010–FY 2024.⁵ In his March 2025 testimony to the Senate Armed Services Committee, General Spain stated that without anomalies, the impact of the March 2025 CR would be, practically

speaking, a \$4 billion cut to the Air Force and could reach approximately \$14 billion if one included the impact of the 2023 Fiscal Responsibility Act.⁶ To put the magnitude of the budgetary impact into perspective, \$14 billion is nearly double the Air Force's fiscal year (FY) 2025 nuclear recapitalization total.

Furthermore, while these budgetary pressures were significant, something more significant was happening within the service. During the early years of the war on terrorism, the U.S. Department of Defense (DOD) leadership increasingly directed the Air Force to prioritize support for low-end conflict over its foundational mission to deter and, if necessary, set conditions to win major combat operations by achieving air dominance. Over time, the Air Force drifted away from a service focused primarily on achieving dominance in major combat and drifted toward a service focused primarily on supporting the Joint Force. Given the strategic and budgetary environment, trade-offs had to be made. Nowhere was this reality felt more than it was in the fact that air superiority—the ability to operate without the threat of airborne attack and a precondition upon which all U.S. military operations rest—was taken for granted during the war on terrorism's permissive air environment. This shift in emphasis resulted in a misalignment with the far more contested and competitive strategic environment the United States faces today.

An overemphasis on cost efficiency over combat effectiveness was another consequence for the Air Force during the war on terrorism. One such example was the transformation of the Reserve Component, which includes the Air National Guard and Air Force Reserves, from an actual "reserve" of forces to "more of" an operationally ready force. The reason for adding the qualifier "more of" is deploy-to-dwell differences between the Active and Reserve Components. The RC operates on a 1:5 deploy-to-dwell ratio, meaning that for every year deployed, members remain home for five years. By contrast, the AC deploys at a 1:2 ratio. Over a 10-year span, the RC can contribute roughly two years of deployment time compared to five years for the AC. The AC and RC cannot be considered equally ready from an operational standpoint, but the AC no longer has the resources to go it alone.

Additionally, mobilizing takes longer for the RC than it does for the AC. Longer RC mobilization timelines have always been a planning

consideration, but the impact is more acute in today's strategic environment. During the Cold War, the AC was more robust and therefore capable of absorbing delays as the RC mobilized. During the war on terrorism, the Air Force compensated for RC mobilization times by forecasting deployments months or even years in advance. By contrast, AC operational units must be ready to go within days. In today's strategic context, the AC is not big enough to fight a peer without the RC, but the RC cannot respond with the immediacy that modern threats demand.

One final example of the prioritizing of cost efficiency over effectiveness is Total Force Integration (TFI) units, which blend Active and Reserve Components. TFI does offer cost efficiencies on paper, but in practice, it disproportionately burdens junior active-duty officers with essential non-flying duties and strains readiness.

In total, these critiques are not critiques of the RC; the RC is an invaluable repository of talent and experience upon which America has always depended and will always depend. But these critiques are examples of the cost-driven decisions made in the previous era that compromise effectiveness in today's era. In other words, some war on terrorism-era efficiencies have become liabilities in today's strategic context.⁷

During President Trump's first term, the Administration finally said what many experts already knew: China is the only potential adversary that can change the U.S.-led free and open world order, and America needs to focus on strengthening its military to address the evolving threat environment. Specifically, the 2018 National Defense Strategy (NDS) directed the services to prepare for a large-scale, high-intensity conventional conflict with a peer adversary.⁸ To support the NDS, the Air Force released "The Air Force We Need" (TAFWN) concept later that year. TAFWN was a study of the capacity the service would need to fight and help the U.S. win a war in this changing threat environment. Based on thousands of war-game simulations, TAFWN found that to execute that strategy, the service needed to grow by 25 percent from 312 to 386 squadrons.⁹ The focus on China is also foundational in the 2022 NDS and 2026 NDS,¹⁰ indicating that the recent emphasis on China crosses party lines.

Unfortunately—and despite clear guidance from the NDS—China has yet to become the strategic

focal point it should be. One persistent impediment to China's becoming the Air Force's focus has been the continued deployment of Air Force assets to the Middle East even when it is well understood that this undermines the service's ability to deter China and meet Indo-Pacific operational plan (OPLAN) requirements. The decisions to deploy assets are often accompanied by little more than a footnote on a briefing slide with something like "this SDOB (Secretary of Defense Orders Book) presents high risk to [insert OPLAN]" rather than driving a meaningful discussion or course correction.

One cumulative effect of decades of incremental cuts and risk acceptance is that Air Force mission-capable rates are very low, which suggests that aircrew are flying less. The data support the claim. In fact, over the past 20 years, the Air Force has reduced its fleet size by 12 percent but its annual flight hours by 37 percent. Additionally, in the first decade of the 2000s, service fighter pilots averaged more than 15 flight hours per month each year (except for FY 2008, when the average was 14.4 flight hours), but since 2011, there has not been a single year in which Air Force fighter pilots reached 15 flight hours per month on average. This kind of risk remains abstract until the shooting starts. As noted, the more risk the Air Force is forced to absorb, the more likely it becomes that a competitor will choose to act against America.

Yet despite this bleak reality, the Air Force continues to deliver results and combat wins in lower-intensity conflicts alongside its Joint Force teammates. A few recent examples: In April 2024, Air Force F-15Es helped to defend Israel against a barrage of drones; in June 2025, the Air Force led the way on Operation Midnight Hammer, when B-2 stealth bombers obliterated Iranian nuclear facilities; in January 2026, the Air Force did its part in Operation Absolute Resolve and supported the successful capture of Venezuelan leader Nicolás Maduro. Despite the great skill and airmanship required to perform so remarkably, these missions were still nowhere close to the challenge that China could present. The Air Force is not sufficiently prepared to fight China when it is older, smaller, and less ready than it has ever been.

Thankfully, encouraging signs suggest that Congress will sufficiently resource defense for today's strategic environment. For example, passage of President Trump's OBBBA was an immediate shot

in the arm for the military services, and it provided billions of dollars for aircraft development, production, and maintenance. The OBBBA also provided significant funding for recapitalizing the service's nuclear portfolio. Unfortunately, it will take several years of OBBBA-like funding for the Air Force to fully rebuild and compete with China as the demand for air power will remain high and unrelenting.

Capability

The *Index of U.S. Military Strength* evaluates military capability based on several key factors: whether the force possesses the right tools to succeed in combat; whether it has enough aircraft, spare aircraft, parts, equipment, and weapons to prevail against an adversary; whether it offers a diverse set of options to avoid strategic vulnerabilities; and how well its various components complement one another to mitigate potential weaknesses. Although the 2026 *Index* measures Air Force capacity primarily by the number of fighter aircraft, it is appropriate to begin a broader capability assessment with the service's nuclear forces, given their strategic significance and substantial budgetary impact, followed by an analysis of fighter aircraft, supporting aircraft, and munitions.

The Air Force's contribution to nuclear deterrence is ready and capable with programmed help on the way, albeit later and at a much greater cost than originally planned. The service has 400 intercontinental ballistic missiles (ICBMs) in service, but the LGM-30 Minuteman III is over 40 years old and beyond its planned service life. The Air Force "expects the [LGM-30] system will begin falling below readiness standards as early as 2026 if not replaced."¹¹ The good news is that the Air Force is preparing to replace the Minuteman III with the LGM-35A Sentinel; the bad news is that the Sentinel has slipped to no earlier than 2029, and the first flight tests have slipped from 2023 to 2026.¹² The Sentinel will arrive later and cost considerably more than planned, but given its strategic importance to national security, it is a must-pay bill.

The other leg of the nuclear triad for which the Air Force is responsible is the nation's strategic bombers. In addition to 20 B-2s and 76 B-52s, the B-21 is a top-priority program. The B-21 first flew in November 2023, and the Air Force has said repeatedly that the program is moving along nicely.¹³ Then-Chief of Staff General David Allvin said in

May 2025 that 100 B-21s were the "absolute minimum," and the former commanders of U.S. Strategic Command and U.S. Global Strike Command have said that 145 is the new target.¹⁴ The FY 2026 budget requests \$4.739 billion for the B-21, an increase of 76 percent from FY 2025.¹⁵ For context, roughly half of the B-21 funding for FY 2026 is from the OBBBA that Congress passed in July 2025.

The Air Force is proceeding with the B-2 until enough B-21s are in service and plans to ensure that this penetrating bomber remains viable in highly contested environments, keeping it fully mission-capable until it is replaced by the B-21.¹⁶ The B-52s average more than 60 years old, and modernization efforts are also underway to keep them flying and relevant. The FY 2018 budget funded the re-engineering of this fleet with upgrades that include a new nuclear-armed Long-Range Stand-Off cruise missile, improved radar, new computers, new communication links, and a new suite of electronic warfare countermeasures. The aircraft will remain in the inventory through 2050,¹⁷ at which time a significant portion of the U.S. bomber fleet will be more than 80 years old.

To round out the nuclear forces, another priority program is the Survivable Airborne Operations Center (SAOC). The SAOC is the Air Force's planned replacement for the E-4B, or National Airborne Operations Center. The mission for the E-4B and soon for the SAOC is to keep the government running in the event of a nuclear attack. The Air Force awarded a \$13 billion contract in spring 2024 for the SAOC to replace the aging E-4B.¹⁸

With respect to fighter jets, the Air Force has placed greater importance on capability as it has downsized the fleet. The capability-over-capacity strategy is based on the idea that we need to develop and maintain a *more* capable force that can win against the advanced warfighting capabilities such as stealth fighters, ballistic and cruise missiles, electronic warfare, and surface-to-air missile systems that are now being developed by potential adversaries like China and Russia.

The air superiority fleet is severely strained: The FY 2026 budget request would result in zero F-15Cs and 169 F-22As for the total force.¹⁹ The F-22's availability is also affected by low mission capability rates. The stealthy air superiority fighter fleet will be further strained until 2031 by a program that is intended to refurbish the low-observable coatings

on the F-22's engine inlets and overhaul the aircraft's flight control system.²⁰ As discussed in the next section, the *Index of Military Strength* does not define a specific requirement for the number of air superiority fighters, but numbers have a quality of their own, and the Air Force's air superiority portfolio is extremely thin. For example, while the F-22 is very capable, the Air Force had at least 650 dedicated air superiority fighters in 1987, the last time it was prepared to fight major combat against a peer adversary.²¹

Even though the Air Force has not officially designated it as such, the F-15EX should also be included in discussions surrounding the air superiority fleet.²² The F-15EX possesses significant aerial combat capabilities that may potentially include integrating Collaborative Combat Aircraft (CCA). The FY 2026 budget requests an additional 21 F-15EXs (all funded by the OBBBA).²³ Furthermore, even though the F-35A is dual-role, its fifth-generation faculties will also be formidable in an air-to-air role, allowing it to augment the F-22 in many scenarios.

While much of the CCA program remains classified, it would be a disservice to assess Air Force capability without mentioning it. In the words of former Air Force Chief of Staff General Allvin, the Air Force is "leaning into a new chapter of aerial warfare."²⁴ Additionally, the service has said that CCA will have a larger combat radius than the F-22 or F-35, which will be well suited for a potential conflict with China in the Pacific.²⁵ General Allvin has repeatedly referred to CCA as a "fighter" with the first two prototypes designated YFQ-42A and YFQ-44A.²⁶ The FY 2026 budget requests nearly \$800 million in RDT&E funding for CCA.²⁷

Another top-priority program is Next Generation Air Dominance (NGAD). In March 2025, General Allvin unveiled a depiction of what the Air Force is calling one element of NGAD: the F-47, which will be the service's first sixth-generation fighter.²⁸ On the same day, the Air Force released an official message saying that prototype F-47 aircraft have been flying hundreds of hours for five years, implying that the service should be able to procure the aircraft relatively rapidly. Similarly, officials have said the F-47 will fly "before the end of the Trump Administration."²⁹ In May 2025, the Air Force announced on social media that the F-47 will have a significantly larger combat radius than previous fighters, which, like the CCA, is timely given

today's strategic context.³⁰ The FY 2026 RDT&E budget request of \$3.479 billion funding (\$2.579 billion discretionary and \$900 million mandatory) increases the F-47 funding by 43.5 percent over FY 2025 enacted.³¹

The dual-role fighter fleet is in a slightly better position than the air superiority fleet, largely because new F-35s continue to roll off the production line. However, the F-35 is not without its challenges, and some are significant. For example, Tech Refresh 3 (TR-3), originally slated to field in spring 2023, is currently not scheduled to release until late summer 2026.³² TR-3 is a set of hardware and software improvements to improve the F-35's combat capability. Unfortunately, the delay in TR-3 is "having cascading effects on subsequent improvements to the F-35—particularly another modernization program called Block 4—which is intended to allow the jet to carry more weapons, better recognize targets and improve its electronic warfare capabilities."³³ The FY 2026 budget request halves the number of F-35s for the Air Force from 48 to 24, which is partly why the OBBBA increases the F-15EX buy. Given the F-35's programmatically poor performance to date, reducing the buy and hedging with a formidable alternative is a prudent move. The F-35 is a dynamic aircraft when it is available, so the pressure of reducing the 2026 buy could move the program in the right direction.

The F-15E is a dependable dual-role aircraft with an upgraded radar and Eagle Passive/Active Warning and Survivability System (EPAWSS),³⁴ but the need to install system upgrades will reduce aircraft availability over the coming years. The Air Force has started to divest the oldest (and most heavily flown) F-15Es; it divested 26 in FY 2025 and plans to retire 21 in FY 2026.³⁵

The Air Force is also working to extend the life of 300 F-16Cs by executing a major service life extension program (SLEP) that will allow them to fly through 2050.³⁶ It also is "undergoing the largest modification work in [the F-16's] history with the Post Block Integration Team project" to "improve lethality and ensure the fourth-generation fighter remains effective in meeting current and future threats."³⁷ However, despite service life extensions, there is still a direct correlation between aircraft age and the maintainability of those platforms. The dual-role fighters, other than the F-35 (and the F-15EX if counted as dual-role), continue to age to

the point where the Air Force must either invest significant funding to keep them operationally relevant or divest them.

Acquisition of the KC-46A air refueling tanker is a critical enabler for the service. The KC-46 has experienced a series of problems and delays, the most recent of which grounded the fleet for nearly three months “after cracks were found in brand new aircraft.”³⁸ The cracks and their root cause were repaired relatively quickly, but it is estimated that the tanker’s remote vision system (RVS) will not be fielded until the summer of 2027, “nearly two years longer than previously anticipated, and four years later than originally expected.”³⁹ Although the RVS had prevented the tanker from being able to refuel during combat operations, “[a]irmen have developed workarounds and the Air Force has cleared the KC-46 for operations worldwide.”⁴⁰ The Air Force plans to procure 15 KC-46s in FY 2026, which would bring the total to 110.⁴¹ That will leave the service with more than 350 aging KC-135s (already averaging 61 years old) that still need to be recapitalized.⁴²

The Air Force is maintaining the status quo for its strategic airlift fleet while modestly improving its tactical fleet by replacing C-130Hs with newer C-130Js.⁴³ The average age of the C-17 is approximately 22 years, and the demands of the war on terrorism significantly exceeded planned flight hours.⁴⁴ Given these factors, if other portfolios were on a more solid footing, the Air Force would likely be recapitalizing strategic airlift, but it remains a lower near-term priority compared to other more urgent readiness and modernization needs. However, this is a bill the Air Force will soon have to pay, particularly when considering the logistical challenges in the Pacific.

The Air Force’s ISR capabilities face problems that affect both capability and capacity. Many of the Air Force’s ISR aircraft are now remotely piloted aircraft (RPA). The service divested the last of its MQ-9 Block-1 aircraft last year and plans to scale back its Block-5 fleet from 231 to 189 in FY 2026.⁴⁵

For manned ISR, the service needs to replace its aging E-3 AWACS (Airborne Warning and Control System) and the already divested E-8 J-STARS (Joint Surveillance Target Attack Radar System), but efforts to realize JADC2 (Joint All Domain Command and Control) are complicated. Through JADC2, the War Department is moving away from

a platform approach to command and control to disaggregated sensors (a system of systems) with the Advanced Battle Management System (ABMS) as the Air Force’s contribution to the effort.⁴⁶ The Department of the Air Force has already stated that the E-8’s ground moving target indicator (GMTI) mission will be moving to the Space Force.

As debate on the FY 2026 budget continues, there is significant discussion of whether the Air Force should acquire the E-7 Wedgetail as a gap filler or whether space-based assets are ready to fully execute the AWACS’ mission. In August 2025, Lieutenant General Deanna M. Burt, U.S. Space Force Deputy Chief of Operations, stated that “[a]n analysis of alternatives for air moving target indication is ‘supposed to deliver this fall.’”⁴⁷ The Air Force’s FY 2026 budget request does not include any E-7 aircraft, but nearly two dozen retired general officers, including General Kevin P. Chilton, former head of Air Force Space Command and U.S. Strategic Command, are encouraging Congress to fund the E-7, “arguing that space-based targeting is not ready for prime time.”⁴⁸

Any discussion of capability must include an assessment of the ability of the service’s weapons to complete the kill chain and destroy the intended target whether in the air, on the ground, or on the sea.

As recent air actions have demonstrated, the venerable AIM-120 air-to-air missile still has formidable beyond-visual-range capabilities, and the Air Force has continued to update it over the years. The service is also working on the AIM-120’s replacement, the AIM-260. Details of the AIM-260 are limited, but reporting suggests that the new missile is well suited to competing with China.⁴⁹ The FY 2026 budget request—the first time the missile has been identified in the unclassified budget—seeks to acquire 112 AIM-260 missiles.⁵⁰

From an air-to-surface perspective, jamming of Global Navigation Satellite Systems (GNSS) like the Global Positioning System (GPS) has advanced significantly over the past two decades. Russia has used these increasingly capable and widespread systems extensively since its 2022 invasion of Ukraine to disrupt the effectiveness of Ukrainian (allied) GPS-guided weapons. The ability of such systems to degrade the accuracy of smart munitions would make them a substantial advantage in any conflict with a peer adversary.

The U.S. military and its supporting research arms have done significant work focused on making munitions less susceptible to the effects of GPS jammers, and the Air Force has been buying munitions and sensors with this in mind for more than a decade. However, inventories of advanced munitions remain limited, and GPS degradation will reduce strike precision, which means that more weapons and sorties will be needed to achieve desired effects. On the plus side, modern GPS antennas are more resistant to jamming, and multi-mode seekers such as those using laser, infrared, or optical guidance help to reduce reliance on GPS. For instance, the GBU-53 SDB (Small Diameter Bomb) II uses “Link 16 and ultra-high frequency datalinks, along with infrared guidance, to provide course corrections”⁵¹ and is an example of a multi-pronged effort to mitigate GPS jamming.

Munitions such as the AGM-158 Joint Air-to-Surface Standoff Missile (JASSM), AGM-154 Joint Standoff Weapon (JSOW), and AGM-158C Long Range Anti-Ship Missile (LRASM) are top-priority munitions for the service and are reflected as such in the FY 2026 budget request. They will be critical elements in the kill chain in future high-end contested fights. Overall, the OBBBA was a major boost for Air Force air-to-air and air-to-surface weapons, “but without detailed budgetary information beyond fiscal 2026, it’s unclear whether the growth in stockpiles will be sustained.”⁵²

Capacity

The *Index of U.S. Military Strength* assesses capacity against 1,200 active-duty “combat-coded” fighter aircraft in order to meet the baseline requirement for two major regional conflicts (MRCs).⁵³ The *Index* metric lines up well with TAFWN’s fighter requirement, which the Commander of Air Combat Command has reaffirmed is the capacity requirement for today’s Air Force.⁵⁴ Two of the more important factors that inform capacity are aircraft age and mission-capable (MC) rates.

Aircraft Age. Because they require increased maintenance as they age, older aircraft are generally less available than newer ones. Reduced material support or DMSMS (diminishing manufacturing sources and material shortages) also plays a significant role with aging aircraft. With time, aircraft reach thresholds that trigger inspections, overhauls, and component replacements, many of which can

be performed only at centralized depot facilities. According to the Office of the Assistant Secretary of Defense for Sustainment, “depot-level maintenance entails materiel maintenance requiring the major repair, overhaul, or complete rebuilding of weapon systems, parts, and assemblies; manufacture of parts; technical assistance; and testing.”⁵⁵

Mission-Capable Rates. MC rates are defined as the percentage of a unit’s aircraft that can execute its mission set. Multiplying MC rates by the actual number of aircraft within a particular fleet yields that fleet’s physical operational capacity. However, MC is the percentage of a unit’s possessed aircraft that are fully mission capable (FMC) or partially mission capable (PMC). The number of possessed aircraft does not include the portion of the fleet that is in depot-level maintenance and/or long-duration aircraft modernization.

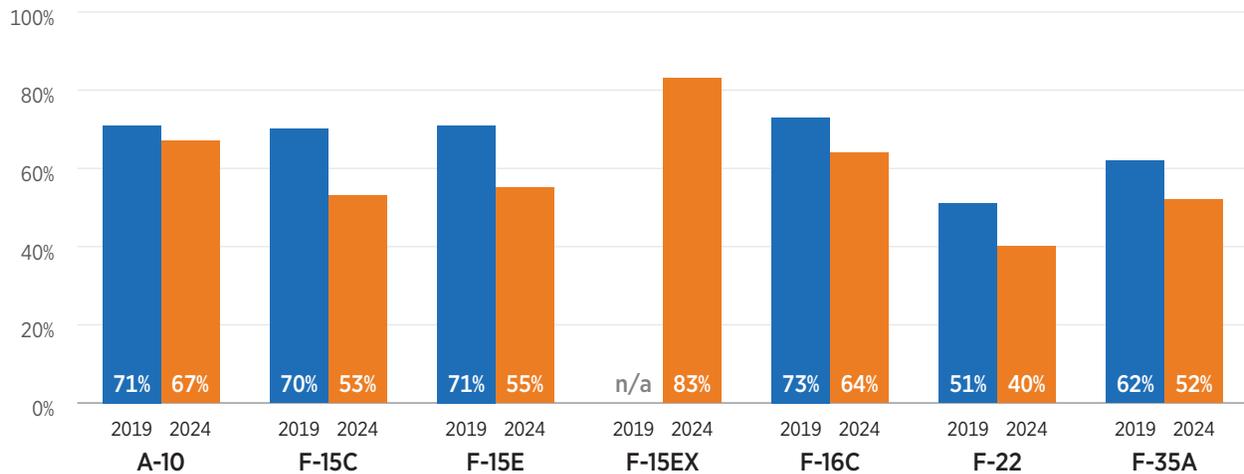
Thus, using MC as a metric can mask problems if a unit does not possess large numbers of aircraft. Aircraft availability (AA) is a better measure because it is the percentage of FMC or PMC aircraft in a unit’s total aircraft inventory (TAI). Unfortunately, the data that follow are based on MC and not on AA; nevertheless, as low as MC rates are for the Air Force, the reality is much worse because a consequential portion of the fleet is in depot-level maintenance and/or modernization.

In 2018, Secretary of Defense James Mattis directed the Air Force to boost F-16, F-22, and F-35 MC rates to 80 percent by September 2019 to improve aircraft availability.⁵⁶ When the service fell short, Chief of Staff General David Goldfein asserted in the FY 2020 Posture Statement that “[m]ore than 90 percent of our ‘pacing squadrons’ [were] ready to ‘fight tonight’ with their lead force packages” and “on track to reach 80% readiness” by year’s end.⁵⁷ This signaled that only a few, select frontline units had achieved sufficient readiness.

With the rollout of the President’s budget for FY 2026, the service announced its plan to continue reducing the size of the fighter fleet. The FY 2026 request would leave the service with 1,706 fighters with an average age of 21.7 years (down from 1,907 with an average age of 26.4 years at the end of FY 2025).⁵⁸ The largest adjustments between the two years are the requested divestitures of the A-10 and the F-15C. It is difficult to see the size of the fleet continue to shrink, but it is positive to see the fleet age trending slightly younger.

Air Force Fighters: Mission-Capable Rates

MISSION-CAPABLE RATE BY FIGHTER MISSION DESIGN SERIES



NOTE: Figures shown are end-of-year totals.

SOURCES: “Air Force & Space Force Almanac 2020,” *Air Force Magazine*, Vol. 103, No. 6 (June 2020), p. 65, https://www.airandspaceforces.com/app/uploads/2020/06/June2020_Fullissue5.pdf (accessed January 20, 2026), and “Air Force & Space Forces Almanac 2024,” *Air & Space Forces Magazine*, Vol. 108, Nos. 5 and 6 (May/June 2025), p. 67, https://www.airandspaceforces.com/app/uploads/2025/06/Almanac2025_fullissue_V6.pdf (accessed January 20, 2026).

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Combat-coded aircraft and squadrons have assigned wartime missions and do not include aircraft used for training, testing, or other roles. Other jets like those in training or test units often lack the software and/or hardware capabilities that are needed for combat, and this makes them less effective or survivable.

Despite the fact that the Air Force would not provide the number of combat-coded aircraft or a breakout of total Active Component and Reserve Component aircraft, a reasonable approximation is that the number of combat-coded fighter aircraft in the active-duty force is 800.⁵⁹ If that approximation is off, the actual number of active-duty combat-coded fighter aircraft is likely lower. While 800 is well short of 1,200, it is also worthwhile to compare the fleet in 2024 to the fleet in 1987, the last time the U.S. was prepared to face a peer competitor. In 2024, the Air Force’s air-to-air fighter fleet was 78 percent smaller than the fleet in 1987 and more than twice as old on average; the dual-role

fleet was 30 percent smaller and nearly three times as old on average; and the air-to-ground fleet was 82 percent smaller and nearly four times as old on average.⁶⁰

Unfortunately, such a comparison of the size and age of the aircraft yields only part of the picture; there are also far fewer squadrons today, and that has created additional readiness challenges. Historically, for example, because of aircraft and spare availability, reliability, and limited support equipment, it has taken three active-duty fighter squadrons to deploy two forward. By drawing jets and personnel from the third squadron, a wing could quickly deploy two full-strength squadrons while retaining a small cadre at home for training and pilot replacement (such as for combat losses). During the Cold War, the Air Force typically structured wings with three squadrons to meet this need and facilitate the ease of “plussing up” the deploying squadrons with people, jets, and parts. Post-Cold War downsizing, however, has reduced many wings

to one or two squadrons, and this makes it harder to assess true deployable capacity.

Guard and Reserve units have traditionally been single-squadron wings and therefore face similar challenges, often more acutely. The predictability of the war on terrorism era helped to mitigate these issues, allowing reservists and guardsmen to adjust civilian commitments in advance. Because of potential imbalances between preparing the fleet and pilot readiness, these single-squadron wings that self-generate add a level of complexity that affects both deployability and readiness leading up to their deployments.⁶¹

Capacity also relies on the stockpile of available munitions and the munitions industry's production capacity. The actual number of munitions within the U.S. stockpile is classified, but there are indicators that make it possible to assess the overall health of these critical assets. The inventory of precision-guided munitions (PGM) was severely stressed by nearly 18 years of sustained combat operations in Iraq, Afghanistan, Syria, and elsewhere. Since 2017, funding for munitions has been relatively robust as the service has worked to restock inventories.

Although the current munitions stockpile may be sufficient to support a war on terrorism—era surge, it would fall short in sustaining a peer-level conflict lasting more than a few weeks. For context, during Operation Desert Storm, the U.S. military dropped more than 88,000 tons of bombs⁶²—probably equivalent to more than 100,000 individual munitions—despite the operation's being relatively short and not against a peer.

Typically, there is a 24-month to 36-month lag between funding and the delivery of new munitions. Rapid expansion of production is theoretically possible, but it is difficult to envision such an increase happening quickly enough to outpace consumption before existing stockpiles were exhausted in a high-intensity conflict.

Readiness

There are many reasons why it is difficult to assess readiness, particularly in an unclassified format, but a foundational question to ask is, “ready to do what?” Before 2018, the answer was somewhat vague, but the 2018 NDS clearly stated that “long-term strategic competitions with China and Russia are the principal priorities.”⁶³

Service leaders' testimony to Congress informs readiness trends. In 2017, for example, Secretary of the Air Force Heather Wilson and Chief of Staff General Goldfein informed Congress that “[w]e are at our lowest state of full spectrum readiness in our history.”⁶⁴ In 2024, Secretary Frank Kendall stated that “[w]e are not as ready as we need to be for a war with a peer competitor like China.”⁶⁵

It is also noteworthy that the Air Force has tried to reshape the narrative surrounding readiness in recent years. For example, rather than enduring benchmarks for flying squadron readiness such as sortie rates, MC rates, and pilot flight hours, the service moved to highlight the readiness of fighter, bomber, or tanker “force elements” while arguing that MC rates do not tell the entire story.⁶⁶ General Goldfein touted the rapid deployment of a “task force” of four B-52s to the Middle East in May 2019 as an example of service readiness.⁶⁷

Similarly, during his tenure as Chief of Staff, General Charles Brown largely avoided assigning a qualitative grade to the service's readiness and instead communicated the need to redefine the term.⁶⁸ He initiated a force presentation model called AFFORGEN (Air Force Generation) to replace the Air Expeditionary Force construct model because the service “lacked the ability to present an easily understood model that reflected all facets of air power and the ability to clearly articulate readiness impacts.” Now, however, “after nearly two decades of demanding rotational deployments, we are shifting to a model that builds high-end and sustainable readiness toward future missions by balancing elements of current availability, modernization and risk.”⁶⁹

More recently, in February 2024, the Air Force announced “sweeping changes...amid Great Power Competition.”⁷⁰ Through its Reoptimization for Great Power Competition initiative, the Air Force is once again shifting the narrative and declaring that the unit of action is a wing, not the flying squadron. In addition to being a fundamental departure from the service's beginnings, this does not make sense from a warfighting perspective. The real problem the Air Force is trying to solve is not in a model or presentation but in resourcing and force generation for integration into the Joint Force.

Because of the seemingly ever-moving goalposts of the service's force presentation and readiness measurements, any assessment of Air

Force readiness is difficult. However, regardless of the model, flying readiness depends on having the right mix of aircraft,⁷¹ maintenance capability, and aircrew that are trained and qualified as well as the right infrastructure and logistics to sustain operations.

Maintenance Capability. Maintenance capability is the sum of the right number of people with the right training and the right equipment who are armed with the parts necessary to perform and keep the airplanes ready to fly. Maintenance manning remains relatively healthy across the three broad training and experience levels.⁷² However, due to the age of the fleet, more maintenance touch time and greater cost are needed to keep the jets flying.

As the fleet has aged, the Air Force has had to spend increasing amounts of money on depot maintenance. It plans, for example, to spend more than four times as much money on depot-related activities in FY 2025 (inflation adjusted) as it spent in FY 2011.⁷³ Another concern is that the subcontractors that manufacture many of the parts needed for older weapons systems often are small businesses that last only a single generation.

Annual inflation-adjusted spending on weapons system sustainment (WSS) has remained relatively consistent at approximately 10 percent of the total annual budget. However, due to shrinking fleet sizes and fewer pilots who are flying less, it is hard to score consistent WSS spending as a win. As recently as FY 2022, in response to a senatorial inquiry about the cutback in flight hours, Lieutenant General David Nahom, Deputy Chief of Staff for Plans and Programs, said that “[WSS] is actually approaching \$1 billion a year, just in increased costs. And this year, in [fiscal] ’22, we were not able to fund that increase.”⁷⁴ Similarly, in an April 2024 presentation to the Senate Armed Services Committee’s Subcommittee on Readiness, Vice Chief of Staff General James Slife similarly stated that “the WSS portfolio continues to grow due to aircraft sustainment beyond design life, fielding new weapons systems with increased technical complexity, increasing requirements for Contract Logistics Support, and inflation above planned levels in labor and material costs.”⁷⁵

It is important to emphasize that the inflation-adjusted cost increases are to support a continually shrinking fleet. The Air Force continues to fight to balance its Operation and Maintenance portfolio; WSS funding in the FY 2026 budget

request is 85 percent, down from 87 percent in the 2025 request,⁷⁶ but 85 percent funding means that the Air Force will likely be unable to fully execute its flying hour program. Execution of the full flying hour program will require significantly more maintenance man-hours because of the need to cannibalize parts from other jets to fix the jets they intend to fly.

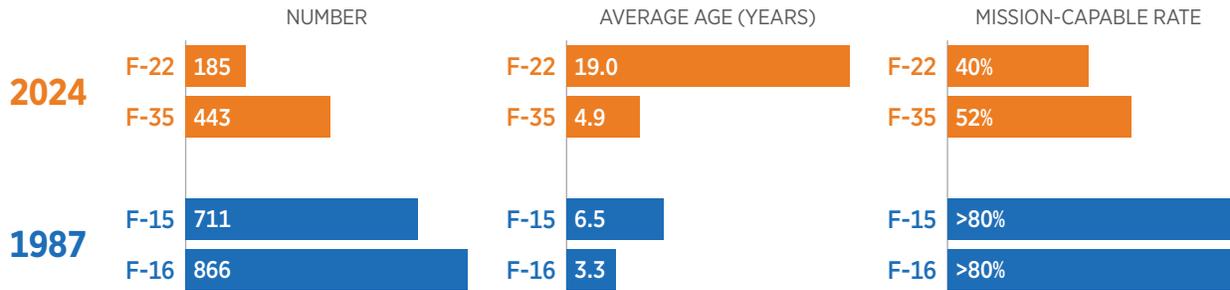
Despite the maintainers’ best efforts, getting the jets in the air is increasingly difficult, which is why the mission-capable rate and aircraft availability are so low. The low sortie availability has compelled some fighter squadrons to hot-pit refuel more frequently.⁷⁷ Hot-pitting is one tool that units use to overcome fleet health issues, but it has a detrimental impact on pilot and unit readiness.

Hot-pit refueling is the practice of refueling an aircraft immediately after landing while keeping the engines running to minimize time spent on the ground. It allows sorties to be generated faster, which results in more sorties for a given amount of aircraft maintenance touch time.⁷⁸ Hot-pits should be in every commander’s playbook, but they should not be overused to mask problems.⁷⁹ Not only is the practice physically demanding on the aircrew, but such sorties are less effective from a training perspective because hot-pits do not often afford sufficient time to debrief and capture lessons learned. Moreover, the Air Force’s recent practice of overutilizing hot-pits has caused morale issues within the pilot force.

Aircrew. The pilot shortage may be the single most concerning challenge facing the Air Force today. It not only impacts the service from the tactical level to the operational and strategic levels, but also goes relatively unnoticed outside of the service. There are many reasons why the shortage has not received the attention that it requires, but the biggest is that the Air Force continues to execute superbly in lower-intensity conflicts despite the realities that it faces. For example, in April 2024, forward deployed F-15Es shot down more than 70 drones and missiles to protect Israel in what the Air Force called the “largest air-to-air enemy engagement in over 50 years.”⁸⁰ More recently, in June 2025, the Air Force overwhelmingly struck Iranian nuclear facilities during Operation Midnight Hammer.

The airmen executing these missions performed remarkably, and all Americans should be proud of

Frontline Air Force Fighter Jets: Fewer, Older, and Less Ready



SOURCES: “An Air Force Almanac,” *Air Force Magazine*, Vol. 70, No. 5 (May 1987), p. 87, https://www.airandspaceforces.com/app/uploads/1987/05/AFmag_1987_05.pdf (accessed January 20, 2026), and “Air Force & Space Forces Almanac 2025,” *Air & Space Forces Magazine*, Vol. 108, Nos. 5 and 6 (May/June 2025), pp. 58 and 60, https://www.airandspaceforces.com/app/uploads/2025/06/Almanac2025_fullissue_V6.pdf (accessed January 20, 2026).

them, but even though the challenges the airmen faced required great skill and airmanship, these missions took place in relatively permissive air environments. In other words, even if these missions were something different from the war on terrorism, they were still nowhere close to the challenge that China could present.

Despite the high operational tempo over the years, service leadership has continued to emphasize the need for more flight time for aircrews. In 2018, for example, Secretary Wilson “noted that even when aircrew go abroad and fly combat missions, such as those against violent extremists such as the Islamic State, they’re not practicing skills that would be required for a high-end fight against an advanced adversary such as Russia.”⁸¹

Even with Air Force leadership acknowledging the need for more high-end flight training, the number of flight hours executed has remained flat at best. In fact, a thorough review of Air Force budget requests for the past 20 years reveals that the number of budgeted flight hours has decreased much more sharply than the fleet size has. Over the past 20 years, the Air Force has reduced fleet size by roughly 12 percent, but it has reduced its annual flight hours by 37 percent.⁸² Since the COVID-19 pandemic, the Air Force has not executed more than 1.1 million hours.⁸³ The 2024 budget request was a low-water mark with the service requesting

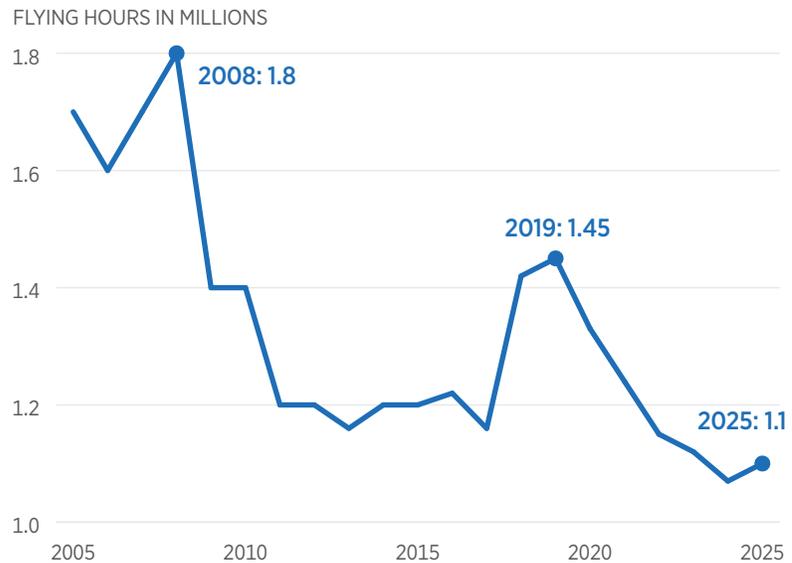
only 877,000 hours.⁸⁴ The FY 2026 budget request seeks 1.098 million flight hours, down by 7.5 percent from the number in the FY 2025 budget request.⁸⁵

The 20-year data also reveal that the first time the Air Force caveated the number of requested flight hours was in 2017 when it stated that 1.16 million hours “caps flying hours at executable levels.”⁸⁶ Since then, the service has made similar qualifying statements about capping hours in most subsequent budget requests. The 2017 flying hour alibi coincides with testimony from Lieutenant General Gina M. Grosso, Deputy Chief of Staff for Manpower, Personnel, and Services, that the Air Force had a shortfall of 1,555 pilots.⁸⁷

Since declaring the pilot shortage, the Air Force has been trying to increase annual production to approximately 1,500 pilots per year, because the service considers that to be a healthy level of production.⁸⁸ However, 1,500 remains an elusive goal for reasons that include the training aircraft fleet’s MC rates.⁸⁹ In fact, the Air Force continues to struggle to replace its T-38 training aircraft, which is nearly 60 years old. It was slated to receive its first production T-7, which is the T-38’s replacement, in 2023, but now the new trainer will not begin to arrive at pilot training bases until 2026 at the earliest.⁹⁰ The Air Force is seeking to acquire eight T-7As in its 2026 budget request.⁹¹

Not inflexibly resistant to change, the Air Force has experimented by tweaking its pilot training

Air Force Flying Hours Down 24 Percent Since 2019



SOURCE: U.S. Air Force, Financial Management and Comptroller, "Department of the Air Force President's Budget Request," various years, <https://www.saffm.hq.af.mil/FM-Resources/Budget/Air-Force-Presidents-Budget-FY25/> (accessed January 20, 2026).

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program. A few years ago, there was an attempt to use synthetic and simulated means to increase pilot training, but the service ultimately determined that this approach was flawed. In its latest innovation, the service is now looking to outsource the first 110 hours of pilot training to commercial flight schools at which point the Air Force would continue training to develop combat aviator skills.⁹² Although it is too early for a definitive assessment, the service has said this approach is showing promise.

Until the pilot production problem is solved, the Air Force will continue to feel the shortage in several ways. For one thing, fighter squadron manning is below even peacetime requirements, which are themselves insufficient to meet the demands of sustained combat operations. The Air Force would not release fighter manning data, but these data are almost certainly below the standard peacetime ratio of 1.25 pilots per aircraft. In combat, however, the demands on flight hours, sortie rates, mission planning, and supervision increase significantly, and the manning ratios increase to at least 1.5 pilots per aircraft. Pulling pilots from other units and inserting them into the deploying squadrons could help to mitigate this shortfall, just as it helps to stretch limited aircraft, parts, and support

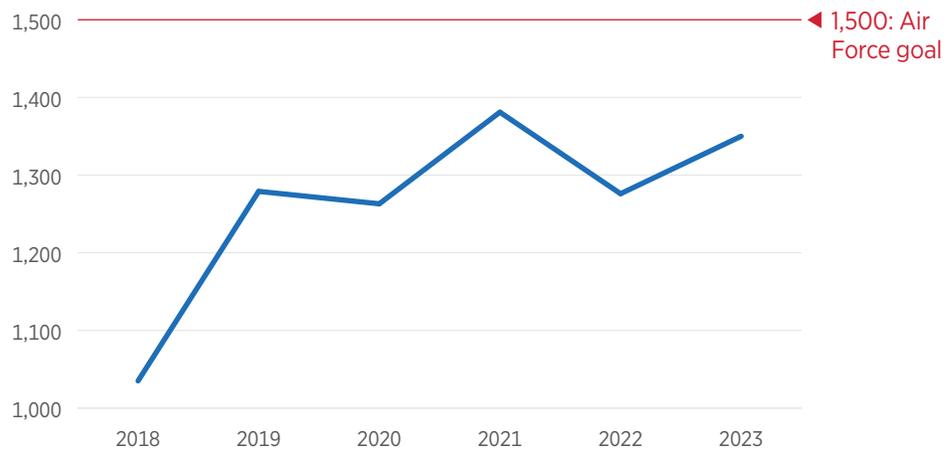
equipment, but it is not currently a viable option. In the past, the Air Force could "plus up" by pulling experienced pilots from non-flying assignments, but because the service has already reassigned most available fighter pilots from non-flying billets back to operational units, there is no one left to pull. While not germane to tactical flying readiness, pulling the fighter pilots from staffs, even though necessary, comes at a cost to strategic readiness by leaving higher headquarters with critical shortfalls in rated officer expertise.

Finally, because of the relatively low availability of aircraft cockpits, increasing the number of pilots in each operational squadron after increasing pilot production merely trades one problem (not enough pilots) for another problem (too many pilots who subsequently fly too few sorties). The Air Force refers to this combination of factors as "absorption." Rather than pulling non-flying pilots from their staff positions to fill operational cockpits, one might suggest keeping them in place and instead assigning new pilots to those flying roles. However, that approach fails because squadrons require a balanced mix of experience levels and cannot function effectively if they are disproportionately saturated with unseasoned pilots.

Air Force Pilot Production Remains Below Stated Goal

The Air Force has been facing a pilot shortage since 2018, yet progress toward its 1,500-pilot goal remains meager.

NEW PILOTS PRODUCED, BY FISCAL YEAR



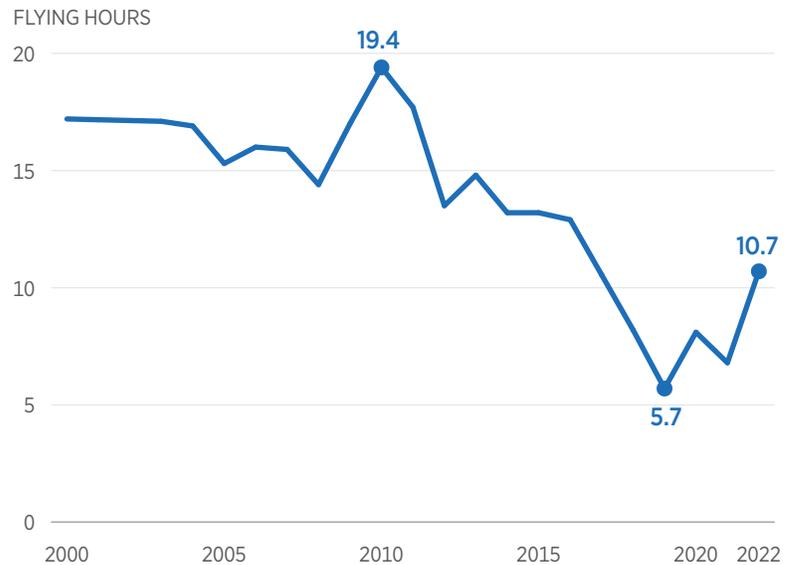
SOURCES: Greg Hadley, “Hundreds of Airmen Stuck Waiting to Start Pilot Training as Shortage Persists,” *Air & Space Forces Magazine*, September 11, 2023, <https://www.airandspaceforces.com/airmen-waiting-pilot-training-shortage/> (accessed January 20, 2026); Bradley Bowman and Major Brian Leitzke, “Avoiding Empty Cockpits: Addressing the Air Force’s Pilot Shortage Problem,” *Breaking Defense*, August 25, 2022, <https://breakingdefense.com/2022/08/avoiding-empty-cockpits-addressing-the-air-forces-pilot-shortage-problem/> (accessed January 20, 2026); and Amy Hudson, “The Pilot Shortage Quandary,” *Air & Space Forces Magazine*, April 25, 2018, <https://www.airandspaceforces.com/article/the-pilot-shortage-quandary/> (accessed January 20, 2026).

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Given the downsizing of the fleet, it makes sense that the Air Force has been flying less from a macro perspective, but each individual pilot has also been flying less—considerably less than was true for previous generations. As Chart 18 depicts, monthly fighter pilot flight hours have been down substantially for more than a decade. A review of data for the past 20 years reveals that from FY 2003 until FY 2011, the number of monthly flight hours per fighter pilot was never less than 15 per month (except for FY 2008 when the average was 14.4 hours per month). Since FY 2011, there has not been one year in which Air Force fighter pilots averaged 15 flight hours per month; the data for the most recent five years show that monthly average flight hours broke double digits only once: 10.7 in FY 2022. These trends were corroborated by General Mark Kelly, Commander, Air Combat Command, on September 21, 2022, when he stated in a speech that the average fighter pilot received just 6.8 hours of flying time per month for a total of 81.6 hours in 2021.⁹³

This flying time has become a reality despite the fact that Air Force regulations set minimum thresholds for sorties based on experience levels, and the Ready Aircrew Program (RAP) dictates that inexperienced fighter pilots must fly nine sorties a month (experienced must fly eight).⁹⁴ At a notional 1.3 hours per sortie, which is conservative, nine flights would equate to a monthly average flight time of 11.7 hours if each pilot was flying the minimum number of RAP-required flights. Some will say that simulators are offsetting the shortage of flight hours, but the numbers directed by the RAP account for simulators (RAP requires three simulator “sorties” per month). These numbers, combined with numerous interviews of current fighter squadron and fighter wing commanders, reflect an Air Force in which aircrews are not receiving enough quality training sorties. While the factors driving the low hours and therefore low readiness are many, the poor health of the fleet is the most significant contributor to this problem.

Air Force Fighter/ Attack Aircraft, Monthly Flying Hours per Pilot



NOTE: Some figures have been interpolated.

SOURCE: “USAF Almanac 2017,” *Air Force Magazine*, Vol. 100, No. 6 (June 2017), p. 62, https://www.airandspaceforces.com/app/uploads/2017/06/AF_June2017.pdf (accessed January 20, 2026); “Air Force & Space Forces Almanac 2022,” *Air & Space Forces Magazine*, “Vol. 105, Nos. 6 and 7 (June/July 2022),” https://www.airandspaceforces.com/app/uploads/2022/07/Almanac2022-Fullissue_V2.pdf (accessed January 20, 2026); and “Air Force & Space Forces Almanac 2024,” *Air & Space Forces Magazine*, “Vol. 107, Nos. 5 and 6 (May/June 2024) p. 60,” https://www.airandspaceforces.com/app/uploads/2024/06/Almanac2024_Fullissue_V11.pdf (accessed January 20, 2026).

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Scoring the U.S. Air Force

Capacity Score: Weak

As part of its overall assessment of capacity, the *2026 Index* looks for 1,200 active-duty combat-coded fighter aircraft to meet the baseline requirement for two major regional conflicts.⁹⁵ As previously noted, that number lines up well with the 2018 TAFWN’s fighter requirement.

The actual number of active-duty combat-coded fighters projected for the end of FY 2025 is roughly 800, or 67 percent of the two-MRC/TAFWN benchmark. These forces are sufficient to fight and win a single MRC, but given their low mission capability rates, it would take global sourcing to field the combat fighter force required for that MRC. The rest of the world would be largely uncovered, and virtually no active-duty forces would remain to respond to a second MRC. For these reasons, the Air Force scores “weak” for capacity, unchanged from the *2024 Index*.

Capability Score: Strong

The Air Force’s capability score is “strong,” based on scores of “strong” for “Size of Modernization Program” and “Health of Modernization Programs,” “marginal” for “Capability of Equipment,” and “weak” for “Age of Equipment.” This assessment is improved from the *2024 Index*’s rating of “marginal” due to efforts to recapitalize the nuclear portfolio to include the B-21, the prospects of the F-47 teamed with Collaborative Combat Aircraft, and acquisitions of the F-35 and F-15EX.

Readiness Score: Very Weak

The Air Force scores “very weak” for readiness, the same grade it received in the *2024 Index* and the lowest on the five-grade scale. The Air Force’s sustained pilot deficit certainly contributes to this assessment, but aircraft age and availability, as well as low sortie rates and flight hours for its aircrew,

strongly suggest that the service is not ready for peer conflict. The FY 2025 Air Force Posture Statement states explicitly that:⁹⁶

- “Today, the Air Force is accepting risk...in order to maintain minimally acceptable near-term operational readiness.”
- “This places additional risk on the Air Force’s ability to deter and defeat any adversary going forward.”
- “The Air Force’s operational readiness is near the minimum level acceptable for the service to meet the Nation’s demands.”

Overall U.S. Air Force Score: Weak

This score is a result of the Force’s three scores: a capability score of “strong,” a capacity score of “weak,” and a readiness score of “very weak.” While some positive trends are encouraging, the size and age of the fleet, coupled with low flight training hours and mission-capable rates, demand continued attention and resourcing to ensure the Air Force’s ability to compete with China and deliver on what the 2026 NDS directs.

Policy Recommendations

America’s ability to own the skies and hold targets at risk against a peer adversary has steadily eroded. As a result, the United States is accepting more strategic risk than it should—risk not just of conflict or not being able to deter a conflict, but risk of *losing* a conflict. Conversely, a properly sized, capable, and ready Air Force reduces strategic risk, deters conflict, and ensures that the nation can prevail if deterrence fails.

The Air Force has been on a rough glide path since the turn of the century and at programmed funding levels cannot sustain today’s operational tempo while also building the capability and capacity needed to compete with China. The strategic environment no longer permits delay: Continued underinvestment will only deepen the problem. Congress must therefore significantly increase funding for the Air Force to a level that enables the service to meet both present and future mission requirements. If Congress fails to act, then the Administration must choose between prioritizing near-term readiness at the expense of future

capability or shifting focus to long-term preparedness by reducing current operational commitments.

Thankfully, even though the FY 2026 budget is still being debated, encouraging signs suggest that Congress will sufficiently resource defense for today’s strategic environment. For example, passage of President Trump’s OBBBA was an immediate shot in the arm for the military services. For the Air Force, the OBBBA “provides billions of dollars for aircraft development, production, and maintenance, urging the Air Force to speed assembly of its new B-21 stealth bombers and buy more F-15EX fighters, as well as accelerate development of the next-generation F-47 fighter.”⁹⁷ If the service gets its full request, combined with the OBBBA funding, the result will be an FY 2026 budget that is approximately 17 percent higher than the FY 2025 budget.⁹⁸

The recommendations that follow are aligned with the 2026 National Defense Strategy and assume a necessary increase in Air Force funding to enable the service to meet today’s operational demands and compete effectively with China. With sufficient funding, Congress should:

- **Significantly increase the Air Force’s budget to account for the immense cost of nuclear modernization.** America’s nuclear deterrent has helped to prevent global conflict on the scale of World War II. Because the readiness of America’s nuclear forces is a true no-fail mission, the Air Force needs to deliver on its two legs of the triad. However, the Air Force’s nuclear recapitalization bill is crippling and has forced the service to accept greater risk than it should accept in many nuclear and non-nuclear areas. For example, in its FY 2025 budget request, the Air Force prioritized the following nuclear-related programs: \$3.7 billion for the Sentinel, \$2.7 billion for the B-21, \$1.7 billion for the SAOC, and \$243 million for the ABMS for a total of \$8.343 billion. For context, \$8 billion would fund acquisition of approximately 80 additional F-35s per year.

Given U.S. military defense spending’s zero-sum nature, Congress should acknowledge these exorbitant costs and temporarily enhance the Air Force’s budget to cover its nuclear obligations. Once the nuclear enterprise is fully recapitalized, Congress could readjust

the Air Force's topline accordingly. This action would free resources for the service to pursue the other key budgetary efforts required to deter and defeat China. The OBBBA was a step in the right direction as it significantly increased funding for the B-21 and Sentinel ICBM, but recapitalizing the service's nuclear portfolio will take multiple years of significantly increased funding. One way Congress could fulfill this recommendation is to extend the nuclear-related OBBBA funding increases until the Air Force's nuclear capitalization is completed.

With sufficient funding, the Air Force should:

- **Prioritize funding of the core missions the service is uniquely tasked to do: air superiority and global strike.** This includes accelerating the F-47 and B-21 programs along with the munitions required to maximize their effectiveness. Recent history has shown that aircraft requirements have continually been reduced to solve budgetary challenges. For example, the number of F-22s the Air Force required in the early 1990s was 750, but production was halted in 2009 at a total of 187 aircraft. Similarly, the initial requirement for the B-2 was 132 aircraft, but the final buy was 21. Air Force leadership has stated that the minimum number of F-47s is 185 and the minimum number of B-21s is 145, but those numbers essentially only replace the existing number of F-22s, B-1s, and B-52s. Given the recent trends, it is not prudent to identify too small a number or too low a production schedule. In a June 2025 article, Shawn Barnes and Robert Peters made a compelling argument to double production capacity of the B-21; this recommendation supports the concept and recommends extending it to the F-47 so that the Air Force can acquire 400 F-47s and 250 B-21s. For context, the last time the Air Force was prepared to fight major combat against a peer (1987), the service possessed more than 650 air superiority fighters and 300 bombers.
- **Increase the size of the fleet to meet the requirements the Air Force laid out in 2018 in "The Air Force We Need" for a 2030**

conflict with China. In 2018, the service defined the requirement for such a conflict as 386 operational squadrons; it reaffirmed that requirement in 2022. The foregoing analysis further supports that requirement, which would increase the size of the fleet by one-fourth. Unfortunately, even after factoring in the OBBBA, the FY 2026 budget request continues the trend of downsizing the Air Force's fleet. Halting the drawdown would alleviate pressure on the pilot absorption pipeline, and over time, a larger, younger fleet would lower sustainment costs while improving force capacity, capability, and readiness. The Air Force must also deliver air power across the range of military operations, which makes its latest move to procure the F-15EX and F-35 simultaneously a prudent one.⁹⁹ Additionally, because the Air Force cannot have global reach without sufficient air refueling capacity, addressing persistent issues with the KC-46 should remain a priority. Aircraft divestitures cannot continue to outpace procurements. Ideally, new aircraft would exceed retirements, but even maintaining current numbers would be progress of a sort.

- **Be transparent about readiness.** The Air Force should communicate its readiness challenges clearly and stop the seemingly annual changes in its force presentation and readiness models. These changes distract from the fundamental issue: The Air Force is too small and inadequately resourced to do what America needs it to do.
- **Improve the readiness of its combat units.** History has shown that building a capable air force takes time, and readiness of both people and equipment is the foundation of air power. As observed previously, flying readiness depends on having the right mix of jets, maintenance capability, and aircrew. Pilots and aircrew need to fly to gain and maintain proficiency. As the Air Force climbs its way out of the pilot shortage by producing new pilots, it must be able to provide aircraft and flight hours to the newly created pilots. The current fleet age complicates the balance. The most cost-effective solution is to acquire new aircraft. Until it

U.S. Military Power: Air Force

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Capacity		✓			
Capability				✓	
Readiness	✓				
OVERALL		✓			

ABOUT THE ASSESSMENT CATEGORIES

OVERALL ASSESSMENT. The overall assessment of a military service is measured against its ability to perform its respective role in a two-major regional contingency (MRC) scenario. The assessment of the U.S. Marine Corps is sized against a single major regional contingency (MRC) scenario. This benchmark is the *minimum* standard for U.S. hard-power capacity with the understanding that maintenance, operational tempo, training cycles, crisis response, treaty commitments, and/or strategic reserve considerations can cause some forces to be unavailable. Other factors that influence this assessment are the availability of logistical support to enable combat power (fueling ships, supply ships, cargo aircraft, etc.) and the ability to reconstitute combat power for protracted conflict (defense industrial base capacity, etc.).

CAPACITY. The U.S. military must have a sufficient quantity of the right capability or capabilities to meet its mission sets. Capacity (numbers) can be viewed in at least three ways:

- Compared to a stated objective for each category by each service,
- Compared to amounts required to complete various types of operations across a wide range of potential missions as measured against a potential adversary, and
- As measured against a set benchmark for total national capability.

can lower the age of its fleet through recapitalization, the Air Force must fully resource the maintenance enterprise with sufficient weapons systems sustainment funding so that it can trend back toward an acceptable number of monthly flight hours for each of its pilots.

- **Start to rebuild strategic depth.** This will require action in three areas:
 1. **Pilot Production.** The pilot shortage is ubiquitous because it touches many aspects of the service. The Air Force should continue to work toward producing 1,500 pilots per year, but that will not completely solve the problem. The Air Force needed the T-7 yesterday and must take the requisite steps

CAPABILITY. Examining the capability of a military force requires consideration of:

- The proper tools (material and conceptual) with the design, performance characteristics, technological advancement, and suitability that the force needs to perform its function against an enemy successfully;
- The sufficiency of armored vehicles, ships, airplanes, and other equipment and weapons needed to win against the enemy;
- The appropriate variety of options to preclude strategic vulnerabilities in the force and give flexibilities to battlefield commanders; and
- The degree to which elements of the force reinforce each other in covering potential vulnerabilities, maximizing strengths, and gaining greater effectiveness through synergies that are not possible in narrowly stovepiped, linear approaches to war.

READINESS. While capacity and capability considerations are central to the warfighting ability of the U.S. military, readiness performs a crucial role in determining whether combat power is prepared when it is needed. Factors that are considered include (among others):

- Sufficient staffing levels,
- Fulfillment of training requirements, and
- Age and maintenance of equipment.

to ensure that the program does not slip any further than it already has.

2. **Industrial Surge Capacity.** Investments in the infrastructure and supply chains that are needed to enable the rapid scaling of aircraft and munitions production during a conflict are essential. Surge capacity will not materialize on demand; current lead times are measured in dozens of months.
3. **Maintenance.** The maintenance and logistics enterprise must recognize and utilize the capabilities of field-level maintenance units. Reducing reliance on depot-level work will increase aircraft availability, which is especially critical with

today's older and smaller fleet. This is not to minimize the value of the outstanding work done by the professionals in the depot maintenance community, but to be effective, the service's maintenance policies and procedures must reflect the realities of an older fleet and limited depot bandwidth.

Endnotes

1. Unless otherwise specified, when this chapter refers to the FY 2026 budget request, the detail or fact provided is a combination of information found in both the OBBBA and the budget request. The Air Force breaks down its 2026 budget data into separate mandatory (OBBBA) and discretionary (request) numbers and combines them into a single 2026 number. In addition, the Air Force did not respond to requests for information as this chapter was being written. As a result, the data used are a combination of publicly available budget information, Air & Space Force Association data, off-the-record interviews, and expert determination. It should also be noted that this builds on the prior work of John Venable, author of the Air Force chapter in several previous editions of the *Index of U.S. Military Strength*.
2. Video of testimony by Lieutenant General Adrian Spain, Deputy Chief of Staff for Operations, United States Air Force, before the Committee on Armed Services, U.S. Senate, March 12, 2025, <https://www.dvidshub.net/video/955030/lt-gen-adrian-l-spain-usaf-testifies-readiness> (accessed October 31, 2025). Cited hereinafter as Spain video, March 12, 2025.
3. The Honorable Michael B. Donley, Secretary of the Air Force, and General Mark A. Welsh III, Chief of Staff, United States Air Force, “Fiscal Year 2014 Air Force Posture Statement” before the Committee on Armed Services, U.S. House of Representatives, April 12, 2013, p. 2, <https://www.af.mil/Portals/1/documents/budget/2014-budget-posture-statement.pdf> (accessed October 31, 2025).
4. John Venable, “Independent Capability Assessment of U.S. Air Force Reveals Readiness Level Below Carter Administration Hollow Force,” Heritage Foundation *Backgrounder* No. 3208, April 17, 2017, p. 2, <https://www.heritage.org/sites/default/files/2017-04/BG3208.pdf>.
5. Table 1, “Timing of Enactment of Regular Appropriations Bills and Use of Continuing Resolutions (CRs): FY1977–FY2025,” in James V. Saturno, Megan S. Lynch, Bill Heniff Jr., Drew C. Aherne, and Justin Murray, “Continuing Resolutions: Overview of Components and Practices,” Congressional Research Service *Report for Members and Committees of Congress* No. R46595, updated March 27, 2025, pp. 10–11, https://www.congress.gov/crs_external_products/R/PDF/R46595/R46595.7.pdf (accessed December 11, 2025). From 2010–2024, there were 58 resolutions with a maximum of eight in 2011.
6. Spain video, March 12, 2025.
7. This is not an argument to reduce the size of the Reserve Component. Quite the contrary, the Active Component needs to grow while at a minimum maintaining the size of the RC.
8. James Mattis, Secretary of Defense, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military’s Competitive Edge*, U.S. Department of Defense, <https://www.dau.edu/sites/default/files/Migrated/CopDocuments/2018%20National%20Defense%20Strategy%20Summary.pdf> (accessed October 31, 2025).
9. Air Force News Service, “The Air Force We Need: 386 Operational Squadrons,” September 17, 2018, <https://www.af.mil/news/article-display/article/1635070/the-air-force-we-need-386-operational-squadrons/> (accessed October 31, 2025).
10. U.S. Department of Defense, 2022 National Defense Strategy of the United States of America Including the 2022 Nuclear Posture Review and the 2022 Missile Defense Review, <https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.PDF> (accessed November 2, 2025).
11. “LGM-30 Minuteman III,” *Air & Space Forces Magazine*, n.d., <https://www.airandspaceforces.com/weapons-platforms/minuteman-iii-icbm/#:~:text=Minuteman%20III%20is%20already%20more,four%20test%20launches%20in%202024> (accessed October 31, 2025).
12. Anya L. Fink, “Defense Primer: LGM-35A Sentinel Intercontinental Ballistic Missile,” Congressional Research Service *In Focus* No. IF11681, updated September 11, 2025, <https://sgp.fas.org/crs/natsec/IF11681.pdf> (accessed October 31, 2025). “In January 2024, the Air Force informed Congress that the Sentinel program exceeded its initial cost projections, posting at least a 37% increase (from \$118 million initial baseline cost to \$162 million in 2020 dollars) in the cost per unit. This cost increase is known as a ‘critical’ breach per the Nunn–McCurdy Act (Title 10 U.S. Code §§4371–4377), which requires the Secretary of Defense to certify that the program is essential to national security, has no cheaper alternatives, and cannot be terminated.” *Ibid*.
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U.S. Marine Corps

Mike Jernigan

Introduction

The United States Marine Corps (USMC) serves as America’s expeditionary force positioned for rapid response to international crises. The Corps delivers a unique capability to deploy on short notice with an inherent flexibility that is based on its employment of integrated Marine Air Ground Task Forces (MAGTFs). After 20 years of counterinsurgency, the Marine Corps is four years into reorganizing itself to improve its ability to prevail against the military forces of the People’s Republic of China (PRC) and challenges posed by other high-capability adversaries. This modernization is based in part on the F-35 Lightning fifth-generation aircraft, the MQ-9 Reaper unmanned aircraft, and the development of Marine Littoral Regiments (MLRs).

Evaluated against the two existing requirements for the Marine Corps—to provide three Marine Expeditionary Units every day of the year and to support one major regional contingency (MRC)—the Marine Corps is evaluated as “strong” both overall and for capacity, capability, and readiness. The capacity rating is an increase from the *2024 Index of Military Strength* and is largely due to changing the unit of measure from single infantry battalions to composite MAGTFs and not measuring the Marine Corps against the other services’ directive to support two MRCs.

However, capacity, capability, and readiness are all affected by a shortage of amphibious shipping, recurring budget uncertainty, and an austere recruiting environment. The shortages of amphibious shipping, sealift, long-distance transportation, and sustainment, while addressed in other chapters, particularly affect the Marine Corps but not to the point that they prevent the Corps from completing its assigned missions. Additionally, the

technological gains being made by the PRC and other potential adversaries pose challenges to the entire Joint Force, not just the Marine Corps.

Service Overview

2025 marked the 250th anniversary of the United States Marine Corps. On November 10, 1775, the Second Continental Congress directed that two battalions of Marines be established to seize and defend advanced naval bases. In the days of wooden sailing ships, the ability to go ashore to get fresh water and food was critical, as was the ability to board other ships and repel boarders, and the Marines were able to perform all of those essential tasks for the nascent United States Navy. Five months later, the Marines conducted their first amphibious landing, capturing cannons, muskets, and ammunition from the British garrison at Nassau in the Bahamas. George Washington would later use those captured arms and munitions against the British at the battles of Trenton and Lexington.

From that start, Marines have earned distinction in every American war. Their defense of Washington, DC, in the War of 1812 earned such respect from the British that, as a sign of admiration for fellow warriors, they did not burn the Commandant’s house when they sacked the city. Marines served on both sides during the American Civil War and notably fought each other at both battles for Fort Fisher. The Marines seized key objectives in the 1898 Spanish–American War, and all remain today as part of America. World War I found the Marines assigned in desperation to the most difficult areas. Blanc Mont, Soissons, and Belleau Wood went from nearly lost causes to legendary Marine victories. For their tenacity at Belleau Wood, their adversaries named them “devil dogs” because they fought like hounds

U.S. MARINE CORPS AT A GLANCE

EST. 1775  MOTTO
Semper Fidelis,
"Always Faithful"

 John Phelan
Secretary of Navy

 Gen. Eric Smith
Commandant

MAJOR BASES



- 1 Camp Pendleton
- 2 MCAS Miramar
- 3 Marine Corps Air Ground Combat Center Twentynine Palms
- 4 Marine Corps Air Station Yuma
- 5 MCB Quantico
- 6 Camp Lejeune
- 7 Camp Foster

CURRENT BUDGET

IN BILLIONS FOR FY 2025

\$52.7

CURRENT PERSONNEL

ACTIVE-DUTY MILITARY

170,000

RESERVE MILITARY

33,000

CIVILIAN

18,000

KEY EQUIPMENT (estimated current inventory)



LAV-25 (488)



Amphibious Combat Vehicle (324)



JLTV (6,100)



M142 HIMARS (47)



NMESIS (18)



MV-22B Osprey (297)



F-35 (171)



F-18 (110)



MQ-9 Reapers (18)

SOURCE: Heritage Foundation research.

 heritage.org

from hell. The nickname remains today. World War II found the Marines adding to their renown with key victories at Guadalcanal, Saipan, Tarawa, Iwo Jima, and Okinawa. The Korean War is famous for the Marines' actions at the Chosin Reservoir and the epic amphibious landing at Inchon. One of the high points of the Vietnam War was the Marines' successful Combined Action Program with their South Vietnamese allies. In the Persian Gulf War, the Marines captured the Kuwaiti airport while simultaneously conducting one of the largest amphibious feints in history. In Iraq, Marines liberated Baghdad, Tikrit, and Fallujah. In Afghanistan, Marines were again sent to and excelled in the most dangerous place on the planet at that time, Helmand Province.

Throughout its 250-year history, the United States Marine Corps has gone where others could not or would not go and has excelled in the most austere environments. It remains the nation's expeditionary force and ready to deploy again on short notice anywhere in the world, wherever America's enemies choose to threaten American interests. As the 34th Commandant of the Corps, General James T. Conway, has said, "The Greeks had their Spartans. The Romans had their Centurions. The French had their Imperial Guard. America has her Marines."¹

Current Construct

The United States is a maritime nation, flanked by two oceans, and "the seas are the lifeblood of our economy, our national security, and our way of life."² The United States Marine Corps, in the words of 39th Commandant General Eric M. Smith, serves "as our Nation's expeditionary force in readiness and as its elite soldiers from the sea."³ Consequently, many of the USMC's challenges are tied to the Navy's plan for amphibious shipping.

In 2020, 38th Commandant General David Berger realized that "the Marine Corps [was] not organized, trained, equipped, or postured to meet the demands of the rapidly evolving future operating environment."⁴ Accordingly, he directed that the Marine Corps' structure and capabilities be revised to ensure that the Corps was better aligned to support the National Defense Strategy and Defense Planning Guidance. Force Design 2030 directed change away from "20 years of operations in the Middle East" to "preparing to counter a near-peer adversary in the Indo-Pacific: China,"⁵ an adversary that "continues to grow in capability, capacity, and

boldness."⁶ The essence of—and inherent challenge posed by—Force Design is "[a]ccepting near-term risk for long-term gain."⁷

Something that has not changed is that Marines prefer to deploy and fight as composite units known as Marine Air Ground Task Forces. A MAGTF is built around a ground combat unit with supporting aviation and logistics units and a command element (a single commander) over the top of the organization. When combined in this fashion, a MAGTF's effectiveness and combat power are more than the sum of its components, bringing a synergy of combined arms "to create single-battle effects."⁸ "The greatest strength of this warfighting system," according to General Smith, "is its ability to be rapidly tailored-to-purpose and subsequently scaled in accordance with the changing operating environment or threat."⁹ At the tactical level, MAGTFs are commanded by colonels (O6).

When these MAGTFs are assigned to Amphibious Ready Groups (ARGs), they are known as Marine Expeditionary Units (MEUs). MEUs have been called the "crown jewel" of the Marine Corps and are in high demand because they "respond to crises all over the globe and prevent crises from turning into a larger conflict."¹⁰ MEUs form the primary source of strategic advantage to Combatant Commanders and assure allies and partners.¹¹ According to General Smith:

When an ARG/MEU is not present, it puts Americans at risk.... [E]very time you have a gap, you as an American citizen, a gap in an ARG/MEU off the coast of Africa, you have to consider is now the time to take the safari to Kenya? Is now the time that I want to go into West Africa? America should not have to pick and choose what windows its citizens travel. It should be able to evacuate its citizens from war torn countries 24x7x365. And that's what we do as Marines.¹²

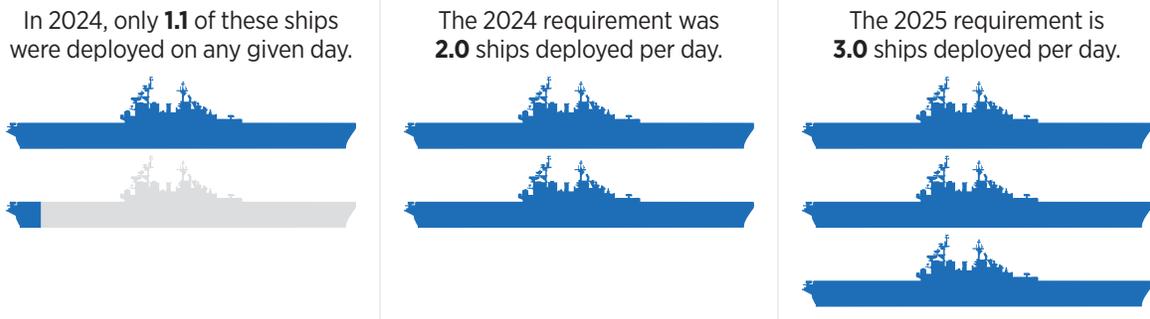
Challenges

Amphibious Shipping. If ARG/MEUs are "the coin of the realm,"¹³ they are having some problems with exchange rates. Force Design 2030 (now known as Force Design) specifies that "[a]mphibious warfare ships are the cornerstone of maritime crisis response, deterring adversaries, and building partnerships."¹⁴

FIGURE 2

Amphibious Assault Ships: Availability vs. Requirement

The U.S. Navy has 9 amphibious assault ships (LHDs and LHAs) currently in inventory.



SOURCE: Lieutenant Colonel James W. Hammond III, “U.S. Marine Corps Year in Review,” U.S. Naval Institute *Proceedings*, Vol. 151/3/1,465, March 2025, <https://www.usni.org/magazines/proceedings/2025/march/us-marine-corps-year-review> (accessed January 21, 2026).

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One of the main challenges the Marine Corps faces is the dearth of capable and reliable amphibious shipping. Other parts of this *Index* examine in detail how and why the United States is at this point and what a get-well plan could look like. With respect to the Marine Corps, “We can’t employ what we don’t have ready.”¹⁵ The Corps would benefit from more amphibious shipping and a level of maintenance that ensures its ability to meet existing, scheduled commitments.

Congress has “demonstrated its support for the Marine Corps” and its continued role in crisis response by establishing a minimum requirement of 31 amphibious ships: 10 Landing Ships, Helicopter Assault (LHA) or Landing Ships, Helicopter Dock (LHD) (known as “big decks”) and 21 smaller Landing Ships, Platform Dock (LPD) and Landing Ships, Dock (LSD).¹⁶ As General Smith has stated, anything less than 31 amphibious ships means “we risk being caught short when the Nation calls.”¹⁷ Yet the U.S. amphib program faces considerable challenges.

ARG/MEUs are designed to relieve each other “heel to toe,” which means there always is an ARG/MEU on station in a particular part of the world, allowing no opportunity for a potential adversary. However, there are not enough amphibs ready to meet that requirement. For example, there was a gap of two months between ARG/MEUs in the

Mediterranean in the spring of 2024.¹⁸ Did this gap embolden Hamas in their continuing conflict with Israel? Did the lack of an MEU/ARG off the coast discourage the Israelis? It can’t be known for certain, but deterrence and combat power have an effect, and their absence does as well.

In 2024, significant maintenance challenges affecting the USS *Boxer* (LHD-4) prevented the 15th MEU from deploying with its F-35 detachment, and maintenance issues affecting the USS *America* (LHA-6) similarly kept the 31st MEU from “fully support[ing] their presence and exercise commitments.”¹⁹

Moreover, it looks as though the problem is going to become more serious. The challenge is twofold, and each aspect exacerbates the other: More ships are needed, and those that exist need better maintenance reliability. If maintenance reliability is not consistently maintained, we need more ships. If we don’t have enough ships, we must cover the gap by increasing the use of our existing ships, which means extending the intervals between their scheduled maintenance.

An example of this shortage took place in 2024 when ARG/MEU deployments were only 50 percent of the Combatant Commanders’ desired tempo; “of the eight amphibious assault ships (LHDs and LHAs) that form the core of deploying ARGs

from Norfolk, Virginia, and San Diego, California, on average, only 1.1 were deployed at any time during the year—less than the desired 2.0 and about 14 percent of the available CONUS-based force.”²⁰ The 2025 requirement from the Geographic Combatant Commanders is 3.0, further underscoring these challenges.²¹ As one analyst recently put it, amphibious ships form 64 percent of the Navy’s remaining ship population that use antiquated, steam-powered technology from the 1980s.²²

The drumbeat of warnings about the state of America’s amphibious warships has been steady. The Government Accountability Office (GAO) reported in 2024 that “[h]alf of the Navy’s amphibious ships are in poor condition” and “not currently on track to meet their expected service lives,” and the Navy “is likely to face difficulties meeting a statutory requirement to maintain a fleet size of at least 31 operational amphibious warfare ships between 2032 and 2040.”²³ Additionally, “[i]n some cases, ships within the amphibious warfare fleet have not been available to support Marine Corps operations and training for years at a time.”²⁴ The Commandant of the Marine Corps testified in April 2024 that “steady procurement for our amphibians is...the most vital thing...for our expeditionary warfighting capability.”²⁵

While the shortage of amphibious shipping is a Navy problem, the consequences fall on the Marine Corps. Accordingly, the Corps is working to mitigate the shortage of amphibians. One potential option is to construct Landing Ship Mediums (LSMs). However, because of concerns about costs and survivability requirements, the LSM program is not currently active.²⁶ As the Commandant recently put it, “This is a wicked, hard problem because we’re trying to find the knee in the curve between affordability and utility. I don’t want something that’s affordable that I can’t use.”²⁷ The Corps is currently experimenting with another option: stern landing vessels.²⁸ The need for such a transportation capability has been described by General Smith:

I’ve evacuated two embassies in my life. One in Monrovia, Liberia; and one in Freetown, Sierra Leone and they happen when they happen. They required evacuation and they required it immediately. When an ARG/MEU is not present, it puts Americans at risk. It puts the combatant commander at a disadvantage

because he doesn’t have a credible, capable combat force that’s capable of spanning the ROMO—the Range of Military Operations.²⁹

Aside from the obvious transportation and employment challenges that a lack of amphibious shipping represents, the Marine Corps faces an additional maritime challenge: sustainment. The Maritime Prepositioning Force (MPF) is a program of ships that are filled with Marine equipment, stationed around the world, and able to respond rapidly to crises. These preloaded ships in their forward locations shorten the time needed to transport and equip Marines and are organized in two squadrons, each of which can support a Marine Expeditionary Brigade (MEB) of up to 16,000 Marines for 30 days.³⁰

The challenge comes in the reduction of squadrons and corollary lack of support to MEBs. Since 2014, the MPF fleet has been reduced from 16 ships to seven, and the result has been nearly a million square feet of lift reduction and the loss of an entire squadron. As the Marine Corps has three standing MEBs and can field nine other MEB-equivalent units on any given day, there is an MPF shortage of up to 10 squadrons. In the past, each of the three standing MEBs had its own dedicated MPF squadron of ready equipment. Congress should therefore fund the construction of a third MPF squadron (four ships) to ensure that each of the Marine Corps’ existing MEBs has the equipment needed to respond on short notice to crises anywhere in the world.

Congressional Funding. The Marine Corps also faces other challenges, chief among them being consistent funding from Congress. Congress’s recent habit of approving continuing resolutions instead of budgets has deleterious effects on all of the services, but it is particularly acute for the Marine Corps as it works to enact Force Design, modernize, and conduct ongoing operations simultaneously. By law, continuing resolutions limit spending to the previous year’s level and prohibit “any *new activities* not funded in the previous fiscal year.”³¹

General Smith has been consistent in his request that Congress pass a budget and not rely on continuing resolutions. In May 2024, for example, he appeared before the House Armed Services Committee and was asked, “what can Congress do to help?” His response: “Congressman, the steady, reliable funding is—is really important, frankly.

When we go into...continuing resolutions...we have to spend at last year's rate. And...all of our advancements are in the current year." This "retards...our progress and it slows us down."³²

In January 2025, he told a group of journalists that "[w]ith a continually delayed budget we're losing years on force design.... Whenever we have Continuing Resolutions we're capped at the previous year's spending numbers, and that doesn't get you ahead of the pacing threat of the PRC who is moving at a cyclic rate."³³ And in April 2025, he told the Sea-Air-Space Symposium that "we need predictable, on-time funding that only Congress can provide. Meaning, continuing resolutions aren't continuing anything, *they stop our progress*."³⁴ The 2026 Congress appears to be willing to address this liability.

The problem takes on a generational focus when one realizes that Congress has not passed a budget in seven of the past 15 fiscal years.³⁵ How many of those years were consecutive? If a continuing resolution limits spending to last year's amount and last year we had a continuing resolution, are we four years behind the PRC's military investment or seven? While Congress has authorized \$1 billion more than the Marine Corps requested in the National Defense Authorization Act (NDAA) for fiscal year (FY) 2025,³⁶ robust appropriations are necessary to meet Marine Corps requirements. Congress's addiction to continuing resolutions must stop; it must pass the budget and appropriate the money the Marine Corps needs to do what Congress told it to do.

Recruiting. Not unique to the Marine Corps but perhaps affecting it more because of the Corps' higher physical standards for entry, fewer Americans are qualified to enter the military. In 2022, the U.S. Department of Defense found that 77 percent of Americans who were 17–24 years old were not eligible for military service because of "being overweight, medical/physical disqualifiers, and mental health," also discouraging, these trends appear to be increasing with the largest change over a 10-year period being in mental health.³⁷ Not only are fewer people eligible to join the Marine Corps, but fewer people are even *interested* in joining the Corps (or other services). The Commandant of the Marine Corps recently explained the problem:

What I know is you can't recruit a hundred percent of your force from [5³⁸] percent of your population. The math just doesn't work.

The propensity to serve is going down. It is going down. That's a fact. And that's an annual study, an annual survey that asks young people, would you consider the military as a career. That number is going down. Again, what I know is you can't get 100 percent of your force from [5] percent of the population. That math just doesn't work....³⁹

General Smith summed up the challenge succinctly: "Recruiting is existential to our Corps. If we don't recruit, then we don't have Marines, end of story."⁴⁰ The Marine Corps made its 2025 recruiting objectives and is on its way to making the 2026 goals, but the environment remains challenging.

Keeping Pace with Potential Adversaries' Developments. On top of these internal-to-America challenges, the Marine Corps must keep up with and prepare to defeat potential adversaries. In his last speech as Secretary of the Navy, Carlos Del Toro highlighted that the PRC, Russia, and Iran have all made "consistent strides" in their unmanned attack capability investment and that the Marine Corps and Navy team "must continue to do the same."⁴¹ Current Secretary of the Navy Richard Phelan has said that America is operating "in one of the most dangerous strategic environments in our nation's history."⁴² The Marine Corps Commandant has echoed these views:

Every day the PRC practices illegal, coercive, aggressive, and deceptive tactics designed to slowly erode the international rules-based order and advance its own revisionist view of the world. The counter to these tactics requires a whole-of-government approach, in which our expeditionary forces play a critical role through campaigning, deterrence, rapid response to crisis, and contributing to joint and combined combat operations.⁴³

At the close of 2024, the People's Liberation Army Navy (PLAN) launched its first big deck amphibious ship with great celebration.⁴⁴ This capability will be central to any PRC invasion of Taiwan.

Keeping pace with adversaries' development remains a necessary task for the United States Marine Corps. The PRC is both rapidly developing technological advantages and rehearsing their application. The Commander of U.S. Indo-Pacific Command

(INDOPACOM), Admiral Samuel J. Paparo, testified in April 2025 that:

China continues to pursue unprecedented military modernization and increasingly aggressive behavior that threatens the U.S. homeland, our allies, and our partners. China is developing and integrating cutting-edge technologies—AI, hypersonic and advanced missiles, and space-based capabilities—at an alarming pace. China’s anti-access/area denial capabilities are designed to prevent U.S. forces from operating within the first and second island chains. China is outpacing the U.S. in testing not only these critical technologies but also technologies from across their military industrial base.⁴⁵

Similarly, “[the PRC’s] aggressive maneuvers around Taiwan are not just exercises—they are dress rehearsals for forced unification. The PLA [People’s Liberation Army] escalated military pressure against Taiwan by 300% in 2024.”⁴⁶

According to General Smith, “there’s a saying... that if America sends her Army, they’re going to change your zip code. We’re just going to change your attitude if you send the Marines. They’re there to change your attitude.”⁴⁷ The Marine Corps is working to change the PRC’s attitude about invading Taiwan. Other parts of this *Index* address the propensity of the Chinese to take what they want, coerce access under the guise of short-term payments, export their population to areas of interest to exert majority control, and disregard international laws and norms. When this becomes more than America and her allies are willing to stand, the United States Marine Corps likely will be called in to correct China’s attitude. “What I do know,” says General Smith, “is [that] every time you give China a foot they take a mile. They only understand one thing, which is a credible deterrent force. And that credible deterrent force has to be present to win, which to me means being in the First Island Chain.”⁴⁸

Admiral Paparo knows that China, Russia, and North Korea are cooperating and consequently increasing security threats in the Pacific.⁴⁹ Specifically, “China has provided 70% of the machine tools and 90% of the legacy chips to Russia to help Moscow ‘rebuild its war machine.’”⁵⁰ Even “[m]ore troubling...is North Korea’s deepening relationship

with Russia. North Korea has supplied Russia with ballistic missiles, rockets, and thousands of containers of munitions since late 2022 to support Russia’s war against Ukraine. North Korea expanded its support in October 2024 with at least 12,000 combat forces.”⁵¹

Capacity

Former Secretary of the Navy James Forrestal has been quoted as saying that “[i]n the last and final analysis, it is the guy with the rifle and machine gun who wins the war and pays the penalty to preserve our freedom.”⁵² In past issues of the *Index*, the number and size of infantry battalions have been used as a measure of capacity. While infantry battalions remain important, perhaps a better measure of capacity are the MAGTFs that can be built around those infantry battalions.

There are 22 infantry battalions in the Marine Corps active-duty force.⁵³ Two of these, in the 3rd and 12th Marine Littoral Regiments, are constructed differently. Most of the Marine infantry battalions have 811 people in them and include specialists to conduct “persistent all-weather surveillance,” “anti-armor and indirect fire,” and “organic support and services.”⁵⁴ The two outliers are in the Marine Littoral Regiments and named Littoral Combat Teams (LCTs). They are about the same size as typical infantry battalions but have their own engineer, reconnaissance, and surveillance platoons and a medium missile battery.⁵⁵ MAGTFs are built around these infantry-type battalions.

The aviation element of a MAGTF is purpose-built around attack and heavy lift helicopters (AH-1Z Vipers and CH-53E/K Super or King Stallions); long-range medium lift tilt-rotor aircraft (MV-22 Ospreys); long-range refueler and transport aircraft (C-130 Super Hercules), which support from ashore or are assigned to land-based MAGTFs; and fixed wing attack aircraft (AV-8B Harriers, F-18C/D Hornets, and F-35B/C Lightning). New to the Marine Corps inventory since the 2024 edition of the *Index* is the multi-role, attack, and reconnaissance unmanned aerial vehicle (MQ-9A Reaper).

Logistics elements of MAGTFs are frequently purpose-built and come in three types. Combat Logistic Battalions (CLBs) that support MEUs and their (mostly) scheduled deployments are standing headquarters with specialists and capability

sourced from Marine Logistic Groups (MLGs). These are known as “double-digit” CLBs (CLB-11, 22, 31, etc., named to match their supported MEUs). MLGs are commanded by brigadier generals and include battalions of specialists across all functions of logistics. Seven double-digit CLBs are commanded by lieutenant colonels. Seven single-digit CLBs average around 625 people and conduct direct logistic support to infantry regiments (whose name they match: CLB-5 goes with 5th Marines, for example). Two other logistic battalions are part of the Marine Littoral Regiments and are designated Littoral Logistics Battalions.⁵⁶

Adding to the Corps’ capacity is the Marine Corps Reserve (MARFORRES). The Marine Corps uses its reserve as a true operational reserve: to mitigate gaps or reinforce success by “augmenting and reinforcing the Active Component with trained units and individual Marines.”⁵⁷ MARFORRES includes eight infantry battalions,⁵⁸ four CLBs,⁵⁹ and nine assorted squadrons of Super Cobras and Vipers, Super Stallions, Ospreys, and Hornets.⁶⁰

Based on these numbers, the Marine Corps has the capacity to produce seven MEUs and nine other regiment-level MAGTFs simultaneously (counting the two MLRs as standing MAGTFs) with an ability to surge four more from the reserves. Regimental-level MAGTFs are defined as a colonel commander with an infantry battalion, a logistics support battalion of whatever type, and a composite squadron of the necessary aircraft. Current Marine Corps capacity is 16 simultaneous MAGTFs with a surge capability to 20.

Aside from the shortage of amphibious shipping, this meets the Combatant Commanders’ stated requirement of a 3.0-MEU presence⁶¹ and the ability to address one MRC. The problem, as General Smith has said, is that “there is one thing everyone wants more of: Our Marines.”⁶² The FY 2025 NDAA caps the Corps at 172,300 active-duty Marines, the same number authorized in the FY 2024 NDAA, and 32,500 reserve Marines, 500 more than authorized in the FY 2024 NDAA.⁶³

Capability

The Marine Corps’ prowess in combat is both legendary and historic. The reasons for this were aptly summed up many years ago by former Assistant Commandant General Michael Williams:

No Service executes operationally better than the Marine Corps. In my opinion we are the best in the world at putting combined arms forces into the field with speed and precision. Once we are committed, we execute. Our reputation is that we can deliver on our promises. That’s why the Combatant Commanders want Marines. I attribute this excellence to our expeditionary mindset. We arrive ready to go to work. We can sustain ourselves with what we bring to the fight. This is not a slam on any other Service. We cannot do what the Army or the Air Force do; but what we *can* do, we do better than any other force. Operational excellence is a hallmark of our Corps.⁶⁴

At the same time, however, as the former chief executive officer of both The Home Depot and Chrysler has said, “the things that can derail us are arrogance and complacency. This isn’t Hollywood; we don’t get paid royalties for something that we already did.”⁶⁵ Thus, the Marine Corps is working to avoid complacency and improve its lethality and effectiveness: It is not “watch[ing] warfare evolve—it is driving it forward.”⁶⁶ “Investment is necessary,” according to General Smith, “but innovation is mandatory.”⁶⁷

The *Oxford English Dictionary* defines “capability” as “the ability or qualities necessary to do something” and “the power or weapons a country has for war or military action.”⁶⁸ Both definitions fit this discussion because the Marine Corps “does not have the luxury of focusing on a single threat, to the exclusion of all others.”⁶⁹

At the heart of any discussion of Marine Corps capability is the trade-off between capability and capacity: trading quantity for quality or “more” for “more capable.” Generally, but consistently, Marine Corps leaders have chosen to trade on the side of “more capable but less of.” Could the Marine Corps be more capable if it had more widgets? Probably. Could it have more capacity if it had more Marines? Absolutely. But the Marine Corps, with congressional endorsement, has chosen to structure itself as an eminently capable but relatively small force. The Corps is working to increase its capability by increasing the range of weapons systems, lowering electronic signatures, increasing lethality, and becoming more distributed and dispersed in its operations.⁷⁰ According to General Smith:

To fight and win against a peer adversary, combined arms must now be all-domain, incorporating effects in and from cyberspace, space, and the electromagnetic spectrum.... This challenge will require a greater proliferation of capabilities that can provide those all-domain effects down to the lowest level. This requirement includes autonomous systems; precision fires; intelligence, surveillance, reconnaissance, and targeting (ISR-T); integrated command and control; and increased ground and maritime mobility.⁷¹

The Marine Corps tackles the capability-vs.-capacity trade-off by investing in select technologies and concepts to become more lethal and survivable. Marine Littoral Regiments, for example, are well on their way to becoming the most capable of MAGTFs. MLRs are designed to survive and thrive in the Weapons Engagement Zone (WEZ) with their organic air defense battalion, precision long-range fires, and anti-ship missile batteries. Littoral Anti-Air Battalions have the Marine Air Defense Integrated System (MADIS), which is built around a pair of Joint Light Tactical Vehicles, one with a turret-launched Stinger anti-aircraft missile and the other with the necessary radars, optics, and communications equipment. MADIS provides a “credible, integrated, layered defense against threats from unmanned aerial systems, fixed and rotary wing aircraft, and cruise missiles.”⁷² For threats with smaller cross sections (rockets, mortars, and artillery), the Corps uses a Ground/Air Task Oriented Radar (G/ATOR).⁷³ In 2024, the Marine Corps deployed the G/ATOR system on a Japanese island only 68 miles from Taiwan in “the kind of presence that gets noticed.”⁷⁴

In addition to the reinforced infantry battalion, an MLR has its own long-range strike capability in the form of HIMARS (High Mobility Artillery Rocket System) and the Navy–Marine Expeditionary Ship Interdiction System (NMESIS). HIMARS has a range of more than 300 miles,⁷⁵ and NMESIS can hold ships at risk from a distance of 100 miles.⁷⁶ In April 2025, the Marine Corps sent NMESIS “into the heart of one of the world’s most strategic and tense bodies of water—the Luzon Strait,” 220 miles from Taiwan, as part of the 40th anniversary of exercise BALIKATAN with the Philippines.⁷⁷ The exercise included live fire and a ship sinking

exercise (SINKEX), and Marine Corps Forces Pacific Commander Lieutenant General James Glynn described it as a “full battle test...intended to take into consideration all of the regional security challenges that we face today, beginning with the South China Sea.”⁷⁸

As former Secretary of the Navy Carlos Del Toro told the House Armed Services Committee, “Our Marines need to move around long distances...in the Pacific as well as island to island and we need to give them the capabilities to do so.”⁷⁹ In April 2025, the Congressional Research Service advised that the Landing Ship Medium “remains a critical requirement.”⁸⁰

The Marine Corps is increasing its aviation capability by adding two aircraft to every F-35 squadron with associated pilots and maintenance personnel.⁸¹ Additionally, the Corps in 2025 positioned MQ-9 Reapers in all three Marine Aircraft Wings for worldwide availability.⁸² As General Smith has stated, the Corps’ Reaper capability “is growing quickly.”⁸³

Reinforcing General Smith’s point that innovation is mandatory, the Deputy Commandant for Aviation has stated that “linear incremental change will not be sufficient”⁸⁴ and has directed investment in logistics, unmanned platforms, and aircraft survivability as well as manned-unmanned teaming in which pilots control detachments of unmanned aircraft and that send their sensor data to the pilots of manned aircraft. The challenge for the Corps continues to be “balancing crisis response and modernization,” particularly in aviation.⁸⁵

The Marine Corps is working to improve its capability in the logistics arena as well. Marines are modernizing and certifying World War II airfields in the Pacific⁸⁶ and investing in “unmanned platforms that support logistics.”⁸⁷

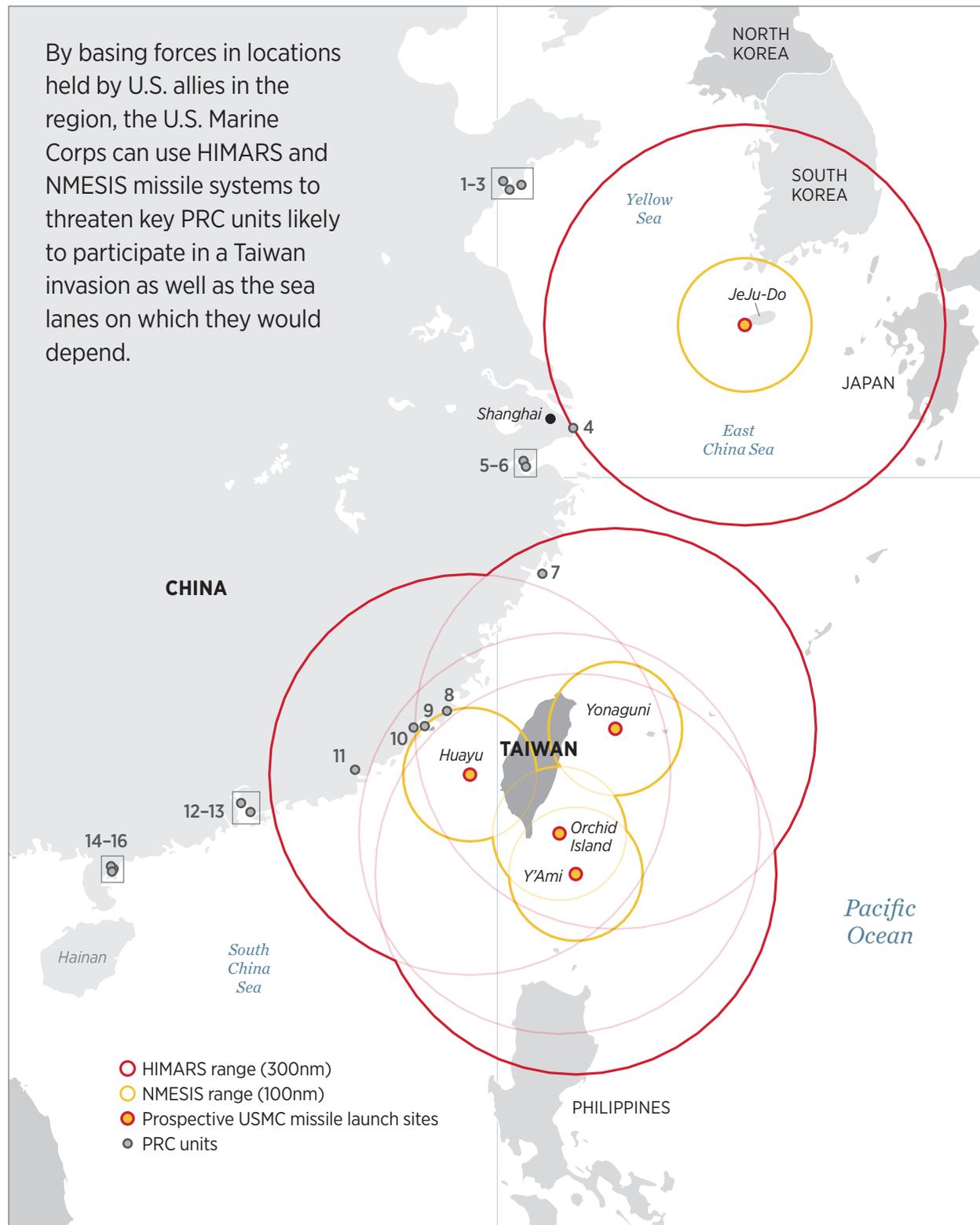
It is also worth noting that the Marine Corps has increased its portfolio investment in classified capabilities by 435 percent over the past four years.⁸⁸ These capabilities enhance the ability of the Corps to fight inside the WEZ, accelerate force modernization, and keep pace with rapidly changing battlefield technologies and “will only be apparent to our adversaries at a time and place of our own choosing.”⁸⁹

Readiness

As noted in 1997 by former Congressman Floyd Spence (R-SC), “The Marine Corps has followed congressional direction that it ‘remain most ready

USMC Precision Missile Ranges and Likely PRC Participants in Defense of Taiwan Scenario (Page 1 of 2)

By basing forces in locations held by U.S. allies in the region, the U.S. Marine Corps can use HIMARS and NMESIS missile systems to threaten key PRC units likely to participate in a Taiwan invasion as well as the sea lanes on which they would depend.



USMC Precision Missile Ranges and Likely PRC Participants in Defense of Taiwan Scenario (Page 2 of 2)

● PRC UNITS

- | | | | |
|---|--|----|--|
| 1 | 5th Marine Brigade | 9 | 14th Amphibious Combined Arms Brigade |
| 2 | 6th Marine Brigade | 10 | 91st Amphibious Combined Arms Brigade |
| 3 | 1st Landing Ship Group | 11 | 4th Marine Brigade |
| 4 | 5th Landing Ship Flotilla | 12 | 1st Amphibious Combined Arms Brigade |
| 5 | 5th Amphibious Combined Arms Brigade | 13 | 125th Amphibious Combined Arms Brigade |
| 6 | 124th Amphibious Combined Arms Brigade | 14 | 1st Marine Brigade |
| 7 | 3rd Landing Ship Group | 15 | 2nd Marine Brigade |
| 8 | 3rd Marine Brigade | 16 | 6th Landing Ship Flotilla |

● PROSPECTIVE USMC MISSILE LAUNCH SITES

Yonaguni—Westernmost Japanese island

Y'Ami—Northernmost Philippine island

Orchid Island—Easternmost Taiwanese island

Huayu—Westernmost Taiwanese island

JeJu-Do—Southernmost Republic of Korea island

SOURCES: Andrew S. Erickson, Conor M. Kennedy, and Ryan D. Martinson, eds., *Chinese Amphibious Warfare: Prospects for a Cross-Strait Invasion* (Newport, RI: Naval War College Press, 2024), p. xxi; Lockheed Martin, “HIMARS: The Long-Range, Mobile, Precision Fires Launcher,” <https://www.lockheedmartin.com/en-us/products/himars.html> (accessed January 21, 2026); and Raytheon, “Naval Missile Strike,” <https://www.rtx.com/raytheon/what-we-do/sea/naval-strike-missile> (accessed January 21, 2026).

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when the nation is least ready.”⁹⁰ Readiness is a function of how much, how frequently, and how quickly a capability needs to be repaired so that it can complete its assigned tasks. The Department of War has a standardized readiness reporting system, the outputs of which are necessarily classified.⁹¹ It is helpful to understand that (1) the department measures readiness in general terms of resources and training and (2) the best time to plant a tree was 25 years ago, but the second-best time is today. With those concepts in mind, readiness can be defined as what you need to do today to fight today, continue to fight tomorrow, and fight again in the future.

Aviation. The Air Force tends to care only about “flying things,” the Army evaluates its rotary-wing aircraft in terms of its appropriately preeminent ground combat mission, and the Navy has a high-yield aviation component but must split its focus to include the priority of “floating things.” Only for the Marine Corps is the combination of air and ground power the focus of the optimal way to fight. Accordingly, aviation successes and concerns are essential to measuring Marine Corps readiness, and the F-35 aircraft is key to the readiness score. By the end of

2025, the Marine Corps will have taken delivery of 65 percent of its Program of Record allotment of F-35B (Vertical/Short Takeoff and Landing capable) and 37 percent of its F-35Cs (tailhook capable) for a total of 183 F-35B and 52 F-35C aircraft.⁹² These will fill out two training squadrons and 11 fleet squadrons.⁹³ The F-35 now supports all MEU deployments from Japan and the West Coast that previously used AV-8B Harriers.⁹⁴

The Marine Corps also flies F-18s and is phasing out its remaining AV-8Bs. “The Marine Corps F/A-18 inventory includes 161 F/A-18 aircraft,” and Fleet Marine Force “will maintain four active squadrons and one reserve squadron through the end of FY25.”⁹⁵ The Marine Corps has 39 AV-8Bs in two squadrons at Cherry Point, North Carolina, and both squadrons are scheduled to complete transition to F-35 squadrons by 2026.⁹⁶ Harrier squadrons support the East Coast MEUs and will continue to do so “until the platform’s operational sunset in FY26.”⁹⁷

The KC-130J refueling aircraft is a critical enabler for forward deployed MAGTFs across all Combatant Commands; it increases MAGTF

mobility and enhances logistical capacity by operating from austere airfields.⁹⁸ “As the sole Marine Corps tactical fixed wing lift and aerial refueling platform,” according to the Marine Corps Aviation Plan (AVPLAN), “demand for KC-130Js will remain high.”⁹⁹ The 75 KC-130Js currently in the Marine Corps inventory are allocated in four active-duty squadrons, one reserve squadron, and one test squadron.¹⁰⁰ The Corps has 80 percent of its allocated KC-130Js and will receive the remainder by 2027.¹⁰¹

With respect to the Corps’ rotary-wing aircraft, MV-22s and CH-53Ks provide transportation ability, and the AH-1Z viper provides close fire support. “The MV-22 Osprey provides medium lift assault support to ground forces in multiple theaters of operation from expeditionary sites and afloat. It also provides unmatched operational flexibility due to its combination of speed, range, payload, and aerial refueling capability.”¹⁰² MV-22B squadrons have conducted 109 operational deployments and flown over 588,000 flight hours since 2007. The MV-22 flies “approximately twice as many flight hours per year as any other Marine Corps rotary-wing aircraft.”¹⁰³ There are 360 MV-22s across 15 active squadrons, two reserve squadrons, and assorted training squadrons.¹⁰⁴

The CH-53K heavy lift helicopter’s range and payload capacity are three times as great as those of its predecessor.¹⁰⁵ The Marine Corps has 127 CH-53K aircraft of 200 programmed with delivery of all 200 to be completed in 2032.¹⁰⁶ They are allocated in six active-duty squadrons, one reserve squadron, and assorted test and training squadrons.¹⁰⁷ The Corps’ 349 AH-1Z Vipers are allocated in six active-duty squadrons, one reserve squadron, and the usual test and training squadrons.¹⁰⁸

A recent addition to the Marine Corps’ aviation capability is the MQ-9 Reaper. The Corps’ 2025 Aviation Plan explains that “Unmanned Aerial Systems (UAS) have become essential assets as a force multiplier in modern military operations.”¹⁰⁹ General Smith has said that “[w]e still don’t have the volume of them we need, but...the MQ-9 is a vital part of our future.”¹¹⁰ One of the Secretary of the Navy’s announced priorities is to “push for more investment in uncrewed systems and enabler technologies—such as autonomy, mission systems and communications—for manned-unmanned teaming by the Navy and jointly with the other military services.”¹¹¹

The MQ-9 Reaper is larger and more capable than the older and more famous MQ-1 Predator.¹¹² The Marine Corps has two active-duty squadrons of MQ-9s and one training squadron for a total of 12 aircraft with 20 more to be delivered by 2026.¹¹³ Starting in 2029, the MQ-9s will be equipped with a “Detect and Avoid System,”¹¹⁴ which is important because Houthis have shot down more Air Force MQ-9s in Yemen since October of 2023 than the Marine Corps has in its entire inventory.¹¹⁵ The current Secretary of the Navy noted this fact during his confirmation hearing.¹¹⁶

Finally, the aviation community is not exempt from a shortage of appropriate shipping. The two existing aviation support logistics vessels (SS *Wright* and SS *Curtis*) are currently beyond their expected service lives and not planned for retirement until 2030–2033.¹¹⁷ The Marine Corps has levied a requirement but will face “a critical shortfall” if they are not replaced.¹¹⁸

Personnel and Training. People remain the most valuable resource in organizations, and training is one of the best ways to enhance their contributions. The Marine Corps is modernizing and increasing the technical capabilities of its personnel, and the costs go beyond equipment price tags. Marine aviation adds an exponential level of capability to the MAGTFs, but it also adds complexity. Marines need to be trained to operate in complex environments. Similarly, expertise in the multi-domain, data-centric world of autonomous vehicles, satellite communications, cyber operations, and the requirements of massively distributed operations working inside a WEZ demonstrates a “mastery of...evolution in warfare” and allows Marines to “punch above our weight class.”¹¹⁹ As the Marine Corps as a whole and particularly its aviation component become more data-centric and data-enabled, this change will require “investment in infrastructure, personnel, and training”¹²⁰ and “a greater proliferation of capabilities that can provide those all-domain effects down to the lowest level.”¹²¹

In 2020, recognizing training’s impact on readiness, the Marine Corps elevated its Training and Education Command (TECOM) to a Lieutenant General-level command reporting directly to the Commandant.¹²² If the Marine Corps has 18 lieutenant generals, then its investment in training and education represents 6 percent of the

total responsibility the Corps entrusts to its senior leadership.

TECOM has adjusted the training pipeline so that Marines will be better prepared and able to get to their units more rapidly with the necessary qualifications for all-domain operations.¹²³ The TECOM annual report explains that the Marine Corps does “not have the luxury to wait for the final answers” as it manages “fight tonight” while simultaneously developing new capabilities.¹²⁴ It is changing the training and education model to “develop experienced warfighters who are experts in multi-domain and all-domain combined arms” faster.¹²⁵

This rapid maturation is occurring because TECOM is moving away from the “sage on the stage” historical model of platform instruction and “instead developing coaching and mentoring skills for instructors to serve as a ‘guide on the side.’”¹²⁶ Specifically, TECOM is using technology to maximize instructors’ student contact time¹²⁷ in order to “mature Marines’ technical and leadership skills faster” while providing “them with increased opportunities to think, decide, and act earlier in their careers.”¹²⁸ To this end, the Corps has launched a pilot program to deploy “digital transformation teams” to accelerate the adoption of “emerging technology.”¹²⁹

“[Q]ualified Marines remain key to our ability to meet operational requirements,” and “[we] need to ensure the right Marine with the proper training and qualifications arrives to the right unit on time.”¹³⁰ Marine talent managers fill aviation needs based on the Type/Model/Series (TMS) of aircraft; skillsets and the Marines who possess them are not interchangeable. An Osprey mechanic cannot work on the avionics in an F-35, and an F-18 pilot’s qualifications are different from those of a CH-53 pilot. To ensure that each TMS is properly staffed with the necessary skills and experience, Marine Aviation is “reestablish[ing] a manpower analysis branch.”¹³¹

A tiny subset of Marine Corps personnel is made up of its General Officers (GOs). At the beginning of 2025, according to the Defense Manpower Data Center, the Marine Corps had three four-star generals (two are permanent as the Commandant and Assistant Commandant of the Marine Corps,¹³² and the third is a rotational joint assignment currently filled by a Marine as Combatant Commander of

United States Africa Command) and 18 three-star lieutenant generals.¹³³ As a means of comparison, the Army has more two-star GOs (92) than the Marine Corps has total GOs (88). The Marine Corps’ 88 GOs form 0.0001 percent of the total active-duty force in comparison to the other, larger services, in each of which GOs account for 0.0002% of the total force.¹³⁴

Contested Logistics. A large part of readiness is logistics, which involves replacing, repairing, refueling, rearming, and remanning and the necessary transportation to get it all where it needs to be when it needs to be there. Logistics cannot be faked; these skills must be performed daily, whether at peace or at war. According to the Commandant of the Marine Corps, “[t]he ability to conduct logistics in a contested environment will underwrite the success of any future naval campaign.”¹³⁵ Meeting logistics requirements in a counter-intervention environment therefore remains a Marine Corps priority that “will require a combination of solutions” from across the Joint Force, allies, and partners and “will take a monumental effort across all the services.”¹³⁶

The Marine Corps is experimenting with “over a dozen new manned and unmanned technologies and potential future capabilities focused on enabling logistics in a contested environment.”¹³⁷ Other operational experiments include maximizing use of the CH-53K’s heavy lift capability; stern landing vessels; the Tactical Resupply Unmanned Aircraft System (TRUAS); the Medium Aerial Resupply Vehicle for Expeditionary Logistics (MARV-EL); and an autonomous low-profile vessel.¹³⁸

The TRUAS system “can detect obstacles along a delivery route without prior knowledge of the terrain” to “deliver supplies to limited-access environments.”¹³⁹ It has a range of nine kilometers with a speed of 50 knots and can carry a payload of 120 pounds.¹⁴⁰ The 120 pounds of cargo is not coincidental: It is how much four cans of 5.56 ammunition weigh. The Marine Corps continues to plant trees for the future and is focused on readiness. As former Marine Forces Pacific Commander Lieutenant General Victor Krulak has cautioned, “being ready is not what matters. What matters is winning after you get there.”¹⁴¹

Scoring the U.S. Marine Corps

Capacity Score: Strong

This score is raised from “weak” in the *2024 Index* to “strong” based on the following calculus. Two stated, simultaneous requirements exist for the Marine Corps. The first is to provide a 3.0-MEU presence for the Combatant Commanders.¹⁴² It takes seven colonel-led MAGTFs built around infantry battalions to meet this obligation. The second requirement is to support one MRC. (The other military services are evaluated against a two-MRC construct.)

The 1st Marine Expeditionary Force (I MEF) has been designated as responsible for an MRC.¹⁴³ The ground combat element of I MEF is the 1st Marine Division (1MARDIV). 1MARDIV has 12 infantry battalions used as components to generate four colonel-led MAGTFs.¹⁴⁴ Therefore, these four MAGTFs are required to meet the Marine Corps’ requirements for one MRC. Seven colonel-led MAGTFs (built around seven infantry battalions) complete the MEU requirement, and four MAGTFs (built around 12 infantry battalions) to address an MRC yield a commitment of 11 colonel-led MAGTFs to meet the Marine Corps’ twin requirements of supporting one MRC and three simultaneous MEUs deployed every day around the world. This calculus accounts for 19 of the Marine Corps’ 22 active-duty infantry battalions.

Two of those remaining are assigned to the colonel-led MLRs (which need an aviation squadron assigned to it to be counted as a “MAGTF”), yielding one unobligated active-duty infantry battalion to add to the eight reserve battalions around which other MAGTFs could be built as needed to contribute to surge operations. The Marine Corps currently has the capacity to meet its two designated tasks.

Capability Score: Strong

The Marine Corps’ Capability score remains the same as the *2024 Index* assessment. This assessment is based on the Corps’ modernization efforts and investment in critical weapons, technologies, and platforms. The Marine Corps has not yet missed any requirement levied on it by Combatant Commanders and is extremely averse to doing so in the future.

It is important to note that while the Marine Corps is disadvantaged by a lack of amphibious

shipping and other transportation and sustainment challenges, it remains capable of accomplishing its assigned missions. The Marine Littoral Regiments are a key factor in maintaining and increasing the Corps’ capability as are increases in the numbers and redistribution of F-35s, MQ-9s, and CH-53Ks. As the 20th Commandant of the Marine Corps, General Lemuel Shepherd, once explained:

[T]he Marines...apply the old maxim: “Bite off more than you can chew—then chew it; promise more than you can do—then do it.” It is this challenge and the Marines’ ability to meet it that...[enables them to serve] as the nation’s basic ready-to-act military organization, responsive specifically and directly to the President’s call to meet the crises which occur in both peace and war.¹⁴⁵

Readiness Score: Strong

This score is determined by the quality and effectiveness of the Marine Corps’ personnel, equipment, training, and operational execution. It remains the same as in the *2024 Index*. The Marine Corps has upgraded its aviation fleet, has added new capability with the MQ-9 Reaper, and is addressing head-on the challenge of conducting logistics functions inside a WEZ. The Marine Corps is aggressively improving resilience in both units and individuals while continuing to maintain its traditions of rigorous unit training and high personal standards.

Overall Score: Strong

The Marine Corps’ overall score is strong. The Marine Corps is comfortable in its assigned role within the Joint Force, knows its capabilities and gaps, and is actively enhancing its strengths and mitigating challenges. The paired ability of maintaining MEUs and standing up other, purpose-built and event-driven regimental-level MAGTFs allows Combatant Commanders enormous flexibility in responding to, shaping, and deterring world events. Although the MLRs are explicitly focused on the Pacific, their capability and “right fit for the problem set” have led Congress to ask whether they might be equally effective in other theaters as well.¹⁴⁶

U.S. Military Power: Marine Corps

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Capacity				✓	
Capability				✓	
Readiness				✓	
OVERALL				✓	

ABOUT THE ASSESSMENT CATEGORIES

OVERALL ASSESSMENT. The overall assessment of a military service is measured against its ability to perform its respective role in a two-major regional contingency (MRC) scenario. The assessment of the U.S. Marine Corps is sized against a single major regional contingency (MRC) scenario. This benchmark is the *minimum* standard for U.S. hard-power capacity with the understanding that maintenance, operational tempo, training cycles, crisis response, treaty commitments, and/or strategic reserve considerations can cause some forces to be unavailable. Other factors that influence this assessment are the availability of logistical support to enable combat power (fueling ships, supply ships, cargo aircraft, etc.) and the ability to reconstitute combat power for protracted conflict (defense industrial base capacity, etc.).

CAPACITY. The U.S. military must have a sufficient quantity of the right capability or capabilities to meet its mission sets. Capacity (numbers) can be viewed in at least three ways:

- Compared to a stated objective for each category by each service,
- Compared to amounts required to complete various types of operations across a wide range of potential missions as measured against a potential adversary, and
- As measured against a set benchmark for total national capability.

Conclusion

The 31st Commandant of the Marine Corps, General Charles Krulak, was famous for saying, “The two most important things the Marine Corps does for America [are] make Marines and win battles.”¹⁴⁷ The 39th Commandant, General Eric Smith, has said, “We became Marines to do hard things.”¹⁴⁸ And the 26th Secretary of Defense, James Mattis, has said, “When it’s time to move a piano, Marines don’t pick up the piano bench—we move the piano.”¹⁴⁹

As for making Marines, the Marine Corps is the only service that has met its annual recruiting goals *every year for the past 30 years*,¹⁵⁰ and it is on track to do it again in 2026.¹⁵¹

As for winning battles, only in one battle in 250 years of existence have the Marines taken more casualties than they have given—a little place called Iwo Jima.¹⁵²

CAPABILITY. Examining the capability of a military force requires consideration of:

- The proper tools (material and conceptual) with the design, performance characteristics, technological advancement, and suitability that the force needs to perform its function against an enemy successfully;
- The sufficiency of armored vehicles, ships, airplanes, and other equipment and weapons needed to win against the enemy;
- The appropriate variety of options to preclude strategic vulnerabilities in the force and give flexibilities to battlefield commanders; and
- The degree to which elements of the force reinforce each other in covering potential vulnerabilities, maximizing strengths, and gaining greater effectiveness through synergies that are not possible in narrowly stovepiped, linear approaches to war.

READINESS. While capacity and capability considerations are central to the warfighting ability of the U.S. military, readiness performs a crucial role in determining whether combat power is prepared when it is needed. Factors that are considered include (among others):

- Sufficient staffing levels,
- Fulfillment of training requirements, and
- Age and maintenance of equipment.

As for doing hard things, in 2024, the Marine Corps was the only service to pass an independent audit to ensure that its “financial records were accurate, complete, and compliant with federal law”—and then the Corps did it again for the second consecutive year.¹⁵³ “This repeat achievement reinforces the service’s reputation for accountability, discipline, and leadership”¹⁵⁴ and confirms that when the Marine Corps is entrusted with “taxpayers[?] money, it is money well spent and fully accounted for.”¹⁵⁵

As for the Marine Corps in 2026, just as a journalist cabled home 150 years ago, “the situation is well in hand.”¹⁵⁶ Perhaps General Smith has said it best: “As we mark 250 years, we don’t know exactly what the next fight will look like. But we know this... Marines will be there. We’re still America’s 911 force: first in, first to respond, and built to hold the line.”¹⁵⁷

Recommendations

Congress should:

- **Consistently pass** annual budgets to ensure that it does not retard the Marine Corps' transformation plan and innovation efforts.
- **Restore** the priority of amphibious ship construction by both providing Department of the Navy funds that cannot be applied to other expenses while simultaneously incentivizing American companies to accelerate ship construction.
- **Fund** the creation of a third Maritime Prepositioning Force squadron (and the equipment required to fully load out those ships) to restore support to the Marine Expeditionary Brigade in Japan.
- **Fund and incentivize** the accelerated construction of two aviation support logistics ships to replace the SS *Wright* and SS *Curtis*, which are already operating past their expected service lives.

The Department of the Navy should:

- **Resolve** the capabilities dispute regarding the Landing Ship Medium and submit the final design to Congress for funding.
- Once funding is secured, **accelerate** the construction of Landing Ship Mediums to provide the Corps with consistent operational and tactical transportation within the First Island Chain.

The United States Marine Corps should:

- **Continue to invest** in recruiting by assigning its best people to that mission.
- **Continue to experiment** with new technologies and concepts to match the gains made by potential adversaries.

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U.S. Space Force

Shawn Barnes

Introduction

Space capabilities are increasingly vital to our national security and to the Joint Force warfighter. The U.S. Space Force was formed pursuant to the fiscal year (FY) 2020 National Defense Authorization Act (NDAA) with an initial budget of approximately \$15 billion. This year's budget request combined with funding in the *One Big Beautiful Bill Act* will provide the Space Force with over \$40 billion in FY 2026—a dramatic increase that must be sustained for several more years.

Several factors are driving the need for continued robust funding growth for the Space Force.

- The Space Force must recapitalize existing capabilities providing strategic and tactical missile warning, global communication, weather forecasting, and position, navigation, and timing service. As it does this, new capabilities must also be made resilient to a variety of existing and emerging threats from China, Russia, and other state and nonstate actors.
- The Space Force must develop and field an extensive arsenal to deny our adversaries their access to space during conflict. China, Russia, and others must not be permitted to use their space systems to track, target, and conduct operations against our terrestrial warfighters.
- The Space Force is taking on missions, such as tracking ground-based moving targets, that historically have been performed by airborne platforms. New space-based sensing, information processing, and intercept capabilities are necessary for the Golden Dome missile defense system and will require significant additional resources.
- The Space Force must be prepared to protect the expanding commercial space capabilities that are driving rapid economic vitality on Earth. It is estimated that the global space economy will far exceed \$1 trillion in the next decade. Commercial space will evolve from purely sensing and communicating and soon will include resource extraction, manufacturing, and power generation. Just as our blue-water Navy ensures maritime commerce, so must our Space Force be the guarantor of space commerce.

Today's Space Force provides extraordinary and essential support to the Joint Force warfighter. As our newest military branch moves into the second half of its inaugural decade, the nation will demand much more. The President must continue to request—and Congress must continue to provide—the resources necessary for our Space Force to answer the call of our nation's future. As General B. Chance Saltzman, Chief of Space Operations, has said, “The Space Force we have is still not the Space Force we need. We have come a long way, but I think we can all acknowledge there is still work to be done.”¹

Service Overview

Space has been important to U.S. national security and national pride since the late 1950s.² The Army, Navy, and Air Force all developed rockets that would serve as early Intercontinental Ballistic Missiles (ICBMs) and satellite launchers, including the Atlas and Titan.³ The U.S. National Reconnaissance Office (NRO) flew a variety of electro-optical, radar, and signals intelligence satellites that helped to underwrite the nation's deterrence of nuclear war with the Soviet Union.⁴ Since the fielding of the Global

U.S. SPACE FORCE AT A GLANCE



MOTTO
Semper Supra,
"Always Above"



Dr. Troy E. Meink
Secretary of the Air Force



Gen. B. Chance Saltzman
Chief of Space Operations

MAJOR BASES



- 1 Clear Space Force Station
- 2 Beale Air Force Base
- 3 Vandenberg Space Force Base
- 4 Buckley Space Force Base
- 5 Peterson Space Force Base
- 6 Schriever Space Force Base
- 7 Pituffik Space Base
- 8 Cape Cod Space Force Station
- 9 Patrick Space Force Base, Cape Canaveral Space Force Station
- 10 RAF Fylingdales (UK)

CURRENT BUDGET

IN BILLIONS FOR FY 2025

\$28.6

CURRENT PERSONNEL

ACTIVE-DUTY MILITARY

9,450

KEY EQUIPMENT (estimated current inventory)



SOURCE: Heritage Foundation research.

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Positioning System (GPS) in the mid-1980s, space capabilities have provided direct support to the terrestrial warfighter on the ground, at sea, and in the air. In recognition of the growing importance of space to U.S. national security, Congress directed the establishment of our nation's sixth military branch, the United States Space Force, in the FY 2020 NDAA. With respect to the new service's functions, the act specified that Title 10, Section 9801, of the U.S. Code should be amended to reflect that:

"The Space Force shall be organized, trained, and equipped to provide—

- (1) freedom of operation for the United States in, from, and to space; and
- (2) prompt and sustained space operations."

With respect to the service's duties, the NDAA specified that the Code should be amended to reflect that:

"It shall be the duty of the Space Force to—

- (1) protect the interests of the United States in space;
- (2) deter aggression in, from, and to space; and
- (3) conduct space operations."⁵

That same NDAA directed substantial changes within the Offices of the Secretary of Defense and Secretary of the Air Force to focus and improve support for space policy and acquisition. Specifically, the law directed creation of two new positions: Assistant Secretary of Defense for Space Policy and Assistant Secretary of the Air Force for Space Acquisition and Integration.⁶

The first few years of the Space Force were marked by organizational stand-up activities, internal reorganization, and consolidation. Like every other military branch, the Space Force is led by a four-star general officer, the Chief of Space Operations (CSO), and is headquartered in the Pentagon. The Space Force falls within the Department of the Air Force, just as the Marine Corps falls within the Department of the Navy. The CSO reports to the

Secretary of the Air Force and is a member of the Joint Chiefs of Staff. The Space Force's headquarters staff is similar to but much smaller than those of the other branches. "In order to create a leaner, more agile force, the USSF eliminated two levels of command that exist within the Air Force and now consists of: USSF Headquarters (at the Pentagon with the other services), FIELDCOMs [Field Commands], Space Deltas (DELs); and Squadrons."⁷

Space Force uniformed military personnel, called Guardians, focus on a few key areas, including operations, acquisition, cyberspace, engineering, and intelligence. Additional necessary support such as legal, contracting, finance, human resources, medical/dental, security, chaplains, and many others are provided by civilians or uniformed members of the U.S. Air Force.

The Space Force has three Field Commands led by subordinate general officers: Space Systems Command (SSC); Combat Forces Command (CFC), formerly Space Operations Command (SpOC); and Space Training and Readiness Command (STARCOM).⁸ Creation of a fourth, Space Futures Command, has been discussed, but prospects for its establishment are uncertain.⁹

The SSC is headquartered in Los Angeles, California, at the Los Angeles Space Force Base. The FIELDCOM is responsible "for acquiring, developing, and delivering resilient capabilities to outpace emerging threats and protect our Nation's strategic advantage in, from, and to space."¹⁰ It also manages a \$15.6 billion space acquisition budget.¹¹ The Space Force also has two other acquisition organizations assigned to it: the Space Development Agency (SDA) and Space Rapid Capabilities Office (Space RCO).

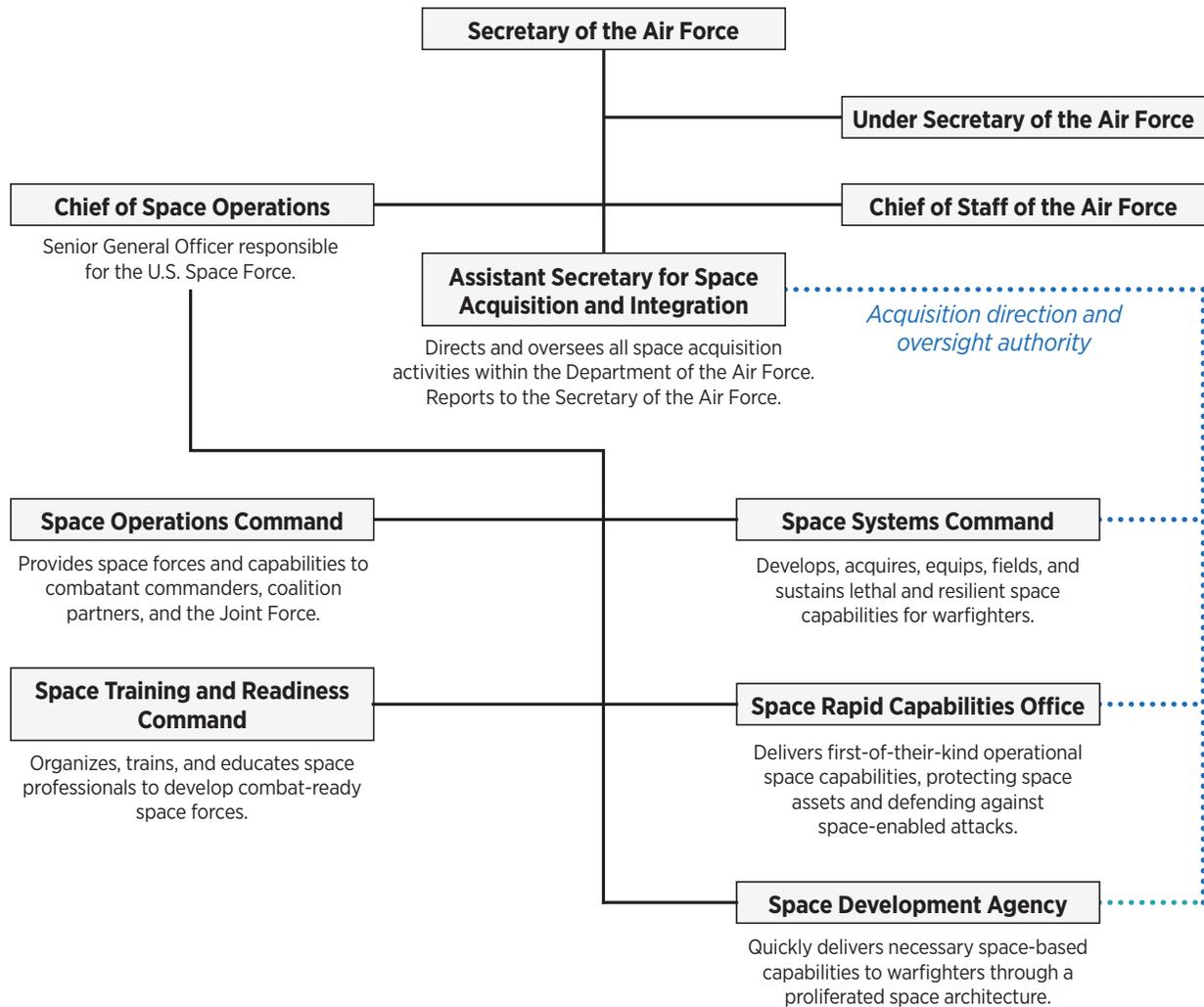
The CFC is headquartered in Colorado Springs, CO, at Peterson Space Force Base. The FIELDCOM generates and "present[s] combat-ready intelligence, cyber, space and combat support forces" to U.S. Space Command and the other combatant commands.¹²

The STARCOM is headquartered in Florida, at Patrick Space Force Base. The FIELDCOM "is responsible for the deliberate development, education, and training of space professionals in addition to the development of space warfighting doctrine, tactics, techniques, and procedures, and the operational test and evaluation of Space Force systems."¹³

The Space Futures Command has been proposed by the CSO. The location has not yet been determined. If established, it will "forecast the threat

FIGURE 3

Space Force Organizational Chart



SOURCE: Karl A. Bingen et al. "U.S. Space Force Primer," Center for Strategic and International Studies, Aerospace Security Project, December 22, 2022, <https://aerospace.csis.org/us-space-force-primer/> (accessed January 21, 2026).

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environment, develop, and validate concepts, conduct experimentation and wargames, and perform mission area design."¹⁴

Space Force, Space Command, NRO, NASA, and NOAA

The focus of this assessment is on the United States Space Force. It is important to note, however, that there are other U.S. government organizations that support national security with their space capabilities, authorities, and responsibilities.

Space Force. As described earlier, the U.S. Space Force is the military branch responsible for space capabilities. The roles of the military branches (Army, Navy, Marine Corps, Air Force, Space Force, and Coast Guard) are to organize, train, equip, and present forces to the geographic and functional combatant commands.¹⁵ As a military branch dedicated exclusively to space operations, the Space Force develops, trains, and sustains space professionals responsible for operating satellites, conducting space surveillance, and providing crucial

data for defense operations. They are tasked with enhancing the resilience of space systems against potential threats and ensuring uninterrupted access to and use of space for military operations.

Space Command. U.S. Space Command (USSPACECOM) is the geographic combatant command responsible for overseeing space operations. It provides command and control of space forces and coordinates with other combatant commands to integrate space capabilities into national defense strategies. U.S. Space Command “plans, executes, and integrates military spacepower into multi-domain global operations in order to deter aggression, defend national interests, and when necessary, defeat threats.”¹⁶ The relationship between U.S. Space Force forces and U.S. Space Command is essentially the same as the relationship between U.S. Air Force forces and other combatant commands such as U.S. Indo-Pacific Command (INDOPACOM) or U.S. Central Command (CENTCOM).

NRO. The National Reconnaissance Office designs, builds, and operates reconnaissance satellites that provide critical intelligence to national security leaders. NRO’s high-resolution imaging, signals intelligence, and other surveillance capabilities are essential for monitoring global events, detecting threats, and supporting military operations. Its satellites offer real-time data that enhance situational awareness, inform decision-making, and support defense and intelligence missions. The NRO is not part of the U.S. Space Force, but the two organizations collaborate closely on a variety of acquisition programs and efforts. Additionally, approximately 800 Guardians are assigned to the NRO to support acquisition and operation of its reconnaissance satellites.¹⁷

NASA. The National Aeronautics and Space Administration (NASA) focuses primarily on civilian space exploration and research, but its contributions to national security are substantial. NASA’s advancements in space technology, satellite communications, and Earth observation support military operations and national security objectives. NASA–Space Force–NRO collaborations enhance the capabilities of space systems used for reconnaissance, navigation, and communication. Additionally, NASA’s research in space weather and its impact on satellite operations contributes to the protection and resilience of space infrastructure that is crucial for national defense.¹⁸

NOAA. The National Oceanic and Atmospheric Administration (NOAA) is tasked with monitoring and understanding environmental conditions, including space weather. NOAA’s satellites provide essential data for weather forecasting, climate monitoring, and environmental assessments. This information is vital both for planning and executing military operations and for ensuring the safety and effectiveness of defense missions. NOAA’s role in tracking space weather phenomena like solar flares and geomagnetic storms helps to protect space-based assets and communication systems from potential disruptions, thereby supporting national security.¹⁹

Key U.S. Space Force Capabilities

U.S. space capabilities, including those of the U.S. Space Force, NRO, NOAA, NASA, and a rapidly growing number of commercial space companies, are essential to the American way of war and the American way of life. Specifically:

[Space-based capabilities] provide the backbone for more than half of our nation’s infrastructure including communications, emergency services, energy, financial, agriculture and food, and transportation. Collectively, space-enabled applications account for hundreds of billions of dollars in U.S. economic activity. Moreover, the modern U.S. military is built around the assumption that spacepower will be there when needed. Military forces on land, in the air, and at sea rely on space capabilities to include global communication, command and control, navigation, precision targeting, missile warning and defense, and persistent battlespace awareness.²⁰

Put simply, space is foundational to the Joint Force: National security depends on military spacepower. Admiral Samuel Paparo, Commander of USINDOPACOM, reinforced this sentiment in his written testimony to the House Armed Services Committee in April 2025:

Space superiority is essential to our operations across all domains. U.S. adversaries are rapidly developing sophisticated counter-space capabilities, including direct-ascent anti-satellite weapons, co-orbital threats, and advanced

Strategic Missile Warning: Key Bases

The U.S. Space Force includes several facilities that use large phased-array radars designed to detect and provide launch and impact information from adversary ICBMs.



- 1 Beale AFB, CA (UEWR)
- 2 Clear Air Station, AK (UEWR)
- 3 Buckley Space Force Base, CO (Other)
- 4 Cavalier Space Station (PARCS), ND
- 5 Pituffik Space Base, Greenland (UEWR)
- 6 Cape Cod Air Station, MA (UEWR)
- 7 RAF Fylingdales, United Kingdom (UEWR)

NOTES: PARCS—Perimeter Acquisition Radar Characterization System; UEWR—Upgrade Early Warning Radar. Buckley SFB is headquarters for Space Base Delta 2 and Mission Delta 4, which are responsible for global missile warning and situational awareness.
SOURCE: Heritage Foundation research.

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jamming systems. To maintain our competitive advantage, USINDOPACOM and USSPACECOM require resilient space-based systems that operate through contested domains

without capability degradation. This includes enhanced space domain awareness systems, combat credible defensive counter-space systems, and rapidly deployable satellite

constellations that provide redundancy and complicate adversary targeting.²¹

The importance of space to the U.S. way of war cannot be overemphasized. A key U.S. advantage is the ability to network an extensive variety of sensors, shooters, and decision-makers—Command, Control, Communication, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR)—across all domains. The warfighter requires that the network be resilient to myriad kinetic, electromagnetic, and cyber threats. Adversaries, particularly China, recognize this importance and are developing and fielding capabilities to deny the U.S. such an advantage. They intend to disrupt and destroy the satellites and ground stations critical to the U.S. C4ISR network. This is not a future problem: It is a “now” problem and one that requires resources and innovative capabilities, tactics, techniques, and procedures to improve resilience and constantly stay ahead of the threat.

U.S. Space Force capabilities include both satellites and a significant ground-based infrastructure. Satellites support the terrestrial warfighter with positioning/navigation/timing, missile warning and defense, communications, weather forecasting, and tactical surveillance/reconnaissance/tracking. Additionally, Space Force satellites provide space domain awareness. U.S. Space Force also flies experimental and developmental satellites in support of future space programs. Ground-based capabilities include launch facilities and related launch range support, satellite command and control, space domain awareness sensors, and missile warning and defense sensors. The Space Force does not control or operate the NRO’s exquisite intelligence satellites, nor does it have manned capabilities (although Guardians have flown missions on the International Space Station).

Positioning, Navigation, and Timing (PNT).

PNT includes three distinct functions:

- **Positioning**, the ability to accurately and precisely determine one’s location and orientation two-dimensionally (or three-dimensionally when required) referenced to a standard geodetic system (such as World Geodetic System 1984, or WGS84);
- **Navigation**, the ability to determine current and desired position (relative or absolute) and

apply corrections to course, orientation, and speed to attain a desired position anywhere around the world, from sub-surface to surface and from surface to space; and

- **Timing**, the ability to acquire and maintain accurate and precise time from a standard (Coordinated Universal Time, or UTC), anywhere in the world and within user-defined timeliness parameters. Timing also includes time transfer.²²

PNT is provided by the U.S. Space Force’s Global Positioning System (GPS). The GPS is operated by Delta 8 at Schriever Space Force Base in Colorado. The system includes satellites in nearly circular orbits approximately 12,550 miles above the Earth’s surface, a Master Control Station, six dedicated monitor stations, four ground antennas, and receivers (or the user segment). The constellation requires a minimum of 24 operational satellites and can include as many as 32. Currently, there are 31 operational satellites in the constellation.²³

GPS is indispensable to the terrestrial warfighter. It offers unparalleled precision in navigation, positioning, and timing. It also enables the accurate and economical delivery of precision munitions so that targets are hit with minimal collateral damage. This capability is vital in contemporary warfare, where accuracy is paramount for both tactical and strategic missions. Moreover, GPS supports the coordination of troops, vehicles, and aircraft, facilitating seamless movements and operations in complex environments. The integration of GPS with command-and-control systems enhances situational awareness and decision-making, thereby enabling forces to respond swiftly and effectively to emerging threats. In essence, GPS is foundational to all domains—land, air, sea, space, and cyberspace.²⁴

Beyond its military applications, GPS holds immense value for civil and commercial functions. It drives significant economic activity both in the U.S. and globally, and GPS technology facilitates operations and improves efficiency in various industries, including transportation, agriculture, telecommunications, and finance. For instance, GPS enables precise navigation for commercial aviation and maritime shipping, which in turn enhances safety and reduces fuel consumption. In agriculture, GPS-guided equipment allows for optimized

planting and harvesting that lead to increased crop yields and reduced resource use. The telecommunications sector relies on GPS for network synchronization, which ensures reliable communication services. Financial markets use GPS timestamps for transaction accuracy to support high-frequency trading. Overall, GPS contributes hundreds of billions of dollars annually to the U.S. economy and trillions to the global economy. According to a 2019 study by RTI International, GPS “has driven \$1.4 trillion in economic growth since 1983.”²⁵

Ensuring the resilience of PNT capabilities is paramount for both military and civilian operations. The inherent resilience of the GPS system is further bolstered through allied Global Navigation Satellite Systems (GNSS) such as the European Union’s Galileo and Japan’s QZSS. These systems not only provide redundancy, but also enhance the robustness and reliability of global PNT services. In a contested environment, the interoperability and combined resilience of these GNSS networks ensure that critical operations, from precision munitions delivery to synchronized financial transactions, remain uninterrupted.²⁶

Missile Warning and Defense. Mission Delta 4, headquartered at Buckley Space Force Base in Colorado, operates and maintains a robust strategic missile warning system that includes both satellites and ground-based radars to detect and track missile launches worldwide. This system includes a network of satellites in geostationary and highly elliptical orbits that provide persistent global surveillance and early warning capabilities. Complementing these satellites are advanced ground-based phased-array radars in Alaska, California, Massachusetts, North Dakota, Greenland, and the United Kingdom that are strategically positioned to enhance detection and tracking accuracy, offering comprehensive coverage and resilience against potential threats. These same space-based and ground-based sensors provide tipping and cueing information to missile defense capabilities, enhance battlespace awareness to the geographic combatant commanders, and gather technical intelligence. Together, these capabilities ensure constant vigilance and preparedness, safeguarding national security and supporting strategic decision-making in a contested environment.²⁷

Satellite systems include the Defense Support Program (DSP) and the Space-Based Infrared

System (SBIRS). The notional constellation is four satellites in geosynchronous orbit (at approximately 22,500 miles altitude) and two sensors in highly elliptical orbits to provide coverage of the most northern latitudes. The DSP satellites, which have been a cornerstone of missile detection since the 1970s, feature infrared sensors to identify heat signatures from missile launches. These systems have been progressively enhanced by SBIRS, which offers improved surveillance, tracking, and missile warning capabilities through its constellation of geosynchronous satellites and sensors in highly elliptical orbit.

These enhanced capabilities result in improved prediction accuracy for global strategic and tactical warfighters. The ongoing evolution of the ground system includes improved mission processing software that increases event message accuracy and reduces manpower for support and operations of the DSP and SBIRS portfolio.²⁸ As missile threats continue to evolve, the Space Force is developing next-generation missile warning satellites to improve detection accuracy and resilience. These future systems will operate in low-Earth, mid-Earth, geosynchronous, and highly elliptical orbits. They will integrate advanced infrared technology, enhanced ground processing capabilities, and increased interoperability with allied missile warning networks.

Communications. Satellite communications provide critical infrastructure for both military and civilian applications. At geosynchronous orbit, satellites maintain a fixed position relative to the Earth’s surface, ensuring continuous coverage and reliable communication links for strategic command and control and secure data transmission. Mid-Earth orbit satellites offer broader coverage and faster signal transmission, which are vital for real-time operations and global connectivity. Low-Earth orbit satellites, with their closer proximity to the Earth, support modern demands for rapid data exchange and internet services by enabling high-speed communication with minimal latency. Together, these satellite systems underpin such essential services as GPS, weather forecasting, telecommunications, and emergency response and help to promote significant economic activity and foster global trade.

The United States Space Force operates a variety of satellites in support of strategic and tactical

communication as well as broadcast service. The current strategic communication satellite systems include MILSTAR (Military Strategic and Tactical Relay); AEHF (Advanced Extremely High Frequency); ESS (Evolved Strategic SATCOM); and EPS (Enhanced Polar System).

Operated by Space Delta 8 at Schriever Space Force Base in Colorado, “MILSTAR provides the President, Secretary of Defense, and America’s armed forces with assured, survivable satellite communications (SATCOM) with low probability of interception and detection, and is designed to operate through contested environments.”²⁹

AEHF is the follow-on to MILSTAR and provides survivable, global, secure, protected, and jam-resistant communications for high-priority military ground, sea, and air assets. AEHF enables the Department of War to control tactical and strategic forces through all levels of conflict. It provides connectivity across the spectrum of mission areas, including land, air, and naval warfare; special operations; strategic nuclear operations; strategic defense; theater missile defense; and space operations and intelligence. Multiple international partners support the AEHF program.³⁰

ESS will eventually replace the AEHF satellite constellation. The new system is projected to provide critical jam-resistant communication channels for the National Command Authorities and deployed forces worldwide, even in the North Polar region—a capability that the current system lacks. The Space Force plans to start production in 2025 and field the constellation by 2030. The ESS constellation will include at least four satellites in geosynchronous and highly elliptical orbits.³¹

The Space Force’s tactical SATCOM capabilities are essential for maintaining resilient and secure communication links in diverse operational environments. The Wideband Global SATCOM (WGS) system plays a pivotal role in this framework by providing high-capacity data transmission for military and government users worldwide. Currently, 10 WGS satellites, positioned in geosynchronous orbit, offer both X-band and Ka-band communication capabilities, enabling flexible and reliable connectivity for tactical and strategic missions. Two additional WGS satellites are in development. These satellites support a range of applications, including battlefield coordination, intelligence dissemination, and logistical support, to ensure that U.S. forces

and their allies can maintain robust communications even in contested or remote areas. The WGS program is funded and supported by several allied nations including Canada, Australia, Denmark, Luxembourg, and the Netherlands.³²

The WGS system consists of three principal segments:

- The Space Segment (satellites), a constellation of satellites in geosynchronous orbit;
- The Control Segment (operators), which consists of the Delta 8 squadrons and resources for the planning, management, and control of the constellation; and
- The Terminal Segment (users), which consists of thousands of fixed, transportable, ground-mobile, air-mobile, ship-based SATCOM terminals with antennas the diameters of which range from about half a meter to almost 20 meters in size.³³

Narrow-band satellite communications are a crucial component of the Space Force’s strategic and tactical communications architecture. They provide reliable and secure communication channels in bandwidth-constrained environments, a capability that is essential for a range of users, including ground troops, special operations forces, and maritime units, who require dependable communication links in diverse and often contested operational settings. The Space Force operates several narrow-band satellite communication programs, including FLEETSATCOM, UHF Follow-on (UFO), and the Mobile User Objective System (MUOS).³⁴

FLEETSATCOM, the initial narrow-band SATCOM system, consists of a single operational satellite in geosynchronous orbit that provides vital communication links for naval and tactical forces. The operational satellites of the UHF Follow-on program, which succeeded FLEETSATCOM, offer enhanced reliability and coverage. These satellites support a wide array of users, from individual soldiers to entire fleet units, enabling coordinated and effective operations across the globe.³⁵

The latest advancement in narrow-band communications is the MUOS program, which includes five operational satellites designed to provide next-generation capabilities. By enhancing communication

capacity and flexibility, MUOS ensures that users can maintain connectivity even in the most challenging environments.³⁶

The Space Development Agency (SDA) is currently advancing its plans to develop and deploy a constellation of low-Earth orbit (LEO) satellites called the Proliferated Warfighter Space Architecture (PWSA). The initial instantiation of PWSA, Tranche 1, is planned to include over 150 satellites to provide tactical communication and missile warning. The SDA operates several test and prototype satellites in LEO, demonstrating essential communication links for strategic command, control, and secure data transmission.³⁷ Currently, the Department of the Air Force and U.S. Space Force are reassessing their SDA plans, and the future of the SDA effort is uncertain.³⁸

In addition to dedicated military satellite communication systems, the U.S. military relies increasingly on commercial communication satellite services to enhance its operational capabilities.³⁹ These services include satellites in geostationary, medium-Earth, and low-Earth orbits, which offer various advantages in terms of coverage, latency, and data transmission rates. Approximately 40 percent of military communications is facilitated through commercial satellites, highlighting their crucial role in augmenting the military's capacity for resilient and secure communications across the globe.⁴⁰

Weather. Weather satellites serve as indispensable tools for military, civil, and commercial activities by providing critical data that ensure safety, efficiency, and strategic advantage. For military operations, these satellites offer real-time weather information that is crucial for planning and executing missions, especially in diverse and challenging environments. Civil authorities, including disaster response agencies, rely on weather satellite data to predict and mitigate the impacts of natural disasters, which helps to ensure public safety and timely emergency response. Commercial enterprises, particularly those in sectors like agriculture, aviation, and maritime, use weather forecasts to optimize operations, reduce risks, and enhance productivity. The comprehensive insights offered by weather satellites not only aid in immediate decision-making, but also contribute to long-term planning and sustainability efforts across various fields.

The U.S. Space Force operates multiple weather satellites that provide vital support for both

military and civil operations. These satellites are strategically positioned in geostationary and polar low-Earth orbits to deliver comprehensive and real-time meteorological data. Military users such as ground troops, aviation units, and naval forces use the indispensable insights into weather patterns, climate conditions, and environmental changes provided by the satellites to plan and execute their missions with precision and safety.

The Defense Meteorological Satellite Program (DMSP) includes two operational satellites in sun-synchronous, low-Earth polar orbits at an altitude of approximately 450 miles.⁴¹ The primary weather sensor is an optical system that provides “continuous visual and infrared imagery of cloud cover over an area approximately 1,600 miles wide.” The satellites provide global coverage of weather features every 14 hours. Additional DMSP sensors “measure atmospheric vertical profiles of moisture and temperature.” Military weather forecasters use this information to detect weather patterns and track existing weather phenomena including fog, thunderstorms, dust and sandstorms, and tropical cyclones. Other DMSP sensors measure space weather such as charged particles, electromagnetic fields, and ionospheric characteristics to “track the impact of the natural environment on ballistic-missile early warning radar systems, long-range communications, and satellite communications.”⁴²

The first Weather System Follow-on–Microwave (WSF-M) satellite was launched in April 2024 and measures “ocean surface winds, tropical cyclone intensity, sea ice, soil moisture, and snow depth, as well as low Earth orbit (LEO) energetic charged particles.”⁴³

The Space Force also operates weather satellites in geostationary orbit that previously were operated by NOAA. The satellites use an existing Remote Ground Station in Western Australia that was put in place in 2020 to support the mission. NOAA operates the satellites on behalf of the Space Force from the NOAA Satellite Operations Facility in Suitland, Maryland, and Wallops Command and Data Acquisition Station in Wallops Island, Virginia.⁴⁴

Tactical Surveillance, Reconnaissance, and Tracking. Historically, the Air Force and now the Space Force have not developed and operated ISR satellites. This mission has been within the purview of the NRO. More recently, the Space Force and the NRO have established a collaborative arrangement

to field and operate a constellation of satellites to develop the Ground Moving Target Indicator (GMTI), a mission previously met by the now-retired Air Force E-8C aircraft's Joint Surveillance Target Attack Radar System (JSTARS) program.⁴⁵

Unrelated to the GMTI mission, the Space Force and the NRO are developing an arrangement to improve sharing of commercial satellite ISR products with the terrestrial warfighter.⁴⁶ Scores of existing commercial ISR satellites could provide support to U.S. and allied warfighters. Companies provide electro-optical, radar, and radio frequency geo-location.⁴⁷

Space Domain Awareness. The U.S. Space Force conducts Space Domain Awareness to monitor and assess the space environment, supporting the safety and security of space operations and facilitating offensive and defensive space control operations. This mission is supported by a network of sophisticated ground-based and space-based systems. Key ground-based systems include a wide variety of geographically dispersed telescopes and radars.⁴⁸ Space-based systems include the Space-Based Surveillance System (SBSS)⁴⁹ and Geosynchronous Space Situational Awareness Program (GSSAP).⁵⁰ These ground-based and space-based capabilities comprise the Space Surveillance Network (SSN), which tracks space objects, predicts potential collisions, warns of potential hostile actions, and enables offensive action.

Offensive and Defensive Space Control. The Space Force's role in space control includes both offensive and defensive operations, providing freedom of action in space while also protecting U.S. space assets from adversary interference. Offensive space control aims to prevent adversaries from using space capabilities against the U.S.; defensive space control focuses on protecting U.S. space systems from attack or interference.⁵¹ According to the current Chief of Space Operations, "Domain control is the special province of warfighters, a unique responsibility that only military services hold.... It is the thing that distinguishes the Navy from the merchant marine and the Air Force from Southwest Airlines. It is the purpose of the Space Force to achieve space superiority."⁵²

Specific capabilities to control the domain are generally classified, but open-source reporting on the adversary sheds light on the types of offensive capabilities the U.S. Space Force might pursue. Such

capabilities could include ground or sea-based direct ascent missiles; powerful lasers to dazzle or damage satellite sensors and components; on-orbit kinetic, electromagnetic, and directed energy weapons; and cyber tools to interfere with adversary satellite command and control. The Space Force acknowledges ground-based capabilities to jam adversary satellites.⁵³

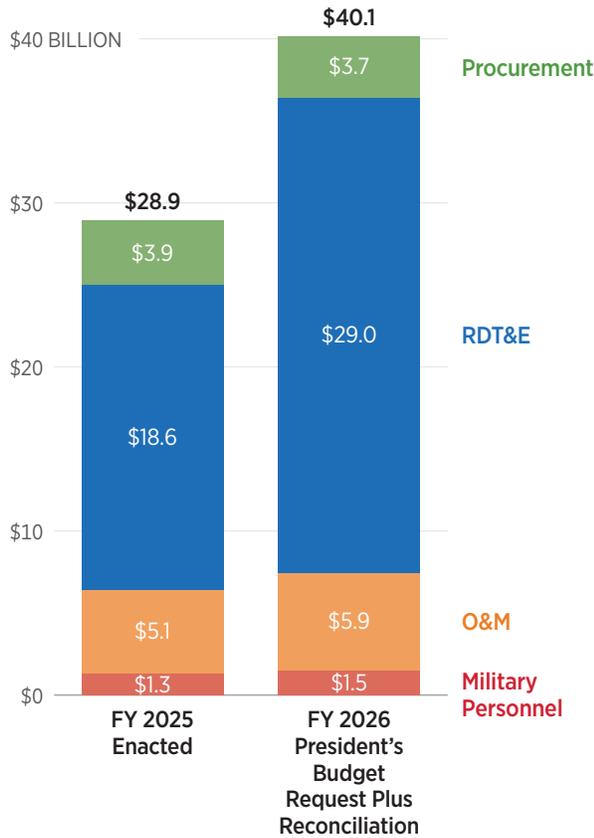
Launch. Space launch serves as the gateway to deployment of satellites that enable communications, navigation, weather forecasting, and surveillance capabilities that are vital to both civilian and military operations. These launches ensure that the United States maintains its strategic edge in space by allowing for the monitoring of potential threats, rapid response to emerging situations, and the advancement of technological innovations that drive economic growth.

The U.S. Space Force owns and operates two launch bases and related ranges: Cape Canaveral Space Force Station on the east coast of Florida and Vandenberg Space Force Base on the central coast of California. Space Force procures launches from commercial providers to put national security satellites into space. Technological innovation in launch vehicles (rockets) and launch range operations has dramatically reduced the cost of launch and increased launch range capacity. These developments reduce financial barriers for both satellite and launch companies and allow government to develop and field large constellations of relatively small and relatively inexpensive satellites for national security.⁵⁴

Satellite Command and Control. The Space Force operates the Satellite Control Network, a system of 19 antennas around the globe that supports launch and day-to-day control of U.S. government satellites, including both defense and Intelligence Community satellites. According to the GAO, increasing demand could compromise satellite missions, and the system is in need of significant modernization.⁵⁵

Test and Experimentation Satellites. The Space Force routinely launches satellites to test new technologies, tactics, techniques, and procedures. Among the more notable is the X-37B Orbital Test Vehicle, an unmanned reusable space plane. Two of these spacecraft have flown at least seven times in both low-Earth and highly elliptical orbits and have remained in space for as long as 908 days.⁵⁶

Space Force Budget Breakdown



NOTES: O&M refers to Operations and Maintenance. RDT&E refers to Research, Development, Test, and Evaluation.

SOURCES: U.S. Department of War, Office of the Under Secretary of War (Comptroller), "Defense Budget Materials—FY2026," <https://comptroller.defense.gov/Budget-Materials/Budget2026/> (accessed January 21, 2026), and Heritage Foundation research.

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Space Force Budget

The FY 2025 enacted budget for the Space Force was \$28.7 billion, a decrease of \$0.6 billion from the FY 2024 budget and \$800 million less than requested.⁵⁷ The total requested for FY 2026—which notably includes \$13.8 billion provided by the One Big Beautiful Bill reconciliation legislation signed into law on July 4, 2025⁵⁸—is \$40.2 billion, an increase of more than \$11 billion over the FY 2025 enacted amount.⁵⁹ The nation needs to sustain a Space Force budget of at least this magnitude.

The FY 2025 Operation and Maintenance (O&M) budget of \$5.2 billion is about 18 percent of total Space Force funding. The budget funds 81 percent of Weapon System Sustainment requirements and a 2 percent civilian pay raise. It also “sustains mission operations and supports headquarters and field commands for doctrine development, warfare, intelligence, and professional military education.”⁶⁰

The FY 2025 Military Personnel (MILPERS) budget reflects 4 percent of the budget at \$1.2 billion. It includes “end strength growth from 9,400 military authorizations to 9,800 military authorizations” and “a 4.5% pay raise, 4.2% Basic Allowance for Housing, and 3.4% Basic Allowance for Subsistence.”⁶¹ The FY 2026 budget request for Space Force MILPERS is \$1.5 billion.⁶² It increases military authorizations end strength to 10,400 and includes “an across-the-board 3.8 percent pay raise, an increase of 4.2 percent for Basic Allowance for Housing, and 3.4 percent for Subsistence.”⁶³

The FY 2025 Research, Development, Test & Evaluation (RDT&E) budget of \$18.7 billion is the largest portion of the Space Force’s annual funding—almost 64 percent of the total. It includes “funding for Resilient Missile Warning/Missile Tracking capabilities, Space Technology Development and Prototyping, Ground/Space Domain Awareness, Next-Generation Overhead Persistent Infrared (OPIR), Evolved Strategic Satellite Communication (SATCOM) (ESS), Protected Tactical SATCOM (PTS), and Tech Transition (Space).”⁶⁴ The FY 2026 budget request includes \$15.5 billion (a decrease of ~\$3 billion), but the One Big Beautiful Bill Act adds \$13.5 billion for a total of \$29 billion.⁶⁵ Much of this increase will likely fund elements of the Golden Dome with money specified for “Long Range Kill Chains;” “Resilient Missile Warning Missile Tracking—Low Earth Orbit (LEO);” and “Resilient Missile Warning Missile Tracking—Medium Earth Orbit (MEO).”⁶⁶

The FY 2025 \$4.3 billion Procurement budget reflects approximately 15 percent of total Space Force funding. It “funds acquisition of space vehicles and terminals, ground control systems, launch services for seven National Security Space Launches and four SDA launches, and related communications security and training products.”⁶⁷ The FY 2026 budget request for Space Force procurement is \$0.9 billion less than FY 2025’s at \$3.4 billion.⁶⁸ The decrease reflects three fewer National Security Space Launches than in the prior year.

Although the FY 2025 Space Force budget is almost twice as large as the initial FY 2020 budget, most of this increase reflects consolidation of other funding previously managed by the Air Force, Navy, Army, and Space Development Agency. The Chairman of the House Appropriations Subcommittee on Defense expressed skepticism as to whether the FY 2025 Space Force budget request would keep pace with the capabilities needed.⁶⁹

Space Threats

Any discussion of space threats must include the threats against U.S. and allied space capabilities (threats *to* space) and the threats against U.S. and allied terrestrial capabilities posed by adversary space systems (threats *from* space).

Threats to Space. For many decades, the Department of Defense recognized that adversaries could threaten U.S. space capabilities through a variety of ground-based and space-based capabilities. These threats include kinetic attacks and cyberattacks against ground infrastructure such as launch infrastructure, command-and-control antennas, and missile warning radars; the use of lasers to blind, damage, or destroy satellites; electronic warfare to jam ground-to-space, space-to-ground, and space-to-space communication and command-and-control links; ground-based kinetic attacks (missiles) against satellites; space-based kinetic attacks from one satellite to another; and the use of nuclear weapons in space (an exo-atmospheric explosion that instantly destroys systems and creates a nuclear environment that disrupts and destroys satellites over time).

China. According to the U.S. Space Force, “China is the PACING CHALLENGE and is rapidly improving its space capabilities to TRACK & TARGET U.S. military forces. China & Russia are pursuing a wide range of counterspace capabilities to DISRUPT & DEGRADE U.S. space capabilities.” The Space Force assesses that “[t]he People’s Liberation Army (PLA) expects space to play an important role in future conflicts by enabling long-range precision strikes and denying other militaries the use of space-based information.” In addition, “the PLA likely sees counterspace operations as means to deter and counter U.S. military intervention in a regional conflict.”⁷⁰

In 2007, China used a direct-ascent antisatellite missile (DA-ASAT) to destroy one of its defunct weather satellites in low-Earth orbit, “creating

more than 2,700 pieces of trackable debris that remain in orbit.” Since 2007, China has advanced that missile “into an operational system intended to target LEO satellites.” In addition:

- China likely intends to field ASAT weapons capable of destroying satellites up to geosynchronous altitudes, effectively holding at risk all U.S. and allied satellites.
- China is developing satellite “inspection and repair” systems which could have a dual-use function as weapons. In January 2022, the Chinese Shijian-21 satellite moved a non-functioning Chinese navigation satellite to a “graveyard orbit” above the geosynchronous belt. This technology could be used in future systems to grapple and move U.S. and allied satellites.
- The Space Force has observed many Chinese experimental satellites conducting “unusual, large, and rapid maneuvers” in the geosynchronous belt. These are tactics that “could have several military applications.”
- China “has multiple ground-based laser weapons able to disrupt, degrade, or damage satellite sensors.” The Space Force believes that China “could have higher-power systems able to damage satellite structures” later this decade.
- Chinese military exercises routinely include jamming “against space-based communications, radars, and navigation systems like GPS.” The Space Force also believes that China “may be developing jammers to target SATCOM over a range of frequencies, including U.S. military protected extremely-high-frequency (EHF) systems.”⁷¹

Russia. Russia continues to develop, test, and deploy counterspace systems “to take advantage of a perceived vulnerability of U.S. military dependence on space.” For example:

- In November 2021, Russia tested a DA-ASAT missile against a non-operational Soviet satellite in low-Earth orbit, “creating 1,500 pieces of trackable debris.”

- A large missile observed on a MiG-31 aircraft in 2018 “may be related to an air-launched ASAT missile...that will be ‘capable of destroying targets in near-space.’”
- Russia has deployed several orbital ASAT prototypes in low-Earth orbit in 2017, 2019, 2022, 2024, and 2025. “The four most recent were all placed in orbits matching those of U.S. national security satellites, and one ejected an object near a Russian satellite while testing a space-based ASAT weapon.”
- Starting in 2018, “Russia deployed laser weapons to five strategic missile divisions.” The system is intended to “mask missile deployments by blinding satellite sensors.” The Space Force believes “Russia may deploy more powerful lasers by 2030.”
- Russia is “developing an ASAT capability using a satellite designed to carry a nuclear weapon.”
- Russia told international regulators in 2025 that “it considered European satellites aiding Ukraine’s military as ‘legitimate targets,’” and its “continuing electronic attacks on GPS and SATCOM across Europe have been called ‘extremely worrisome and unacceptable[.]’ by the International Telecommunications Union.”⁷²

Threats from Space. U.S. adversaries, particularly China and Russia, understand the value that space provides to terrestrial warfighting and have developed significant capabilities to communicate, sense the battlefield, provide navigation, and target U.S. and allied forces in conflict.

China. According to the Space Force, “CHINA’s ambitious space program is...key to Chinese Communist Party (CCP) plans for a powerful and prosperous nation” and, as noted above, is expected “to play an important role in future conflicts by enabling long-range precision strikes and by denying other militaries the use of space-based information.”⁷³

In 2015, the CCP “organized its military space capabilities under the newly-established Aerospace Force which was subsequently aligned under the Central Military Commission in Beijing.” By July

2025, China had conducted 42 space launches, 41 of which were successful, and had placed 112 payloads into orbit, 17 percent of which “were intelligence, surveillance, and reconnaissance capable satellites.” In addition:

- “Since the end of 2015, China’s on-orbit presence has grown by approximately 927% (+1,049 satellites). As of July 2025, China had more than 1,189 satellites in orbit.”
- The Chinese military “benefits from 510+ ISR-capable satellites with optical, multi-spectral, radar, and radio frequency sensors, increasing its ability to detect U.S. aircraft carriers, expeditionary forces, and air wings.”
- China’s “improving space-based capabilities combine with its growing arsenal of stand-off weaponry to enable long-range precision strikes against U.S. and allied forces.”
- “China has launched three reusable spaceplanes that released unidentified objects.” They were in orbit for two days, more than nine months, and almost nine months, respectively.⁷⁴

Russia. According to the Space Force, “Russia has one of the world’s largest space programs and is among the world’s most capable space actors. Its experience and pedigree are unmatched outside the U.S.” Moreover, “Russia views space as a warfighting domain and believes space supremacy will be a decisive factor in future conflicts.”⁷⁵

Russia’s military space capabilities and personnel were integrated into the Aerospace Forces in 2015, “in part to better integrate space-based capabilities into larger operations.” More recently, its space technology has declined as a result of such problems as funding shortfalls and growing international isolation. Moscow still hopes to maintain its constellations and develop next-generation capabilities. However:

- Russia conducted only 17 launches in 2024 and “remained largely absent from the international launch market, launching only five foreign payloads.”

- Despite its expertise in rocket engines and space launch, Russia increasingly lags behind the U.S. and China in launch activity.
- Russia operates some of the world’s most capable ISR satellites for optical imagery, SIGINT, and missile warning but relies increasingly on civil and commercial satellites. Russian private military companies, for example, have purchased imagery from Chinese company Space-ty to support combat operations in Ukraine.⁷⁶

Readiness

Any discussion of military readiness should begin with a fundamental question: “Ready for what?” Historically, the U.S. Space Force and the earlier space forces of the Air Force, Army, and Navy have maintained high levels of readiness to operate in a benign, uncontested environment. However, the Space Force is *not* ready to operate successfully in a contested space environment. Current Space Force capabilities are vulnerable to myriad adversary counterspace systems, and the Space Force does not have sufficient capacity or capability to hold adversary space systems at risk.

The Space Force has taken and continues to take steps to address this situation. There is a Field Command (Space Training and Readiness Command) dedicated to the task of implementing robust training and developing the tactics, techniques, and procedures necessary to operate during wartime. The proposed Space Futures Command would define the set of resilient capabilities as well as offensive and defensive space control capabilities necessary to operate in and through a contested space environment. The Space Development Agency is fielding a constellation of data transport and threat tracking satellites that are inherently resilient to many adversary threats.

All of this action is warranted, but significant additional resources and people will be required. Flat budgets of approximately \$30 billion are not enough to address the readiness challenges that the Space Force must confront.

Future Capabilities, Challenges, and Issues

Future Space-based Capabilities. The Space Force is being asked to take on new missions to support the Joint Force. In addition to traditional Communication, Position/Navigation/Timing, Weather,

and Missile Warning missions, the Space Force is collaborating with the Intelligence Community to develop and operate a constellation of radar satellites to track ground-based and sea-based moving targets. Heretofore, this mission was accomplished by the now-retired Joint Surveillance Target Attack System (JSTARS) E-8 aircraft. The Air Force and Space Force are also considering how the Space Force can support the Air Battle Management mission currently conducted by the Airborne Warning and Control System (AWACS) E-3 Sentry aircraft.⁷⁷

The Space Force might consider global logistics as an additional mission in the coming years. As the price of launch continues to drop and launches become increasingly routine, using rockets to move material and even manpower becomes practical. Suborbital launches could move critical material to any place on the planet within a couple of dozen minutes.⁷⁸

The Space Force might also consider applying kinetic or electromagnetic force from space to the air, land, and maritime domains. China has already demonstrated the capability to do so with its launch and reentry of a hypersonic test vehicle.⁷⁹ Such “force application” capabilities are not prohibited by existing treaties, although they might be perceived as destabilizing.

An Expanding Area of Responsibility (AOR). Historically, the Space Force and its predecessors have operated in relatively near-Earth space—out to approximately 22,500 miles above the Earth’s surface. Both the PRC and the U.S. are now devoting increasing attention to the environment that extends to the moon—approximately 275,000 miles away—commonly called the “cislunar space.” Both nations recognize the geopolitical, military, and potential economic value of operating beyond the traditional near-Earth altitudes.⁸⁰ This emerging recognition presents significant technical and budgetary challenges that the Space Force will need to address in the coming years. For now, the men and women of the Space Force will have their hands full satisfying the Joint Force’s needs and ensuring dominance of the traditional near-Earth Space AOR.

Acquisition Reform. The current House version of the FY 2026 NDAA focuses significant attention on acquisition reform. Key themes include delivering capabilities at speed and scale, revitalizing the defense industrial base, leveraging commercial

innovation, and developing a mission-oriented defense acquisition workforce.⁸¹

All of these themes are applicable to space acquisition, and many are underway. The Space Development Agency has made significant progress in delivering space capabilities at speed and scale. On September 10, 2025, the SDA launched 21 “Tranche 1” data transport spacecraft into low-Earth orbit. The agency plans to launch the remaining 120-plus Tranche 1 data transport and missile warning and tracking satellites over the next couple of years.⁸²

In April 2024, the Space Force published the “U.S. Space Force Commercial Space Strategy.” In the foreword to the document, the CSO and Assistant Secretary of the Air Force for Space Acquisition and Integration wrote that:

In this increasingly congested and contested space domain, we must seize the opportunity to capitalize on significant innovative commercial space solutions. As outlined in the National Defense Strategy (NDS), we must tap into the spirit of American entrepreneurship, innovation, and vibrant competitive markets to be successful and sustain our competitive advantage across the spectrum of conflict in this era of Great Power Competition.⁸³

Additionally, the Space Force is organizing its forces into “Mission Deltas.” According to the Space Force:

Mission Deltas oversee all aspects of mission area functions—people, training, equipment and combat sustainment. The MD framework consolidates the units in SpOC [Space Operations Command, now Combat Forces Command] that perform crew force operations, cyber defense and intelligence support with the program offices in Space Systems Command that perform Level 1 and Level 2 maintenance, operational enhancements and application-layer software development.⁸⁴

This organizational construct will help to reinforce the NDAA goal of developing a mission-oriented defense acquisition workforce.

However, while all of these internal Space Force reforms are laudable, there is much more to be done. The department’s most senior leadership must foster an environment that prudently accepts and manages risk. Congressional oversight must account for the need to “fail forward.” Otherwise, acquisition professionals will default to risk aversion and process compliance.

Potential Organizational Changes. There are several important organizational changes that Congress, the President, and the War Department might do well to consider in the coming years. The first would be to make the service a department separate from the Department of the Air Force. Proponents of such a change argue that there is a need for dedicated senior leadership (Secretary and Under Secretary of the Space Force); dedicated support functions (manpower, environment and engineering, financial management, legislative liaison, general counsel, surgeon general, etc.); and champions for budget. Supporters of the status quo argue that recent and current Secretaries of the Air Force have been staunch supporters of the new service and that adding support functions would be an unnecessary growth in staff and bureaucracy with a negative return on investment.⁸⁵

The second potential organizational change would be to combine the National Reconnaissance Office and the Space Force into a single organization. Perceived benefits of such an arrangement would include closer collaboration on space acquisition and operations; improved intelligence, surveillance, and reconnaissance support for the Joint Force; and reduced bureaucracy. Arguments for maintaining separate organizations focus on the need to satisfy national requirements of the Intelligence Community, the complexity of the current NRO budget sources and processes, and existing congressional oversight committee jurisdiction.⁸⁶

Scoring the U.S. Space Force

Capacity Score: Marginal

The current capacity of the U.S. Space Force is sufficient in certain areas and inadequate in others. There are sufficient numbers of satellites providing PNT and missile warning. Additional communication, weather, and space domain awareness satellites are necessary to support terrestrial and space operations. Ground infrastructure supporting satellite command and control and space domain awareness is insufficient. Based on publicly available unclassified information, the Space Force has little to no capacity to protect existing and planned space systems. It also is woefully short of the resources required to hold adversary space systems at risk.

Capability Score: Marginal

The Space Force maintains and operates many highly capable systems. Its current communication, weather, PNT, and missile warning systems provide extraordinary capability. However, the Air Force has divested the Ground Moving Target Indicator mission, and there are no Space Force space systems to satisfy this mission. The Air Force will likely continue to divest certain missions historically conducted from the air that are no longer tenable in a contested air domain. The Space Force must be funded properly to develop and procure these capabilities. Additionally, the Space Force is years away from fielding the data transportation capability that is needed to support a way of war that remains dependent on a vast network of sensors, shooters, and decision-makers. Finally, the Space Force does not have the capability that is needed to protect U.S. space systems and hold adversary systems at risk.

Readiness Score: Weak

Previous versions of this assessment scored Space Force readiness as “Marginal.” Space Force readiness has deteriorated both because of the increasing capability and capacity of the adversary and because of the increased likelihood that the adversary will seek to disrupt and destroy U.S. space capabilities. Put simply, the Space Force is not ready to operate in a contested environment. It is likely that any conflict with a major adversary will begin in space. Most of today’s Space Force capabilities are highly effective in an uncontested

environment, but unlike the other services, whose readiness challenges can be addressed by additional training, exercises, and improved maintenance, the Space Force lacks the capacity and capability to be ready for conflict in space.

Overall Assessment: Marginal

The Space Force is woefully short of the resources required to hold adversary space systems at risk and is not ready to operate in a contested environment even though conflict with a major adversary will likely begin in space. While most of its current capabilities are highly effective in an uncontested environment, the Space Force lacks the capacity and capability to be ready for conflict in space. The Space Force is years away from fielding the data transportation capability that is needed to support a way of war that remains dependent on a vast network of sensors, shooters, and decision-makers. Space Force readiness has deteriorated both because of the increasing capability and capacity of the adversary and because of the increased likelihood that the adversary will seek to disrupt and destroy U.S. space capabilities. While still capable, for these and many other reasons, the Space Force is assessed as “Marginal.”

Policy Recommendations

Consistent with the criticality of the Space Force’s function in our nation’s way of war, coupled with the need to resource and organize most effectively, the President should:

- **Re-energize the National Space Council.** The first Trump Administration used the National Space Council to drive key organizational and cultural change, including the creation of U.S. Space Command and the U.S. Space Force. Given the multitude of challenges the nation faces, the President should direct the Vice President to lead the National Space Council.
- **Develop a national vision and strategy for space.** The President’s leadership is vital if the nation is to realize the necessary space capabilities, innovation, collaboration with allies,

U.S. Military Power: Space Force

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Capacity			✓		
Capability			✓		
Readiness		✓			
OVERALL			✓		

ABOUT THE ASSESSMENT CATEGORIES

OVERALL ASSESSMENT. The overall assessment of a military service is measured against its ability to perform its respective role in a two-major regional contingency (MRC) scenario. The assessment of the U.S. Marine Corps is sized against a single major regional contingency (MRC) scenario. This benchmark is the *minimum* standard for U.S. hard-power capacity with the understanding that maintenance, operational tempo, training cycles, crisis response, treaty commitments, and/or strategic reserve considerations can cause some forces to be unavailable. Other factors that influence this assessment are the availability of logistical support to enable combat power (fueling ships, supply ships, cargo aircraft, etc.) and the ability to reconstitute combat power for protracted conflict (defense industrial base capacity, etc.).

CAPACITY. The U.S. military must have a sufficient quantity of the right capability or capabilities to meet its mission sets. Capacity (numbers) can be viewed in at least three ways:

- Compared to a stated objective for each category by each service,
- Compared to amounts required to complete various types of operations across a wide range of potential missions as measured against a potential adversary, and
- As measured against a set benchmark for total national capability.

acquisition reform, and cultural change. In his first Administration, the President signed a number of critical space policy documents. Each one should be reviewed and, as necessary, updated or rewritten.

- **Emphasize the importance of space to deterrence.** The President should consider a declaratory statement regarding the importance of space-based capabilities and how the U.S. will consider both kinetic attacks and non-kinetic interference with such systems. Additionally, Congress should direct the Department of War to provide an unclassified report (with an appropriately classified annex) on how robust offensive space control capabilities can deny adversaries the benefits of space and how a declaratory policy and

CAPABILITY. Examining the capability of a military force requires consideration of:

- The proper tools (material and conceptual) with the design, performance characteristics, technological advancement, and suitability that the force needs to perform its function against an enemy successfully;
- The sufficiency of armored vehicles, ships, airplanes, and other equipment and weapons needed to win against the enemy;
- The appropriate variety of options to preclude strategic vulnerabilities in the force and give flexibilities to battlefield commanders; and
- The degree to which elements of the force reinforce each other in covering potential vulnerabilities, maximizing strengths, and gaining greater effectiveness through synergies that are not possible in narrowly stovepiped, linear approaches to war.

READINESS. While capacity and capability considerations are central to the warfighting ability of the U.S. military, readiness performs a crucial role in determining whether combat power is prepared when it is needed. Factors that are considered include (among others):

- Sufficient staffing levels,
- Fulfillment of training requirements, and
- Age and maintenance of equipment.

acknowledged set of capabilities can deter adversary hostile actions in space, at sea, in the air, on the ground, and in cyberspace.

For its part, Congress should:

- **Order an assessment of Space Force readiness.** Congress should direct the Chief of Space Operations to provide a detailed classified report on the state of Space Force readiness to operate in and through an increasingly contested domain. The report should identify shortfalls and a plan to establish high levels of readiness consistent with a multitude of emerging and evolving threats to U.S. national security, civil, and commercial space capabilities.

- **Pursue organizational opportunities.** Congress should hold hearings and direct reports on the Department of War's plans to consider such Space Force organizational opportunities as establishing a Space National Guard; raising the U.S. Space Force to a Secretary-led department on organizational par with the Departments of the Army, Navy, and Air Force; and combining the U.S. Space Force with the National Reconnaissance Office. The hearings and reports should include detailed costs and benefits.
- **Require the executive branch to report on progress in promoting competition and commercial capabilities.** Congress should direct the Chief of Space Operations and the Secretary of the Air Force to report on the progress implementing their plan to integrate commercial capability into Space Force architectures and operations. Congress should also direct the Secretary of War to report on the need for and plan to ensure a robust competitive space industry environment to drive down costs and drive up innovation.

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America's Strategic Deterrent

Robert Peters

Introduction

After decades of neglect, the United States is finally building new missiles, new bombers, new submarines, and—most important—new nuclear warheads. This massive nuclear modernization is driven by China's "breathtaking" nuclear breakout,¹ Russia's 10-to-1 advantage over the United States in non-strategic nuclear weapons, the breakdown in arms control following China's refusal to engage in any forms of arms control or strategic stability discussions and Russia's abrogation of the New START and Intermediate-Range Nuclear Forces treaties, and lesser nuclear threats that include the ever-advancing North Korean nuclear program and even Pakistan's nuclear buildup, which includes the pursuit of nuclear-capable missiles with the potential to hit targets in North America.

Although this deterioration in the security environment is bad enough, the U.S. nuclear modernization program is not going well. The United States is years behind schedule on fielding the Sentinel missile, the *Columbia*-class submarine, and new nuclear warheads; as of 2025, the National Nuclear Security Administration (NNSA) was nine years behind schedule in producing new plutonium pits, the fissile core of a nuclear weapon; and the United States still does not have a credible non-strategic nuclear option forward deployed in the Indo-Pacific theater despite the Chinese and North Korean nuclear buildups.

For these reasons, the U.S. deterrent is a mixed bag. America's strategic deterrent remains strong, but the ability of the U.S. to deter multiple nuclear-armed peers at the strategic level, as well as at the theater non-strategic level, will come under increasing strain. Accordingly, the U.S. strategic deterrent earns a very mixed rating.

History of America's Nuclear Deterrent

Born of the Second World War, America's nuclear deterrent remains the cornerstone and ultimate guarantor of American security.

Beginning in 1942, the Manhattan Project unfolded at laboratories and facilities across America, from the University of Chicago to Oak Ridge, Tennessee, and the mesas of Los Alamos, New Mexico. Academics, physicists, engineers, and military officers worked together to build the bombs that finally ended the Second World War.

The advent of the Cold War brought about larger arsenals of atomic weapons and new generations of ever more powerful weapons on a variety of platforms and delivery systems. In time, the United States fielded tens of thousands of nuclear weapons designed to deter Communist aggression. By the end of the Cold War, the United States maintained a strategic triad of nuclear-capable bombers, nuclear-armed ballistic missile submarines (SSBNs), and intercontinental ballistic missiles (ICBMs) that could carry high-yield nuclear warheads to any target in the world. At the same time, it fielded shorter-range, lower-yield non-strategic weapons.

America's strategic deterrent consists largely of the missiles, bombers, and weapons developed in the Cold War. This deterrent is undergoing a significant modernization process, and that process has not gone well with significant cost and schedule overruns.

The question then becomes: How credible is America's strategic deterrent, and where does it need to be strengthened?

Capacity, Capabilities, and Readiness

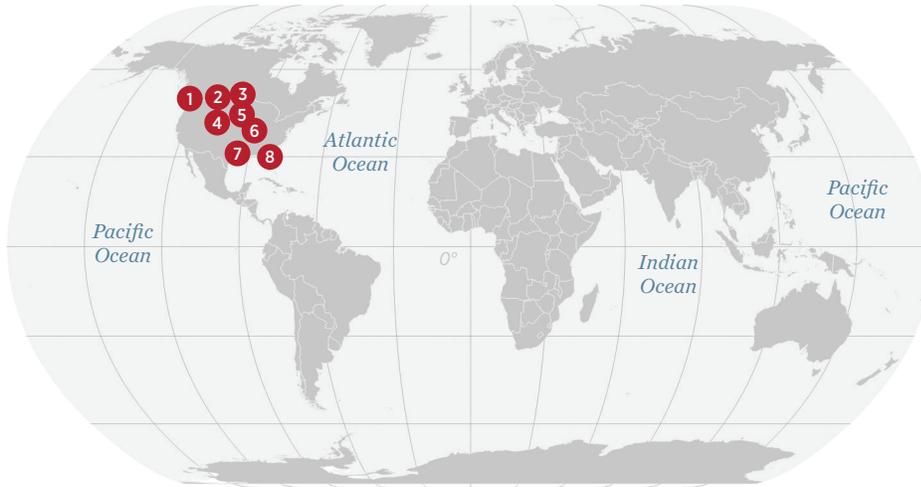
As noted, America's strategic deterrent consists of a triad of ICBMs, bombers, and ballistic missile

U.S. NUCLEAR AT A GLANCE

EST. 1945  **MOTTO**
"Peace Is Our Profession"

 **U.S. Navy Adm. Richard A. Correll**
USAF, Commander

MAJOR BASES



- 1 Naval Base Kitsap
- 2 Malmstrom Air Force Base
- 3 Minot Air Force Base
- 4 Warren Air Force Base
- 5 STRATCOM HQ
- 6 Whiteman Air Force Base
- 7 Barksdale Air Force Base
- 8 Naval Submarine Base King's Bay

CURRENT BUDGET

IN BILLIONS FOR FY 2025

\$60

CURRENT PERSONNEL

ACTIVE-DUTY MILITARY

50,000

RESERVE MILITARY

30,000

CIVILIAN

1,000

KEY EQUIPMENT (estimated current inventory)



ICBMs (400)



SSBN (14)



B-21 Raider



Air-Launched Cruise Missiles (300)



B-2A Spirit (19)



Gravity Bombs (200)



F-35A Lightning II (500)



B-52H Stratofortress (76)



Trident D5 (1,920)



F-16



F-15

SOURCE: Heritage Foundation research.

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submarines. In addition, the United States maintains a small arsenal of non-strategic nuclear weapons that are designed to deter limited nuclear attack.

ICBMs. The American intercontinental ballistic missile force consists of Minuteman III ICBMs dispersed across a number of states in 450 silos. These missiles are the most promptly responsive leg of the nuclear triad because of their constant readiness and direct communication with America's leadership. Their payload and speed also make their interception by adversary missile defenses difficult.

Each ICBM is currently loaded with a single high-yield, highly accurate warhead that can hold targets at risk throughout Europe and Asia in less than an hour. Each missile also has the capacity to carry additional uploaded nuclear warheads if there should be a policy decision to upload.

The ability to launch the ICBM force promptly means that our adversaries cannot be sure that they will be able to destroy our ICBMs prior to a launch—which means that even a large-scale nuclear strike on America's ICBM force could fail to destroy the ICBMs and also trigger the large-scale American nuclear response that our adversaries were trying to avoid by targeting our ICBMs in the first place. In this sense, the ICBM force's very existence contributes to deterrence and strategic stability because neither the United States nor an adversary has an incentive to launch a nuclear first strike on the other's homeland.

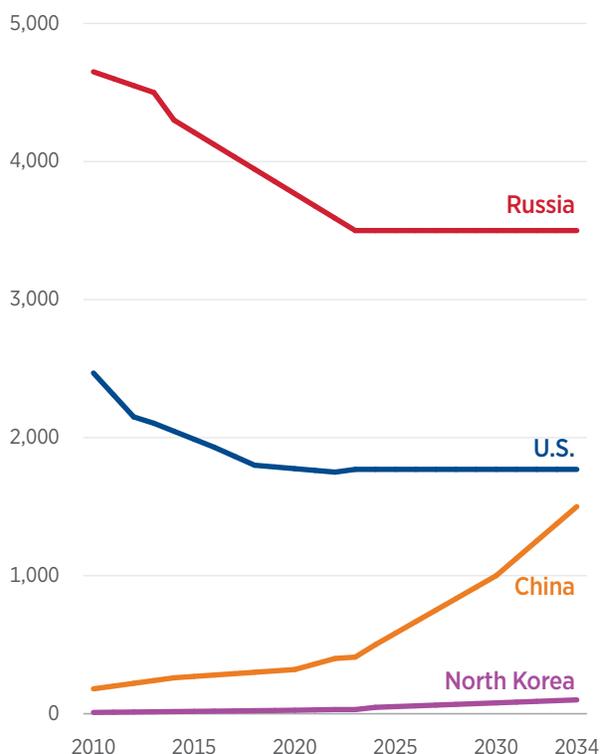
Because the ICBMs are stationed in hardened silos, they are highly survivable against all but multiple strikes from high-yield nuclear warheads. This survivability means that our adversaries cannot destroy a large number of our strategic bombers and ballistic missile submarines as part of an exquisite first strike without also committing significant (and nearly prohibitive) numbers of their high-end forces to the neutralization of America's missile fields. If the United States were to abandon its ICBM force, adversaries might be tempted to destroy our bombers and SSBNs while they are in garrison, thereby destroying a large percentage of America's strategic deterrent with relatively few weapons as part of an exquisite first strike.

America's Minuteman III force was first deployed in 1970 with an expected service life of roughly 10 years.² The last Minuteman was meant to retire during the Reagan Administration; however, for more than 30 years, the United States has

CHART 22

Comparing Nuclear Arsenals

NUMBER OF NUCLEAR WEAPONS



NOTES: North Korea's nuclear arsenal in 2010 was estimated to consist of fewer than 10 operationally deployed nuclear weapons, and its 2022 nuclear arsenal was estimated to consist of between 20 and 30.

SOURCES: Hans M. Kristensen et al., "Chinese Nuclear Weapons, 2024," *Bulletin of the Atomic Scientists*, Vol. 80, No. 1 (2024), <https://www.tandfonline.com/doi/epdf/10.1080/00963402.2023.2295206?needAccess=true> (accessed January 21, 2026); U.S.

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been using life extension programs (LEPs) to extend the Minuteman III's service life. The Sentinel missile, the Minuteman III's replacement, is scheduled to come online in the 2030s.³

Bombers. The air leg of America's deterrent force consists of B-52 and B-2 nuclear-capable bombers. During the first Cold War, America's strategic bombers were kept on day-to-day strip alert; today's nuclear-capable bombers are de-alerted but remain ready to respond to crises and deterrence requirements.⁴

Bombers are not as prompt as the missile force and take hours to reach their target. This longer flight time between the decision to employ nuclear weapons and the time of weapon on target gives policymakers the ability to recall bombers while in flight—a flexibility that is unique among America's strategic deterrent capabilities.

Also, because bombers are globally deployable, they provide an important signaling capability that can be directed both at America's allies, thus providing a visible assurance of America's extended deterrence commitment to them, and at America's adversaries as a visible demonstration of America's willingness to employ nuclear capabilities in defense of its interests and allies. The ability to deploy nuclear-capable bombers forward visibly and openly can demonstrate will and ultimately de-escalate tensions in a region by signaling that America is willing to use force and that an adversary may be crossing a red line.

Bombers are also able to carry a variety of munitions, including standoff air-launched cruise missiles, and a variety of gravity bombs with a number of different explosive yields. This flexibility in payload makes bombers of particular utility in the mission as a hedge against uncertainty.

The totality of the bomber leg of the nuclear triad is currently modernizing with the B-61 Mod 11 gravity bombs being replaced by the more advanced-yield B-61 Mod 12 bombs and the high-yield B-83 gravity bombs being replaced by the B-61 Mod 13 bombs. The standoff air-launched cruise missile is being replaced by the Long-Range Standoff (LRSO) cruise missile, and the B-2 stealth bomber will be replaced by the B-21 Raider bomber later this decade. This modernization of the weapons, missiles, and the bomber itself means that the bomber leg of the triad will be more survivable in a conflict and therefore more likely to carry out

deterrence missions and deliver munitions successfully if deterrence fails.⁵

Ballistic Missile Submarines. SSBNs equipped with Trident II (D5) submarine-launched ballistic missiles (SLBMs) are the backbone of America's strategic deterrent. Taken as a whole, this sea-based leg of the triad is the most survivable component of America's strategic deterrent. Patrolling the Pacific and Atlantic oceans, SSBNs are virtually undetectable, which means that even if an adversary could carry out a cataclysmic attack on the American homeland, the submarine force could respond with an assured second-strike capability.

The *Ohio*-class submarine force, which first entered service in 1981, is in the twilight of its service life. The service life of these vessels, originally intended for 30 years, has been extended to more than 40 years.⁶ Further significant life extensions are not feasible beyond the emergency LEPs the Navy is currently considering as a stopgap measure. Beginning in the early 2030s, the *Ohio*-class submarines will be replaced by the next-generation *Columbia*-class submarines.⁷

Non-Strategic Nuclear Weapons. Since the early days of the Cold War, the United States has forward deployed low-yield theater-range nuclear weapons to nations on the front lines. Nuclear munitions were stored in Korea, and North Atlantic Treaty Organization (NATO) pilots in Europe were trained to fly their nations' dual-capable aircraft, which could carry and employ American nuclear weapons. This was called nuclear burden-sharing.

NATO allies continue to host American B-61 nuclear gravity bombs to deter regional aggression. NATO allies are transitioning their Dual Capable Aircraft (DCA) squadrons from fourth-generation aircraft to fifth-generation F-35 DCA aircraft. Because of their stealthy nature, F-35s will have a greater chance of penetrating enemy air defenses and servicing relevant targets. This upgrade will enhance NATO's deterrent posture in the face of Russian attempts at nuclear coercion. Therefore, the United States will maintain the ability to forward deploy nuclear-capable bombers and U.S. and allied DCA globally.

In addition, the U.S. Departments of War and Energy will continue two programs established by the 2018 Nuclear Posture Review: the sea-launched cruise missile-nuclear (SLCM-N) and the low-yield SLBM. The SLCM-N is a major defense acquisition

Mitigating Lost Deterrence: Ohio-Class Life Extension and Additional Missile Tubes



SOURCES: U.S. Navy, Naval History and Heritage Command, “US Ship Force Levels 1886–Present,” published November 17, 2017, <https://www.history.navy.mil/research/histories/ship-histories/us-ship-force-levels.html> (accessed January 21, 2026); U.S. Navy, Office of the Chief of Naval Operations, Deputy Chief of Naval Operations for Warfighting Requirements and Capabilities—OPNAV N9, *Report to Congress on the Annual Long-Range Plan for Construction of Naval Vessels for Fiscal Year 2025*, March 2024, <https://s3.amazonaws.com/static.militarytimes.com/assets/pdfs/1710968056.pdf> (accessed January 21, 2026); and authors’ analysis.

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program that is slated for fielding in 2035.⁸ It fills a hole in the U.S. arsenal that was created with the retiring of the TLAM-N nuclear Tomahawk cruise missile as directed by the 2010 Nuclear Posture Review.⁹ The SLCM-N will be launched from a submarine or surface vessel without having to rely on host nation support. It may have a range of between 1,000 and 2,000 nautical miles, making it an important intermediate-range, penetrating theater capability with a low-yield warhead.¹⁰

The SLCM-N will serve as a visible or overt assurance to allies in the Indo-Pacific and Europe. Its non-ballistic trajectory, combined with its non-visible generation characteristics, will give our adversaries pause and therefore contribute to America’s ability to deter strategic attacks on allies. The SLCM-N’s deployability to the Western Pacific or Europe during times of crisis would signal to our adversaries that, despite their theater nuclear advantage, they cannot use nuclear threats or nuclear employment to coerce or gain advantage without risking a U.S. theater nuclear response in kind.¹¹

The United States should continue to field the W76-2, the low-yield SLBM introduced following the 2018 Nuclear Posture Review and meant to give the United States a prompt, low-yield nuclear option delivered through a ballistic trajectory, even after SLCM-N is fielded to ensure that America fields a deterrent that is diverse in characteristics and composition. Because the so-called 2025 One Big Beautiful Bill Act includes increased funding for both the missile and the warhead,¹² SLCM-N’s future should be secure.

Importance of the Modernization Program of Record. The United States began its current nuclear modernization program in 2010—when relations with China were mostly positive and before Russia set fire to the global arms control regime, invaded Ukraine, and began its now-tiresome series of nuclear threats against the West—to replace the Cold War legacy triad one-for-one with new warheads, missiles, bombers, and submarines. Every existing legacy platform or warhead would be replaced by a successor system.¹³

Modestly amended in 2018 to include the low-yield SLBM and the SLCM-N, the 2010 modernization program is a multi-decade endeavor to produce a modernized arsenal. However, the current nuclear modernization program of record is characterized by cost overruns and schedule delays in virtually every major aspect of the nuclear enterprise.

Most nuclear warheads in the arsenal are older than the median age of the average American. While it is safe to assume that the current force of bombers, submarines, missiles, and associated warheads will continue to perform their military function until they are replaced with the new arsenal in the coming decade, our nation cannot accept further delays in the modernization of its strategic deterrent.¹⁴

In many cases, this investment in America's strategic deterrent will pay dividends for the next half-century, including in the 2070s and 2080s when it is expected that the new warheads, ballistic missile submarines, and many of the missiles will be retired. This twice-in-a-century moment of recapitalizing our nuclear enterprise and ensuring that the cornerstone of American security remains strong is of paramount importance in protecting our nation.

Role and Function of America's Strategic Deterrent

America's nuclear deterrent has a number of important functions and is spread across a triad of capabilities, including land-based intercontinental ballistic missiles (ICBMs), ballistic missile submarines, and bombers as well as a set of non-strategic nuclear weapons.¹⁵ The totality of America's strategic triad is being modernized to ensure that America's deterrent remains credible for the next half-century. However, while this modernization is necessary, it is also not enough to meet the challenges at hand effectively.¹⁶

As noted above, nuclear weapons are the ultimate guarantor of American security. For decades, both Republican and Democratic Administrations have sought to maintain a robust strategic deterrent capable of (1) deterring strategic attack, (2) assuring our allies, (3) achieving U.S. objectives if deterrence fails, and (4) hedging against future uncertainty.¹⁷

Deterring Strategic Attack. The primary goal of nuclear weapons is to deter a strategic attack on the American homeland, U.S. forces abroad, and allies around the world. Such an attack is most often

thought of as a nuclear attack. The American nuclear arsenal therefore is meant to convey to our adversaries that the United States has the will and capability to deter nuclear attacks under any conditions and respond to such attacks with the full range of force in the nation's arsenal.

However, strategic attack does not necessarily have to be nuclear. Other strategic, non-nuclear attacks could include a biological weapons attack on the American homeland, a significant chemical weapons employment against U.S. forces or citizens, a devastating cyberattack against critical U.S. capabilities, or other forms of strategic attack that take place in space or against space-based targets. While this list is not exhaustive, our adversaries should understand that the types of capabilities used in such an attack are less important than their impact and that the United States will respond to any type of attack that has a strategic effect on the American homeland, U.S. citizens, or U.S. interests with overwhelming force.

Assuring Allies. For decades, the United States has extended nuclear deterrence commitments to allies in the Indo-Pacific and Europe.¹⁸ Assuring our allies of America's commitments advances our mutual interests by deterring and, if necessary, defeating adversary aggression before it reaches America's shores. Assurance is built upon decades of trust, joint force deployments, strategic dialogues, and personnel exchanges. No one—not our own people, our allies, or our adversaries—should doubt the credibility and capability of America's nuclear umbrella. America's nuclear arsenal has been its most successful tool in assuring allies that they do not need to pursue their own nuclear weapons programs.

Achieving U.S. Objectives if Deterrence Fails. No one seeks to employ nuclear weapons, nor would anyone do so lightly.¹⁹ Every U.S. President in the atomic age has considered employing nuclear weapons only in the most extreme circumstances and only for defensive use. Credibility, however, demands that the United States must maintain a reliable nuclear arsenal that is capable of achieving a variety of effects so that if deterrence fails and America's adversaries choose to secure their objectives by using violence and force, the United States is able to achieve its objectives.

Hedging Against Future Uncertainty. The United States has pursued and always should pursue a stable security environment that allows for

freedom and prosperity for all of the world's peoples, but it also must be prepared for a significant degradation of the security environment. Just as the world security environment degraded from 2010 to 2024, it is entirely possible that further degradations could manifest in heretofore unseen ways. Nuclear weapons must therefore remain a credible deterrent against unknown and unknowable developments in the years to come.²⁰

As Russia increasingly relies on nuclear coercion as a means of “diplomacy” and China continues on its path as the world's fastest-growing nuclear power, nuclear weapons will become more important than ever as a hedge against uncertainty.²¹ This is particularly true during a period when Russia and China have invested so heavily in their defense industrial bases and are seemingly prepared for large-scale, protracted conflict.²² However, this also means that the United States must maintain the ability to produce nuclear warheads and associated delivery mechanisms—to include missiles, bombers, and submarines—at scale and rapidly in order to shore up deterrence in times of global uncertainty. This will require sustained investment both in the defense industrial base and across the nuclear enterprise itself.

The Force Today

Since the 1950s, the United States has relied on a triad of nuclear systems—ICBMs, bombers, and ballistic missile submarines—as the backbone of its strategic deterrent. Each leg of this triad performs specific functions that, while different, are mutually supportive and contribute to a nuclear posture that is meaningful to allies and adversaries alike. These functions and attributes mean that the nuclear triad is:

- **Survivable**—Ensures that the force and associated nuclear command and control are resilient and robust enough to survive adversary attack and function throughout the course of a conflict.
- **Deployable**—Is able to relocate to allied or partner territory for the purposes of political signaling or to enable military effect.
- **Diverse**—Has a number of range options, yield options, warhead and delivery types, and flight

profiles; is able to engage multiple geographic locations despite adversary defenses; and is able to change targets quickly to enable adaptive planning and employment, thus giving the United States the ability to craft effective, credible, and tailored deterrent strategies.

- **Accurate**—Is able to strike targets with precision, thus minimizing the effects on non-targeted areas.
- **Penetrating**—Is able to overcome adversary active defenses while still holding at risk hardened and deeply buried targets.
- **Responsive**—Has the ability to deploy and deliver military effects as quickly as possible.
- **Visible**—Has the ability during crisis and conflict to signal to allies and adversaries the political message of America's willingness to employ nuclear weapons.

Assessing America's Nuclear Deterrent

The U.S. strategic deterrent includes nuclear warheads, associated delivery systems, and the ability to assure America's allies. Taken together, they make it possible to assess the effectiveness of America's nuclear deterrent.

Nuclear Warhead Stockpile. The United States currently has roughly 1,550 operationally deployed strategic nuclear weapons and around 200 operationally deployed non-strategic nuclear weapons.²³ Although the nuclear warheads are old—the newest was assembled in 1989, and some are decades older—all of the NNSA's computer modeling suggests that they will perform the military functions for which they were designed.²⁴ The B-61 gravity bombs, W76 and W88 warheads deployed on submarine-launched ballistic missiles, and W78 and W87 warheads on ICBMs should therefore be able to fulfill their military requirements if employed.²⁵ The W80, the sole warhead for the nuclear-armed air-launch cruise missile, is similarly effective.

Assessment: Strong.

Strategic Delivery System. America's ability to put nuclear weapons on target remains strong. As it embarks upon a significant recapitalization, or nuclear modernization, of the missiles, submarines, bombers, and weapons that comprise its strategic

deterrent, the United States also maintains a robust set of capabilities that can hit any fixed target anywhere in the world with a strategic nuclear weapon. There is no question that, if called upon, the U.S. deterrent will be able to execute its mission.

Assessment: Strong.

America's Extended Deterrent. If nuclear weapons deter America's adversaries, they also assure its closest allies, who benefit from America's extended deterrent, under which the United States would come to their defense, potentially with nuclear weapons, in the event of strategic attack. Increasingly, however, America's allies are questioning the credibility of its willingness to defend them.

This problem is particularly acute in Asia where allies in Seoul and, to a lesser degree, Tokyo desire ever more concrete examples of America's willingness to defend them. In Europe, the situation is different. Some in Europe's capitals are suggesting that American demands that Europeans assume a more active role in their own conventional defense indicates a hesitancy to come to Europe's defense—particularly with nuclear weapons—if Russia overtly threatened Europe with armed aggression. Although no American ally has yet embarked upon an indigenous post-Cold War nuclear weapons program, it is increasingly common to hear them question the role and functionality of America's nuclear umbrella.

Assessment: Strong.

Nuclear Enterprise Modernization Program of Record. The current nuclear modernization program of record falls into two major buckets. The first is the warhead production program of record, which focuses on producing new warheads designed to meet 21st century military requirements. This is overseen by the National Nuclear Security Administration. The second is the modernization of the platforms needed to deliver warheads to the target. This includes the bombers, ICBMs, and ballistic missile submarines that constitute the triad.

Nuclear Stockpile. More than 20 years ago, the Administration of President George W. Bush established the National Nuclear Security Administration within the Department of Energy to ensure the ability of the United States to maintain and produce nuclear warheads in a timely fashion. The NNSA is responsible for America's nuclear weapons infrastructure; is responsive to military-generated warhead requirements; and oversees the assessment,

design development, production, test, and research programs that respond to War Department warhead requirements.

The NNSA must focus on the mission of designing and building nuclear warheads above all else, even at the cost of other presumably worthy efforts within the NNSA or the Department of Energy. The fact is that the NNSA is taking too long to produce warheads at scale and putting our nation at risk in the process.²⁶

Recalibrating Where and How the NNSA Accepts Risk. The United States has not produced new plutonium pits (the fissile material central to a nuclear detonation) at scale since Rocky Flats ceased production in 1989, and current efforts to restart the capability are years behind schedule.²⁷ The Los Alamos National Laboratory began to produce plutonium pits at a small scale in late 2024—14 years after the modernization program began—and the Savannah River site's ability to produce plutonium pits in any meaningful quantity is approximately a decade away.²⁸ Other key projects, such as the Uranium Processing Facility and Lithium Processing Facility, are similarly over budget and behind schedule.²⁹

After not having built nuclear weapons or produced nuclear fissile material in almost three and a half decades, the United States is having to relearn how to enrich uranium for defense purposes. Despite some attempts by the government to shelve critical projects, such as the Tritium Finishing Facility in South Carolina and the High Explosive Synthesis, Formulation, and Production (HESFP) Facility in Texas, the modernization program of record must be not only sustained, but also accelerated and expanded.³⁰

Construction of the Rocky Flats, Colorado, plutonium facility began in 1952, and Rocky Flats was producing plutonium pits by 1954. By 1962, our nation was producing more than 2,000 nuclear warheads a year. As of 2025, however, the United States had built roughly a dozen new plutonium pits and no new nuclear warheads despite being in the 15th year of the 2010 nuclear modernization program.³¹ Considering that China is building more than 100 new nuclear warheads a year—every year—the NNSA has to do better.

Nuclear Enterprise Workforce. The nuclear enterprise workforce consists of the skilled people who design, develop, and produce nuclear warheads according to military requirements and sustain the

nuclear stockpile to ensure its continued safety, security, and effectiveness. They also extend the life of nuclear warheads and design, develop, and produce new nuclear weapons.³²

The workforce also assesses and certifies that the reliability of the nuclear stockpile can be assured in the absence of nuclear testing and maintains a nuclear test capability that can be employed if testing becomes necessary. It provides an effective response to technical problems with a warhead or to adverse global security developments that call for force augmentation by uploading reserve nuclear warheads onto existing systems.

America's nuclear enterprise workforce is without peer. They must understand the importance of and the stakes involved in their work. They must be empowered to build the arsenal of the 21st century without being hamstrung by bureaucratic and regulatory paralysis—which is the situation in which far too many of today's workers operate: a “no risk” environment characterized by more concern for workplace safety and environmental regulations than is shown for executing the mission at hand: producing warheads.³³

NNSA's Role in Building a 21st Century Arsenal. Today, North Korea can illicitly produce nuclear warheads, China is building 100 new nuclear weapons a year, and the United States does not have the sustained plutonium pit manufacturing capability that it needs to avoid stockpile age-out, support life-extension programs, and prepare for future uncertainty.³⁴ Plutonium pits are critical components of every nuclear warhead, and nearly all current stockpile pits were produced between 1978 and 1989.³⁵ The NNSA's limited ability to produce plutonium pits is creating a strategic risk for the United States.³⁶

Assessment: *Marginal.*

Nuclear Delivery Systems Modernization.

Much has been written about delays in the Sentinel missile and *Columbia* programs. Both projects are behind schedule and over budget.

The Sentinel program's challenges resulted in a Nunn–McCurdy review, in which the Pentagon in 2024 had to certify that Sentinel was a defense critical program. Such reviews are triggered when U.S. Department of War programs reach a certain threshold of cost overrun and are required by law.³⁷ The Air Force now says that certain Minuteman III missiles may be in operation well into the 2040s

or even until 2050 given programmatic delays.³⁸ Many have said that, because of these overruns and delays, the United States should terminate the Sentinel and move to a strategic “dyad” of bombers and submarines, but the primary driver of the cost and budget overruns is not that the rocket itself is troubled, but rather that the missile infrastructure—silos, tunnels, and command-and-control centers built in the 1960s for the Minuteman program—is old and needs to be replaced. This replacement of the missile infrastructure is the primary driver of programmatic cost overruns.

The *Columbia* program is increasingly challenged with schedule overruns that impose even greater requirements on *Ohio*-class submarines to continue to patrol beyond their programmed lifespans. The first *Columbia* subs should be conducting operations by the early 2030s, but it is possible that the program could instead fall further behind schedule.

The B-21 bomber—designed to supersede the B-2 stealth bomber—is more on track and will be flying within the next few years, but it was originally scheduled to be flying by 2018.³⁹

In short, all of the nuclear delivery systems modernization programs are underway—but all are at least behind schedule, and some are significantly over budget.

Assessment: *Marginal.*

Overall Assessment: *Strong.*

Policy Recommendations

China's nuclear breakout, Russia's advantage in non-strategic nuclear weapons, North Korea's slow but steady nuclear expansion, and the death of arms control make it imperative that the United States builds the arsenal it needs to deter America's adversaries. This will require action to achieve at least six broad goals by 2035. These goals include:

- **Enhancing America's Global Posture.** The United States, in coordination with its allies, must strengthen deterrence and shrink the deterrence gap, but building more capabilities by itself is not a sufficient response to the problems that face us. Global posture must change as part of a broad strategic reset. To this end, the United States, working with allies in Asia and Europe, should reexamine the forward stationing of non-strategic nuclear weapons in

both theaters to help stabilize their deteriorating security environments. The United States should also consider returning to intermittent strip alerts for our strategic bomber forces so that a number of nuclear-armed bombers are loaded with munitions and ready to take off for nuclear operations missions within minutes, establish a new U.S.-based and globally deployable DCA squadron, and develop procedures for the regular movement of road-mobile ICBMs.

- **Updating NATO's Nuclear Posture.** During the Cold War, the United States had nuclear weapons stationed on the front lines. In addition to ground-launched systems stationed in Germany, they included forward deployed fighter-bombers certified to carry nuclear gravity bombs. The United States also trained allied pilots and certified allied aircraft to carry and employ U.S. nuclear weapons in the event that NATO found itself in a nuclear conflict with the Warsaw Pact. The mission of such aircraft and munitions was to deter and, failing that, rapidly defeat Warsaw Pact aggression against NATO members.

Today, NATO maintains a residual nuclear capability of U.S. and allied fighter-bombers that are prepared to employ nuclear weapons, but what was forward deployed and near the NATO borders in 1989 is now in the center of NATO, and the nuclear gravity bombs and nuclear-capable aircraft remain in the same bases where they were stationed when the Berlin Wall fell. Germany and Italy, which were on the front lines of the Cold War, are 1,000 nautical miles or more from the Russian threat to NATO. Fighter-bombers that would carry nuclear weapons would almost certainly have to conduct an aerial refueling as part of the employment of a nuclear weapon against non-NATO targets. Additionally, there is a growing risk of nuclear "haves" and "have-nots" within NATO with only those allies that were part of NATO during the Cold War participating in the nuclear DCA mission and newer member countries, which are now the front lines of the Alliance and arguably most at risk of Russian aggression, relegated to non-DCA status.

In view of Russia's attempts at nuclear coercion and even nuclear blackmail against Ukraine and NATO member states, it is time to reexamine the utility of a Cold War nuclear force posture and particularly Cold War-era basing.⁴⁰ The United States, in concert with its allies, should examine the forward deployment of nuclear-capable fighters and the storage of nuclear gravity bombs. This examination should include the training of new DCA pilots in new NATO DCA-participating nations, to include nations like Poland and Finland that are currently defending NATO's borders from potential Russian aggression.⁴¹ The United States and its NATO allies should also examine the utility and implications of diversifying the Alliance's nuclear arsenal within Europe to include, in addition to nuclear gravity bombs, long-range air-launched nuclear cruise missiles stationed in Europe. Updating NATO's deterrence posture may be expensive, but it is also necessary as part of a 21st century deterrence posture that is both credible and effective at deterring Russian aggression.

- **Forward Stationing Non-Strategic Nuclear Weapons in Asia.** At the end of the Cold War, the United States unilaterally removed its non-strategic nuclear weapons from Asia as part of the Presidential Nuclear Initiatives.⁴² In the 2010s, the United States officially retired the TLAM-N, the final nuclear system that was seen by many allies as the "Asian" deterrence capability.⁴³ While the development of the SLCM-N is a good step toward providing a theater-range nuclear deterrent in the Western Pacific, allies in Korea and, increasingly, Japan are questioning the viability of America's extended deterrent commitments. Such questions could cause those nations to seek indigenous nuclear weapons capabilities. Further, the continued expansion of both China's and North Korea's nuclear weapons could further destabilize an already tense region.

The United States should therefore discuss with Korea the reopening of nuclear weapons storage sites on the Korean Peninsula and the possible forward deployment of non-strategic nuclear weapons to Korea.⁴⁴ Such a move is not

to be taken lightly, but given that the United States and its allies have attempted for two decades to engage in denuclearization discussions with North Korea only to be rewarded with continued threats of nuclear holocaust against the United States, South Korea, and Japan, it is time for a different approach.

- **Updating America’s Nuclear Posture at Home.** In addition to updating its nuclear posture in Europe and Asia to reflect the changed global security environment, the United States should update its nuclear posture at home. The Air Force should regularly conduct strip alert exercises so that nuclear-capable bombers are ready to execute deterrence operations at a moment’s notice. The Air Force should also certify an additional squadron of U.S.-based F-35s as nuclear-capable. This additional squadron should be globally deployable and ready to conduct deterrence operations from allied nations or overseas American territory on order. Finally, the Air Force should develop the tactics, techniques, and procedures needed to enable exercises for road-mobile Sentinel operations. Although these actions represent an increase in nuclear deterrence activities from levels over the past 30 years, they still constitute a deterrence posture that is more relaxed than the posture the United States maintained throughout most of the Cold War.
- **Building a Larger, More Diverse Strategic Arsenal.** To prepare for the emerging security environment, the United States must field a credible strategic deterrent that is moderately larger and somewhat more diverse than the current arsenal. To that end, the United States should seek to field the following force by 2035.

Strategic Bombers. The United States should continue to field a mix of B-52 and B-21 nuclear-capable bombers into the 2030s. At least 100 of the B-21s should be nuclear-capable. Within the strategic arsenal, the United States should field 200 B-61 gravity bombs of various configurations. It should also field a stockpile of 1,000 LRSO nuclear cruise missiles.

ICBMs. The United States should field an arsenal of 450 Sentinel ICBMs, 400 of which should be silo-based. Each missile should carry a mix of one to three warheads of various yields. The United States should also field a road-mobile variant of the Sentinel missile to ensure that it has an additional second-strike capability throughout the program life of the *Columbia*-class SSBN fleet. The *Columbia*-class boats have an expected lifespan of roughly 40 years, which means that they should be operating into the early 2080s.

It is assumed that the *Columbia*-class submarines, built using 2020s technology, should remain undetectable throughout most of the 21st century; that U.S. adversaries should not develop new technologies with which they can detect the submarines; and that the U.S. should therefore retain an assured second-strike capability that can disincentivize U.S. adversaries from attempting a first strike. However, these assumptions raise critical issues. It is not certain that the *Columbia*-class submarines will be undetectable a half-century from now. Nor is it certain that the technologies and capabilities developed in the 2020s will not be overcome by heretofore undeveloped detection technologies.

Because it is not certain that 2020s technology will be undetectable through the 2080s, it is in America’s interest to consider an additional survivable, second-strike capability as a hedge against the day when SSBNs may no longer be undetectable. The United States should therefore field a small road-mobile Sentinel force as a hedge against an advancement in anti-submarine warfare by our adversaries. The Air Force should design and field vertical erector launchers that can be attached to heavy trucks that are capable of holding and launching either the Sentinel ICBM or modified Sentinel ICBMs as may be required. Combined with security details on accompanying vehicles, the Sentinel becomes a road-mobile ICBM—something that it is, while not impossible, exceedingly difficult to target.

Road-mobile Sentinels should be permanently stationed in garrisons on existing missile bases

but able to exit those garrisons and move on randomized circuits during exercises or times of crisis as a signaling tool. Air Force missileers may operate and drive them on designated public and U.S. Department of War roads and highways. Road-mobile Sentinels may be armed with up to three nuclear warheads of variable yield, giving them the equivalent of a submarine-launched ballistic missile's striking power. Road-mobile Sentinels may operate inside American territory along preapproved (but not preplanned) routes in relatively unpopulated areas, thereby—given the flight times that even extremely fast missiles need to traverse from Russia or China to the United States—creating significant targeting challenges for our adversaries. Should a launch against the American homeland be detected, the ICBMs would be able to move to any number of launch sites to await further orders (to include launch or alert orders). In this way, road-mobile Sentinels may provide the United States with a backup second-strike capability for most of the rest of the 21st century.⁴⁵

Columbia-Class SSBNs. First fielded in the 1960s, nuclear ballistic missile submarines patrol the waters of the North Atlantic and Pacific Oceans undetected with only the ships' captains knowing exactly where they lie. The value of these submarines lies in their secrecy and ability to deliver scores of nuclear warheads in a relatively brief period of time. Amazingly silent to the point of being undetectable, they represent the assured second-strike leg of the American nuclear triad.

The *Columbia*-class SSBNs will perform a function similar to that of the *Ohio*-class submarines, albeit in smaller quantity. The current program of record calls for the United States to replace the 14 *Ohio*-class SSBNs with 12 *Columbia*-class boats at the rate of one boat per year beginning in 2031. Although the Navy will field a smaller fleet, the current program of record calls for the *Columbia*-class SSBNs to carry fewer missiles than the current *Ohio*-class SSBNs carry. When originally deployed, the *Ohio* class operated 24 ballistic missile tubes. After the 2010 New START nuclear

arms control treaty entered into force, the U.S. Navy shuttered four ballistic missile tubes to comply with the treaty.⁴⁶ The *Columbia* class is currently programmed to have a smaller missile capacity, fielding only 16 missile tubes per boat. With the current Trident II (D5) missile, this fleet of 12 *Columbia* SSBNs could deploy a maximum of 1,920 warheads versus the nearly 5,000 possible warheads loaded onto the original *Ohio*-class ballistic missile fleet.

The new *Columbia* SSBNs are designed to be the quietest ever built and therefore undetectable by current technologies. Averaging between \$8.4 billion and \$9.2 billion per boat for the 12 to be built, they are admittedly expensive, but they will be patrolling the world's oceans and providing a continuous deterrence presence into the 2080s.⁴⁷

Given the increasing number and diversity of adversary nuclear weapons, which create additional targets that the United States must consider holding at risk both to deter strategic attack on the United States or its allies and to hedge against future uncertainty and further degradation of the security environment, it is incumbent upon the United States to field a larger SSBN force for the next half-century to ensure that it can field a credible deterrent. The fundamental question facing the U.S. Navy is therefore how the current ballistic missile submarine program of record, conceptualized in 2010, can be amended to ensure that we have a fleet of SSBNs that is sufficient to maintain this deterrent into the 2080s.

The U.S. Navy has a duty to ensure the viability and credibility of the nation's assured second-strike capability in a way that is flexible and responsive to the evolving threat environment. For this reason, it is time to revisit America's at-sea deterrent writ large. Specifically, the United States will need to take immediate action on the existing *Ohio*-class SSBN fleet and longer-term actions on the *Columbia*-class fleet. Beginning in February 2026, the Navy should reopen the missile tubes that were shuttered on *Ohio*-class SSBNs as a result of the New START treaty limitations, thus

bringing the total number of tubes to 24 on each *Ohio*-class submarine. Each *Ohio* should carry the full complement of D5 Trident SLBMs akin to their pre-New START loadout.

The Navy should expand the *Columbia* program of record to include four additional SSBNs and should make the necessary budgetary and industrial plans for such an expansion. This programmatic expansion is necessary not only to hedge against an uncertain 21st century future and maintain a credible deterrence posture against a single nuclear peer—the driving construct that led the U.S. Navy to program for 12 *Columbia* SSBNs in 2010—but also to deter two nuclear peers in the 2030s. Assuming that the build rate of one *Columbia* a year by 2031 is sustained, the United States should build a total of 16 SSBNs by 2045.⁴⁸

- **Building a Significantly Larger, Far More Diverse Non-Strategic Arsenal.** The current nuclear force posture was designed for a benign security environment in which adversaries did not engage in nuclear coercion against their neighbors and were not rapidly expanding their strategic and non-strategic nuclear arsenals. Today, additional U.S. theater, non-strategic nuclear capabilities are necessary in both Europe and the Indo-Pacific to deter adversary theater nuclear advantage and offset potential adversary conventional advantage.⁴⁹ Such additional theater, non-strategic nuclear capabilities must be deployable, survivable, and variable in their available yield options.

While it is not necessary to match the number or diversity of non-strategic systems fielded by adversaries of the United States in order to present a credible deterrent, it is necessary to field a credible arsenal of variable yields that is capable of holding a variety of theater-range targets at risk from multiple launch points within the theater. The importance of this capability should not be overlooked or discounted. If the United States needed to respond to adversary theater-range nuclear strikes with relatively high-yield U.S. nuclear strikes generated from the American homeland, the

chances of retaliatory nuclear strikes against those bases might well increase. By fielding a capable theater nuclear arsenal that can generate effects from within theater, the United States can reduce the chances that the homeland will be struck with nuclear weapons and limit the chances of horizontal escalation. This is not to say that the United States seeks a theater nuclear war—but it does seek to field a credible force that will deter our adversaries. Theater-range nuclear weapons—particularly those that are of variable yield—strengthen deterrence and therefore promote stability by limiting the chances for escalation and increasing the options for tailored deterrence strategies.⁵⁰

Gravity Bombs. Given Russia's staggering advantage in theater-range nuclear weapons, the United States should increase the number of B-61 gravity bombs in Europe by 75. In addition, given China's dual-capable theater-range systems, particularly the nuclear-capable DF-21 anti-ship missile and nuclear-capable intermediate-range DF-26 land attack missile, the United States should dedicate 75 nuclear weapons to the Indo-Pacific theater.

Anti-Ship Nuclear Weapons. As noted above, the United States must be able to hold adversary targets at risk in order to deter adversaries from pursuing escalation pathways during a conflict. Increasing the types of targets that the military can hold at risk with either conventional or nuclear weapons gives the United States more flexible—and therefore more tailorable—deterrence options.

There is reason to believe that America's adversaries are developing theater-range, nuclear-capable anti-ship missiles. Therefore, the United States obviously has good reasons for doing so as well. The ability to target enemy capital ships with nuclear weapons offers a leader the ability to employ low-yield theater-range weapons against legitimate military targets with virtually no chance of civilian casualties and with minimal nuclear fallout because of the maritime nature of the target set. Adding naval vessels to potential target lists

further expands the attack surface from which that actor can select. The U.S. Department of War should therefore field an integrated sensor and targeting package that will enable a long-range anti-ship missile to find, fix, and finish moving adversary naval assets with a nuclear warhead.

An anti-ship nuclear capability should give the President more graduated nuclear response options in the face of an adversary's use of nuclear weapons, thereby better deterring the adversary's limited nuclear strikes.⁵¹ Accordingly, the United States should build 100 theater-range, nuclear-capable anti-ship missiles with 50 allocated to the Indo-Pacific and 50 held in reserve for contingencies in other areas of operation.

Nuclear-Capable Hypersonic Weapons. America's adversaries are developing nuclear-capable hypersonic systems. These platforms allow them to hold key U.S. and allied targets at risk with fast-traveling and maneuverable delivery systems that are difficult to intercept with missile defenses. They are prompt, penetrating, and potentially responsive and can be delivered from a variety of platforms. Taken together, the combination of hypersonic-speed, long-range maneuverable missiles and nuclear warheads presents an asymmetric capability that could erode strategic stability and incentivize our adversaries to be the first to employ nuclear weapons in a conflict.

By fielding a similar capability, the United States should provide the President with more options by which he can hold enemy targets—particularly those protected by missile defenses deep inside their homelands—at risk. While the development and fielding of such capabilities might not necessarily strengthen or compensate for the erosion of strategic stability triggered by adversary development of hypersonic nuclear weapons, it would address some of the asymmetry that results from such adversary capabilities. Accordingly, the United States should field nuclear-capable variants of the Army's Long-Range Hypersonic Weapon and the Navy's Mako Multi-Mission

Hypersonic Missile for a total of 150 nuclear-capable hypersonic missiles.

Ground-Based, Intermediate-Range Nuclear Weapons. The dissolution of the Intermediate-Range Nuclear Forces (INF) Treaty because of Russian treaty violations is unfortunate, but it is also a reality.⁵² Moreover, China's breathtaking expansion of its theater-range conventional and nuclear-capable missile force creates an opportunity for it to hold at risk maritime and ground targets from Japan to Northern Australia.⁵³

The ability to strike adversary targets with ground-based, road-mobile, intermediate-range nuclear-capable missiles complicates the adversary targeting calculus. Such a deployment would also help to deter conventional and nuclear aggression against allies by presenting adversaries with the demonstrable threat of America's non-strategic arsenal, which is forward deployed for use in the defense of America's interests and allies. Such a step would also assure U.S. allies of the credibility of the American security commitment and therefore reduce proliferation risks among key allies who enjoy but may be questioning America's extended deterrence commitments. The United States should therefore develop and field an arsenal of intermediate-range, nuclear-capable missiles that can be deployed to American and allied bases in the Indo-Pacific, European, and Middle Eastern areas of operation.⁵⁴

Conclusion

Given the increasingly dangerous threat environment, the United States must work with purpose, urgency, and determination to ensure that it fields a strategic deterrent that can deter strategic attack on the American homeland and limited theater nuclear attack overseas. It must think about strategies that can deter and, if necessary, defeat multiple nuclear-armed adversaries simultaneously or sequentially. It must also field a force that is qualitatively second to none even if adversaries field a combined force that is quantitatively superior to that of the U.S.

The stakes involved in America's nuclear deterrent are nothing less than America's global interests

U.S. Military Power: Nuclear

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Nuclear Stockpile				✓	
Strategic Delivery Systems				✓	
Extended Deterrent Credibility				✓	
NNSA Warhead Modernization			✓		
Nuclear Delivery Systems Modernization			✓		
OVERALL				✓	

and—more important—the welfare of the American people and continuation of the American constitutional republic. A credible nuclear deterrent is not cheap, but it is far cheaper than fighting a nuclear war, even if the United States were to “win” such a war. The goal is not to fight such a war, but to deter the war from unfolding in the first place.⁵⁵

If the autocrats in Beijing and Moscow are not deterred, they will become increasingly emboldened. They will become increasingly threatening

and, in the absence of a credible American deterrent, more likely to use nuclear coercion to achieve their goals, not only against their neighbors, but also against America’s allies—and, potentially, the United States itself.

The United States should not let such a world come about. Instead, it should build and field the arsenal that is needed to keep the American people safe for the next half-century. It cannot afford to do anything else.

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Missile Defense for the 21st Century

Robert Peters

Introduction

Today, as demonstrated in real-world combat environments in the Middle East and Ukraine as well as in realistic, live-fire exercises, the United States fields a missile defense capability that is second to none. However, because adversaries continue to enhance their missile capabilities and expand their nuclear arsenals, the United States is now embarked upon the largest missile defense buildup in world history.

Missile defense is a critical part of the national security architecture that enables U.S. military efforts, deters attacks, and protects such critical infrastructure as population, industrial centers, and politically and historically important sites. It can strengthen U.S. diplomatic and deterrence efforts and give senior decision-makers the time and options they need to respond effectively during crises involving missiles that fly on both ballistic and non-ballistic trajectories.

The United States is now embarked on building the Golden Dome missile defense system, which is designed to intercept adversary missile threats before they reach the U.S. homeland. The boldest endeavor in missile defense since 1983's Strategic Defense Initiative, Golden Dome offers a way to protect the American people from enemy missile attacks.

History of America's Missile Defense

The current U.S. missile defense system is a result of investments made by successive U.S. Administrations with the support of Congress. In 1983, President Ronald Reagan envisioned a defensive shield—the Strategic Defense Initiative (SDI)—as a layered ballistic missile defense (BMD) system that ultimately would render nuclear missiles “impotent

and obsolete.”¹ The system's layers would have boost, ascent, midcourse, and terminal interceptors, including directed-energy interceptors, providing the United States with more than one opportunity to shoot down an incoming missile.

In the end, however, the United States stopped far short of this goal even though the SDI program generated tremendous technological advances and benefits.² Instead of a comprehensive layered system, the United States now has no boost-phase BMD systems and extremely limited midcourse defense against the advanced ballistic missile threats from China and Russia.

The volatility and inconsistency of priority and funding for missile defense by successive Administrations and Congresses—controlled by *both* major political parties—have yielded a system that is limited both numerically and technologically, extremely limited in defending against more sophisticated or more numerous long-range missile attacks, and part of the current impetus behind building more and more capable missile defenses.

In 2002, citing the growing rogue state missile threats, the United States withdrew from the 1972 Anti-Ballistic Missile Treaty, which limited the ability of the United States to field ballistic missile defenses.³ In the years that followed this withdrawal, the United States built and fielded 44 missile defense interceptors in Alaska and California. These interceptors were limited in numbers as they were designed not to intercept advanced ballistic missiles such as those from Russia or China, but rather to intercept missiles from emerging rogue states that were investing in both nuclear and long-range missile technologies, such as North Korea and Iran.⁴

For a decade and a half, the United States' missile defense posture remained largely unchanged,

U.S. MISSILE DEFENSE AT A GLANCE



Space Force Gen. Michael Guetlein
Director of Golden Dome

MAJOR BASES



- 1 Pearl Harbor Naval Base
- 2 Fort Greely
- 3 Vandenberg Space Force Base
- 4 Naval Base San Diego
- 5 Aegis Ashore battery, Redzikowo, Poland
- 6 Aegis Ashore battery, Deveselu, Romania
- 7 Aegis Ashore battery, Guam

CURRENT BUDGET

IN BILLIONS FOR FY 2025

\$30

CURRENT PERSONNEL

ACTIVE-DUTY MILITARY

10,000

RESERVE MILITARY

500

CIVILIAN

2,000

KEY EQUIPMENT (estimated current inventory)



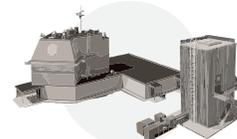
Ground-Based Interceptors (44)



Space Based Interceptors



Patriot battalions (15)



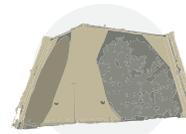
Aegis Ashore (3)



THAAD Batteries (8)



Sea-Based X-Band (1)



BMDS Radars (23)

SOURCE: Heritage Foundation research.

heritage.org

focusing on a limited capability and capacity. By the latter half of the 2010s, however, the vision for missile defense started to change with the deterioration of the global security environment. The National Missile Defense Act of 1999 had made it official U.S. policy to protect the homeland only from a “limited ballistic missile attack.”⁵ The National Defense Authorization Act (NDAA) for Fiscal Year 2017, however, dropped the word “limited” even as it continued to focus on ballistic missiles.⁶

In January 2019, the Trump Administration published its congressionally mandated Missile Defense Review (MDR), a statement of policy intended to guide the Administration’s missile defense programs. The 2019 MDR addressed the dangerous threat environment that had evolved since the previous MDR in 2010 and recognized that future missile defense systems might have to defend against cruise and hypersonic missiles in addition to ballistic missiles.⁷

The 2020 NDAA made it a matter of policy to rely on nuclear deterrence to defend against “near-peer intercontinental missile threats” and focus on improving missile defense against “rogue states.”⁸ During roughly the same period, the Missile Defense Agency (MDA) began to solicit proposals for the Next Generation Interceptor (NGI), meant to be a more effective missile defense interceptor capable of intercepting not just rudimentary intercontinental ballistic missiles (ICBMs) such as those fielded by North Korea or Iran, but also from more advanced missile threats, to include Russia and China.⁹

The Biden Administration’s 2022 Missile Defense Review recognized that the “evolution of offensive air and missile threats has accelerated greatly since the United States began developing its first ballistic missile defense systems over fifty years ago” and that “[t]his trend represents a growing national security challenge expected to multiply in scope and complexity over the coming decade.”¹⁰

In January 2025, President Trump released Executive Order 14186, “The Iron Dome for America,” mandating the establishment of a multilayered missile defense system (now known as Golden Dome) that includes a space-based platform.¹¹ The 119th Congress has identified close to \$24 billion in fiscal year (FY) 2026 to begin work on President Trump’s missile defense system, to include a robust space-based layer.¹²

In the future, as technological trends progress and modern technologies become cheaper and more widely available, North Korean or Iranian ballistic missiles and countermeasures may rival in sophistication, if not in numbers, those of Russia or China. It is for this reason, coupled with the adversary threats of coercive or limited-escalation nuclear attacks, that the United States is committed to building Golden Dome.

The Evolving Air and Missile Threat Environment

America’s adversaries—particularly China, Iran, North Korea, and Russia—are building more and more diverse capabilities that can target not only their regional neighbors, some of whom are American allies, but the United States itself. Such new weapons systems, including ICBMs, long-range cruise missiles, hypersonic missiles, and even orbital bombardment systems, are coupled with increasing attempts at coercion, particularly against America’s regional allies. This coercion sometimes takes the form of attempted nuclear coercion, as is the case with North Korea both against the American homeland and against U.S. allies in the Pacific and Russia’s regular threats of nuclear use against the U.S. homeland and our allies in Europe. Other times, it takes the form of outright attacks on civilian and military targets as evidenced by the Iranian attacks on Israel and Russian attacks on Ukraine.

It is clear that America’s adversaries increasingly see potential missile and autonomous systems strikes on not only military targets, but also on homelands and civilian population centers, as legitimate. This is true not only for targets in the homelands of America’s allies, but for the United States as well.

This development in adversary perception is because America’s adversaries see the U.S. homeland to be not only a valid target, but a vulnerable one as well. It also explains both why they are building a growing array of long-range strike capabilities—and why the United States must develop and field a credible multilayered missile defense architecture.

The Evolving Long-Range Strike Threat

Adversaries seek to threaten and potentially exploit America’s vulnerability to long-range attacks as a means to achieve their own wide-ranging revisionist goals, be they breaking up the North Atlantic

Treaty Organization (NATO), diminishing American global influence, or projecting power to the Western Pacific. As noted, America's adversaries are increasingly building long-range threats, many of which may be nuclear-capable, in order to achieve the above goals. These long-range threats include ballistic missiles, long-range cruise missiles, hypersonic missiles, and threats that potentially could be deployed from orbital platforms.

Ballistic Missiles. States have built ballistic missiles for purposes of warfare since the 1940s. By the 1950s, with the Atlas missile program, both the United States and the Soviet Union were pursuing ICBMs as delivery vehicles for nuclear warheads, capable of striking each other's homelands.

Russia and China have had ICBMs capable of carrying nuclear warheads for decades, and both countries are modernizing their ICBM arsenals. Russia is pursuing the "super-heavy" SS-28 Sarmat ICBM, capable of carrying multiple nuclear warheads to targets in North America.¹³ China is the fastest-growing nuclear power on the planet and is building nuclear ICBM silos in its western desert at a breathtaking pace.¹⁴ North Korea, meanwhile, is advancing its Hwasong-18, a road-mobile three-stage ICBM capable of carrying nuclear weapons and reaching targets in North America.¹⁵

Long-Range Cruise Missiles. In recent years, Russia has shown a proclivity to proclaim the development of new systems and capabilities, many of which never materialize. One of interest was outlined in a Defense Intelligence Ballistic Missile Committee report, which identified the SSC-X-09 Skyfall as a program of concern.¹⁶ The Skyfall is reportedly a cruise missile with a range of up to 20,000 kilometers that is maneuverable and can fly at low altitude.¹⁷ The range of the missile means that Russia can base the missile anywhere in its territory and still be able to reach targets in the continental United States; because of its maneuverability and low flight altitude, such a system can evade most missile defense radars and interceptors. While this and other long-range cruise missile systems remain in the development and testing stage, it is possible that Russia is seeking to deploy such capabilities with an eye to having an additional capability of striking the United States with a limited number of nuclear weapons from a platform that could evade existing missile defenses. The 2024 annual assessment of *Military and Security Developments*

Involving the People's Republic of China published by the U.S. Department of Defense (now U.S. Department of War) suggests that China is pursuing its own arsenal of such long-range cruise missiles.¹⁸

Hypersonic Missiles. Hypersonic flight, generally described as beginning at around five times the speed of sound, is gaining more interest from advanced militaries around the world. Hypersonic weapons are divided into two general categories: hypersonic cruise missiles and hypersonic glide vehicles. Hypersonic cruise missiles use a scramjet thrust that enables them to sustain speed and maneuver as necessary at lower altitudes of flight. Hypersonic glide vehicles use rockets to accelerate to high speeds during a boost phase and then glide in the atmosphere at enormous speeds with significant maneuverability during the terminal phase of flight. Their speed, range, and maneuverability mean they can be effective against regional targets or against targets in North America while complicating enemy efforts to detect, track, and prevent attack.

The speed and maneuverability of hypersonic weapons present real challenges from defense perspectives—which is one reason adversaries are building them. Hypersonic weapons' maneuverability at low altitudes makes targeting and engagement with traditional missile defenses such as Terminal High Altitude Air Defense (THAAD) and Patriot Air Defense difficult if not impossible. Faster interceptors and battle management systems, along with more precise radars, can likely ensure greater effectiveness of missile defenses, but much needs to be done to counter the novel threats posed by hypersonic weapons.

Russia has been interested in hypersonic capabilities since the 1980s. It claims that the Kinzhal, which has seen service in the Ukraine war, is a jet-launched hypersonic missile and that its Avangard hypersonic glide vehicle is nuclear-capable.¹⁹ Moscow is also pursuing a ship-based hypersonic cruise missile, the Tsirkon.²⁰ Russia seems to be pursuing hypersonic capabilities as part of a broader strategy of fielding long-range precision fires that could be nuclear or conventionally armed.

For the past several years, U.S. Department of Defense officials have warned of China's interest in hypersonic capabilities. According to the Defense Department's 2020 assessment of China's military power, the People's Liberation Army Rocket Force

(PLARF) “paraded the DF-17 missile [its first hypersonic glide vehicle] for the first time as part of the PRC’s 70th anniversary parade in 2019.”²¹ An unclassified Congressional Research Service report noted that China had the potential both to evade U.S. missile defenses and to be nuclear-capable.²² More recent reports suggest that China is pursuing a variety of hypersonic capabilities, to include ground-launched, air-launched, and even submarine-launched capabilities, many of which could support a nuclear warhead.²³

Beyond Russia and China, in March and April of 2024, North Korea claimed to have tested a hypersonic glide vehicle capable of striking targets in Japan and South Korea.²⁴ Although there has yet to be a confirmed test of a North Korean hypersonic capability, it is very possible that North Korea seeks hypersonic capabilities.

One positive characteristic of hypersonic weapons is that their high speed may make them more vulnerable to disruption by smaller impacts of interceptors or changes in their structures. Put another way, the tight performance margins needed to ensure that they perform high-speed maneuvers over extended spaces may make them far more vulnerable to interception than traditional and generally more robust ballistic missiles are.

Fractional Orbital Bombardment System (FOBS). FOBS is an orbital platform that could launch strikes from space against terrestrial targets, using kinetic, high-explosive, or even nuclear weapons. FOBS has never been fielded, but it has been discussed for more than half a century.

However, it is now known that the Russians sought nuclear-armed FOBS for a number of reasons: unlimited flight range; lesser flight time from launch to target than is the case with missiles; the impossibility of predicting the target of a FOBS platform during flight time; the likely high degree of accuracy of such a system; the lack of strategic warning of such an attack; and—most important—the ability to overcome American missile defenses due to the speed of a FOBS-launched weapon.²⁵ The Soviets understood that FOBS can put warheads on a target with no warning and are impossible to intercept.

FOBS was largely ignored for decades, but in the past few years, two major reports have indicated that China and Russia were potentially interested in putting nuclear weapons on FOBS. In 2021,

Under Secretary of Defense Frank Kendall noted that China was potentially pursuing a FOBS capability,²⁶ and in October 2023, the U.S. Department of Defense noted that “[t]he PRC probably is developing advanced nuclear delivery systems such as a strategic hypersonic glide vehicle and a fractional orbital bombardment (FOB) system.”²⁷ In February 2024, reports suggested that Moscow once again was interested in putting nuclear weapons in orbit—potentially as antisatellite weapons but also potentially as a FOBS capability.²⁸

The Lower-Escalation Pathway Temptation

China, Iran, North Korea, and Russia are challenging American interests and seeking to constrain American influence and freedom of action around the world. Russia is attempting to use nuclear weapons to coerce the West due to its support for Ukraine and has hinted at pursuing a possible low-escalation pathway attack on NATO states in pursuit of such a goal. Other actors may also pursue a lower-escalation pathway attack as their missile forces expand and diversify.

In a lower-escalation pathway, an enemy would attack an American homeland site, potentially including military assets, with a limited number of conventional or low-yield nuclear weapons limiting civilian casualties, in an attempt to change the behavior of the United States.

In a low-escalation pathway attack, China or Russia may try to escalate its way out of a conventional conflict it is losing against the United States by conducting a series of limited conventional or nuclear strikes at key targets in the U.S. homeland. These coercive strikes would be intended to demonstrate enough resolve and result in significant damage to convince U.S. political leaders to give in to adversary demands but limited enough in scope and scale (meaning not catastrophic) to not prompt an overwhelming U.S. response.

This lower-escalatory pathway of forcing a nation to negotiate has not been tested, but the logic is sound, and there is some indication that America’s adversaries are considering such a strike. China is building a nuclear arsenal that in the coming years could enable it to carry out such a strike, and Russia openly discusses the prospects of limited nuclear strikes against targets in the West.

The United States’ existing approach to missile defense, as enacted through the Missile Defense

Agency, is not comprehensive and can neither address lower-escalation coercive attacks from China or Russia nor compete with China's pacing challenge. Specifically:

In 2020, DoD estimated the PRC's operational nuclear warhead stockpile was in the low-200s and was expected to at least double by 2030. However, Beijing has accelerated its nuclear expansion, and DoD estimates this stockpile has surpassed 600 operational nuclear warheads as of 2024, on track to exceed previous projections....²⁹

By 2030, DoD estimates that the PRC will have over 1,000 operational nuclear warheads, most of which will be fielded on systems capable of ranging CONUS [the Continental United States].³⁰

As a consequence of these developments, the United States requires a comprehensive set of missile defense layers to counter an adversary's lower-escalation temptation. A set of comprehensive missile defense layers that can destroy at least a hundred adversary nuclear-armed missiles—be they from China, North Korea, or Russia—would incentivize adversaries' leaders to abandon plans for "easy coercion" or "cheap shot" attempts with a few missiles to coerce or intimidate American political leaders. Forcing adversary leaders to consider the lower likelihood of success for attacks below 100 missiles, in addition to the potential for provoking an unacceptably damaging U.S. response, may help to improve deterrence and raise the threshold for missile-based strikes against the U.S. homeland. Making escalation more difficult and riskier to achieve lowers the risk of adversaries seeing value in escalation.

While adversaries might be tempted to execute a lower-escalation pathway strike (say, by firing only a dozen nuclear-armed missiles at the American homeland) as a high-risk but potentially high-reward strategy to end a conflict on terms acceptable to them, they would be far more cautious about firing more than a hundred nuclear-armed missiles at the United States. Such a strike would almost certainly trigger the kind of massive U.S. nuclear retaliation that they would otherwise try to avoid, in addition to the uncertainty of success for the initial attack.

In this way, a credible and effective multilayered missile defense architecture could deter America's adversaries from pursuing an otherwise attractive lower-escalation pathway in the near future. The existing Ground-Based Interceptor (GBI) architecture, first fielded in 2004 and designed to defend against limited attacks from North Korea, may no longer be sufficient to defend against even a rogue state attack, given the expansion and maturation of North Korea's missile program.³¹ To put it another way, effective and credible missile defenses are not a "future nice to have;" they are a "near-term must have."

Missile Defense in America's Strategic Posture

The United States maintains credible nuclear capabilities and highly lethal, battle-proven conventional capabilities that give its adversaries pause, deter aggression, assure allies, and defeat threats should deterrence fail. A credible, integrated, and multilayered missile defense architecture as envisioned by Golden Dome is a strategic imperative on par with maintaining a credible and diverse nuclear arsenal, particularly in an era when America's adversaries are developing, deploying, and employing ever more capable and lethal missile threats.

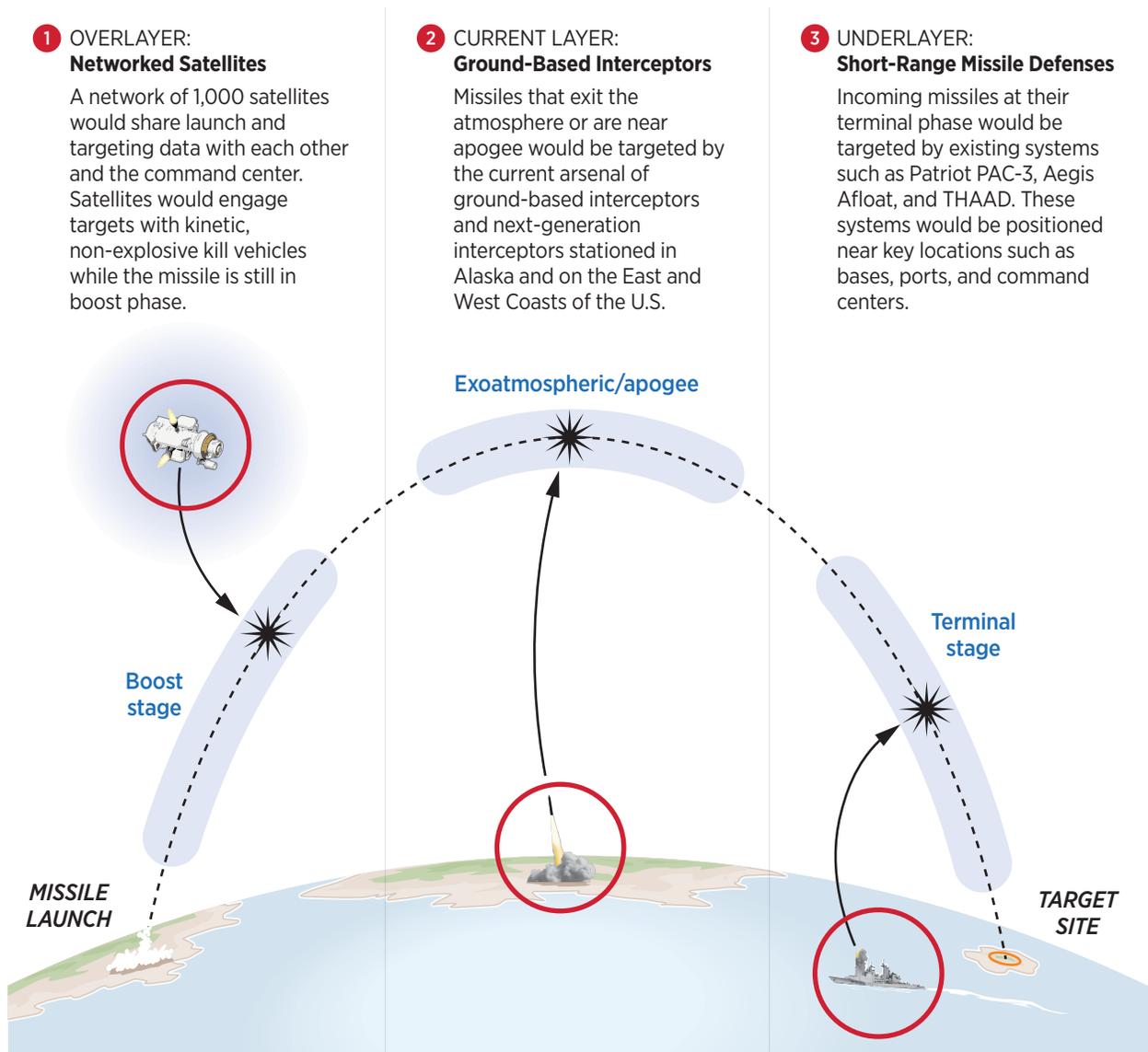
Adversaries may grow more desperate during a prolonged conventional conflict with a superpower like the United States, and this could lead them to take riskier strategies like conventional or even nuclear strikes on America's homeland and critical infrastructure. To counter this threat, the United States should deploy integrated air and missile defense (IAMD) systems that can deter and defeat such coercive attacks. It should also be prepared to defeat multiple salvos conducted over extended periods of time. It is likely to strain credibility to have defenses that can defeat just a single salvo. A credible missile defense architecture such as Golden Dome must be able to defeat (or seem to be able to defeat) multiple waves of attacks during a protracted conflict.

There are three possible ways the United States may respond to adversaries' long-range missile threats—be they lower-escalation pathway strikes, repeated salvos on the American homeland during a protracted conflict, or even larger-scale strategic attacks—to its allies and the American homeland. Washington can:

FIGURE 4

A Layered Missile Defense System

To defend the U.S. against missile attacks more effectively, key sites should be protected with an integrated defense system that consists of multiple layers of protection. If one layer is unable to neutralize a threat, another layer can be deployed.



SOURCE: Heritage Foundation research.

 heritage.org

- **Acquiesce** to the wishes of adversaries by, for example, accepting a fragmented NATO, reduced American global influence, and limits to its ability to project power;
- **Rely** solely on the threat of punishment to deter a growing list of ever more capable adversaries from striking civilian population centers; or

- **Build** effective missile defenses to deny adversaries the ability to coerce the United States or its allies.

Given the emerging threats and the apparent desire of America’s adversaries to field an arsenal of ICBMs, long-range cruise missiles, hypersonic capabilities, and FOBS—many of which are optimized to overwhelm or evade U.S. missile defenses—the United States can and should build an integrated, multilayered missile defense architecture that can deter and defeat coercive strikes on the homeland while also providing a regional defense of key capabilities overseas.

A credible Golden Dome that incorporates existing homeland missile defenses, to include existing GBIs and regional missile defenses in the Indo-Pacific, Europe, and the Middle East, and builds additional capacity and capabilities in several key areas is required given the expanding threats. Such a missile defense architecture must perform a number of functions, including:

- **Defending the homeland.** The United States must ensure that its population centers and critical locations are protected and preserved.
- **Defending key overseas nodes.** Such nodes could be key bases, logistical sites, or allied population centers.
- **Defending the U.S. and its allies against a variety of inbound threats.** Typically, the United States has focused its missile defense on intercepting ballistic missiles and cruise missiles overseas and ballistic missiles at home. Given the evolving nature of the threat, the United States should field the capabilities necessary to defeat all types of inbound threats, to include long-range cruise missiles, hypersonic threats, and those delivered from orbit.
- **Defending the U.S. and its allies against a variety of actors.** No longer should the United States optimize its missile defenses only against rogue actors, such as Iran or North Korea. It can also field capabilities that can destroy threats from other, more advanced adversaries, such as China and Russia.

An effective Golden Dome would support a number of U.S. defense objectives, including:

- **Deterring attack.** Deterrence by denial, which is the ability to prevent an attacker from achieving its operational objectives, can be a powerful tool. An effective missile defense architecture that could credibly intercept a variety of long-range threats from a variety of actors could deter U.S. adversaries from launching an attack in the first place because they believe that such an attack would not achieve their objectives and instead would leave them vulnerable to significant reprisals from the United States.
- **Limiting damage should deterrence fail.** Even if a missile defense architecture is not perfect, it could significantly limit the extent of damage through a partial success rate. That is, if an adversary seeks to destroy six critical targets, even a partially effective missile defense could ensure that some quantity of those targets survived an attack.
- **Assuring allies.** Regional allies, particularly those located close to U.S. adversaries and would therefore be on the front line should a conflict erupt, often seek assurance that the United States will support them during times of crisis or conflict. In many cases, their need for assurance drives their calculations about whether they need an independent nuclear arsenal. In many ways, the more insecure they feel, the more likely they are to pursue an independent nuclear weapons program, which it has been U.S. policy to oppose since 1963. Forward deploying nuclear weapons is one way to assure allies and convince them not to pursue their own nuclear weapons programs. Integrated missile defenses are another important tool.

Finally, it is America’s policy that no nation should be allowed to put nuclear weapons in orbit for the purposes of targeting sites on Earth. Therefore, the United States reserves the right to destroy, preemptively, any adversary orbital platform that carries nuclear weapons, and may do so using any tool best suited to the purposes—whether that tool is based terrestrially or in orbit.

Framing Missile Defense Capabilities and Missions

The U.S. missile defense system has three critical physical components:

- Sensors,
- Interceptors, and
- Command-and-control infrastructure that provides data from sensors to interceptors.

Of these, interceptors receive much of the public's attention because of their visible and kinetic nature. Components of missile defense systems may be classified based on the phase of flight during which intercept occurs, although some—for example, the command-and-control infrastructure or radars—can support intercepts in various phases of flight. Interceptors can shoot down an adversary ballistic missile in the boost, ascent, midcourse, or terminal phase of its flight. As cruise missiles and hypersonic glide vehicles continue to proliferate, the MDA and the military services must therefore consider intercepts in all four phases of flight.

Another way to classify missile defense systems is by the range of an incoming missile (short-range, medium-range, intermediate-range, or intercontinental-range). An interceptor's flight time determines both the time available to conduct an intercept and the optimal interceptor placement to improve intercept probability. The United States has “30 minutes or less” to detect an ICBM, track it, provide the information to the missile defense system, find the optimal firing solution, launch an interceptor, and shoot down the incoming missile, ideally with enough time to fire another interceptor if the first attempt fails—a tactic known as “shoot-look-shoot.” The time needed to intercept short-range, medium-range, and intermediate-range ballistic missiles is shorter.

Finally, missile defense can be framed by the origin of interceptor launch. At present, U.S. interceptors are launched from the ground or from the sea. In the past, the United States explored possible ways to intercept ballistic missiles from the air or in space, but such efforts have been limited since the U.S. withdrawal from the ABM Treaty in 2002.³²

Assessing America's Missile Defense

An effective and credible missile defense architecture must include a number of components, such as an integrated sensor architecture that takes multiple data streams from multiple U.S. and allied or partner sources and creates an integrated command-and-control and management structure and three different engagement levels:

- **A short-range defense** to protect key high-value nodes in the U.S. homeland and overseas,
- **A ground-based system** to give general coverage over North America, and
- **A space-based overlayer** that can engage a number of threats across the world in various stages of flight.

This is the essence of Golden Dome, President Trump's groundbreaking missile defense architecture unveiled in 2025.³³ Taken together, such an architecture can increase America's ability to address adversary threats and strengthen deterrence by denying adversaries the benefit of missile strikes on key targets.

While some of the critical components for a Golden Dome exist today, including regional command-and-control nodes, theater air defense systems, and GBIs, there is important work to be done in (1) integrating disparate systems into a cohesive architecture and (2) expanding existing systems to include more capacities and building capabilities in orbit if the United States is to field a credible missile defense architecture.

Integrated Command and Control. An integrated command-and-control system can more effectively coordinate the tracking and interception of enemy missile launches by developing and fielding a Hypersonic and Ballistic Tracking Space Sensor Layer, and integrating shots from the various layers, missile defenses can get more shots at incoming missiles, thereby increasing the likelihood of a successful interception. Put another way, if the overlayer misses the interception, GBIs have the opportunity to engage the incoming target. If the GBIs miss, the underlayer can have some utility in potentially intercepting inbound missiles or warheads at a limited number of critical sites.

Assessment: *Strong.*

An Effective Underlayer for Protecting Critical Sites. Current off-the-shelf missile defenses such as Patriot PAC-3s, Aegis Afloat, air-to-air missiles and surface-to-air missiles, directed-energy weapons (DEW), and THAAD systems may provide robust missile and autonomous systems defenses around a limited number of key locations within the U.S. homeland, at forward bases, and at key allied locations.³⁴ Locating such systems near key bases, ports of embarkation, and command-and-control nodes provides multiple interception opportunities of enemy missiles that target critical, high-value nodes. Accordingly, the United States should develop and deploy an underlayer that leverages terminal phase intercept capabilities that are postured to defeat a countervalue attack.

Assessment: *Strong.*

Ground-Based Layer. The current missile defense layer comprises 44 ground GBIs at sites in Alaska and California. They are optimized for targets coming from North Korea and were built when North Korea had a very modest ability to target North America with missiles. Later this decade, the next-generation interceptors (NGIs) should augment the existing GBIs on the West Coast with 20 additional interceptors.³⁵

The fielding of NGIs is a necessary step, but one that is inadequate for the current threat. A modest expansion of missile interceptors is necessary to contain not only the expanding North Korean and Iranian missile threats but also threats posed by Russia and China. To that end, the United States should expand the number of NGIs it purchases from 44 to approximately 64 and plan to station a significant portion of the new interceptors on a new missile defense site on the East Coast to better target incoming adversary missiles from Eurasia.³⁶ These 64 NGIs should replace the older GBIs currently deployed in Alaska and California.

These capabilities, needed today given the growing threat from adversary long-range fires, are an important interim step to a more robust, space-based missile defense layer and will form a critical component of Golden Dome.

Assessment: *Strong.*

A Space-Based Overlayer. The “overlayer” is a capability that can field a network of microsattelites in orbit that would serve as both sensors and communication relays, as well as platforms for

launching interceptors capable of destroying long-range threats regardless of point of origin, destination, or delivery mechanism. Of particular utility against rogue states such as Iran and North Korea, an overlayer can make an important contribution on threats posed by China and Russia.

The constellation’s networked sensors automatically would share launch and targeting data with each other and with ground-based command-and-control networks. They can carry small kinetic, non-explosive kill vehicles or directed-energy weapons that can engage targets across multiple stages of flight, including the boost phase, mid-course flight, or coasting phase.

The technology to share launch and targeting data among the orbital sensors exists today. Similar to how ride-share applications use networked artificial intelligence (AI) to identify which vehicles are closest to a customer’s location, networked satellites can identify a threat and identify which interceptors are best positioned to engage and destroy an enemy’s launched missile.

A constellation of satellites in orbit through the development and deployment of a Proliferated Warfighter Space Architecture can engage enemy missiles far sooner than a ground-based system, particularly those that are located thousands of miles away in North America. Because they are closer to the target in space and en masse, they can get not only multiple shots at enemy missiles during their trajectory but the satellites can engage some targets while the targets are still in their ascent phase, thereby increasing the chances that interceptors may destroy inbound targets.

In addition, an orbital sensor and engagement capability addresses many of the challenges posed by terrestrial-based engagement, particularly its ability to surveil huge portions of the Earth’s surface from orbit. This expanded sensor coverage, coupled with redundant interceptors, increases the likelihood of a successful interception before the missile strikes its intended target.

A proliferated constellation of orbital satellites may address a variety of terrestrial or space-based threats. Further, a robust space-launched resupply capability that leverages commercial launch capabilities would be able to replace expended satellites quickly during a conflict, thus strengthening the resilience (and therefore, efficacy) of such a capability. Building such satellites at scale

enables cost-efficiency, resilience, and rapid reconstitution.

Assessment: *Marginal.*

Allied and Theater Missile Defenses. The United States can strengthen its homeland defenses while at the same time strengthening missile defenses for forward deployed U.S. forces and with allies and partners against missile threats from any adversary. By strengthening, integrating with, and operating with allied and partner missile defense systems, the United States may better deter and, if necessary, defeat missile and autonomous systems threats globally, thereby reducing the risk to deployed American forces, the lives and citizenry of America's allies and partners, and, ultimately, the American homeland.

Threats from adversary missile and autonomous systems increasingly blur the line between theater or regional missile threats and missile threats to the American homeland. To combat such threats, regional Combatant Commanders can now and may increasingly work with key allies and partners in the Indo-Pacific, Europe, and the Middle East on information-sharing (both pre-launch and post-launch), targeting data, and interceptions. Iran's 2024 attacks on Israel—which mixed ballistic missiles, cruise missiles, and autonomous systems—failed due to the integration of American and partnered missile defense capabilities and command-and-control nodes.³⁷ This type of collaboration may be a model for successful capability integration among American, allied, and partner missile defense architectures. Cooperation with like-minded allies and partners can be crucial both for real-world interceptions but also, increasingly, on development of ever more advanced and capable missile defense systems.

Such advances can be crucial to counter adversary anti-access/area-denial (A2AD) strategies that increasingly rely on advanced missile threats to deny American access to forward theaters. Collaborating with allies and partners to build and deploy advanced missile interceptors, both at home and abroad, may enable American freedom of action and key access to the most critical parts of the globe. Regional missile defense architectures in the Western Pacific, including national missile defenses in Japan and South Korea, NATO missile defense architectures and the effective missile defense systems employed by U.S. partners in the Middle East,

only strengthen America's position, standing, and freedom of action.

Where appropriate and feasible, the United States should work with allies and partners on IAMD detection and defeat capabilities that may be concealed or disguised to enhance deterrence and complicate adversary targeting.

Assessment: *Strong.*

An Ever-Evolving Architecture. In addition to the above layers, which are designed to prevent adversaries from launching a long-range strike on the United States or its regional allies, the United States must continue to develop new capabilities both to strengthen defenses and to introduce uncertainty into the minds of adversaries. With these two goals in mind, the U.S. Department of War should continue to explore new capabilities while employing existing capabilities in innovative ways.

For instance, placing missiles on autonomous aerial systems and on drones to shoot down enemy missiles in the boost phase or placing missile interceptors, such as the SM-6, in shipping containers in overseas ports that could target enemy missiles close to their homelands would not only help to protect key areas, but also keep America's adversaries guessing. To this end, the War Department should embark on an aggressive campaign to identify key capabilities that can mitigate today's adversary missile threat.

Assessment: *Strong.*

Policy Recommendations

The single most urgent recommendation is for Congress to fund and for the Department of War to build and field Golden Dome, to include the orbital constellation of sensors and shooters, a third ground-based missile defense site on the East Coast, and the associated Golden Dome battle management systems. To this end, the United States should build on the GOLDEN DOME for America Act, sponsored by Senator Dan Sullivan and Senator Kevin Cramer and Representative Mark Messmer, to field a robust and integrated multilayered defense architecture with a heavy emphasis on space-based interceptors.

Between the GOLDEN DOME for America Act and the One Big Beautiful Bill,³⁸ the United States is on track to fund Golden Dome with an initial budget of ~\$25 billion to begin building the architecture. Such an architecture should include an initial

U.S. Military Power: Missile Defense

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Integrated Command and Control				✓	
Existing Under Layer				✓	
Existing Ground-Based Layer				✓	
Existing Space-Based Overlayer			✓		
Theater Defenses				✓	
Architecture Evolution				✓	
OVERALL				✓	

ABOUT THE ASSESSMENT CATEGORIES

OVERALL ASSESSMENT. The overall assessment of a military service is measured against its ability to perform its respective role in a two-major regional contingency (MRC) scenario. The assessment of the U.S. Marine Corps is sized against a single major regional contingency (MRC) scenario. This benchmark is the *minimum* standard for U.S. hard-power capacity with the understanding that maintenance, operational tempo, training cycles, crisis response, treaty commitments, and/or strategic reserve considerations can cause some forces to be unavailable. Other factors that influence this assessment are the availability of logistical support to enable combat power (fueling ships, supply ships, cargo aircraft, etc.) and the ability to reconstitute combat power for protracted conflict (defense industrial base capacity, etc.).

CAPACITY. The U.S. military must have a sufficient quantity of the right capability or capabilities to meet its mission sets. Capacity (numbers) can be viewed in at least three ways:

- Compared to a stated objective for each category by each service,
- Compared to amounts required to complete various types of operations across a wide range of potential missions as measured against a potential adversary, and
- As measured against a set benchmark for total national capability.

space-based capability of a few dozen interceptors, on the way to an overall space-based interceptor architecture of between 1,500 and 2,200 interceptors.

Eventually, Golden Dome should examine the threats posed by non-arctic trajectories. While not a direct threat now, it is not beyond the realm of possibility that an adversary could forward deploy nuclear-capable missiles in the Western Hemisphere, from which they can range the United States without having to overfly missile interceptors in Alaska or the West Coast. Further, it may be possible at some point in the future for adversaries to build a super long-range ICBM that is able to attack the United States not from a polar-arctic trajectory, but

CAPABILITY. Examining the capability of a military force requires consideration of:

- The proper tools (material and conceptual) with the design, performance characteristics, technological advancement, and suitability that the force needs to perform its function against an enemy successfully;
- The sufficiency of armored vehicles, ships, airplanes, and other equipment and weapons needed to win against the enemy;
- The appropriate variety of options to preclude strategic vulnerabilities in the force and give flexibilities to battlefield commanders; and
- The degree to which elements of the force reinforce each other in covering potential vulnerabilities, maximizing strengths, and gaining greater effectiveness through synergies that are not possible in narrowly stovepiped, linear approaches to war.

READINESS. While capacity and capability considerations are central to the warfighting ability of the U.S. military, readiness performs a crucial role in determining whether combat power is prepared when it is needed. Factors that are considered include (among others):

- Sufficient staffing levels,
- Fulfillment of training requirements, and
- Age and maintenance of equipment.

from a polar-Antarctic trajectory using rockets with a range of more than 20,000 kilometers. While still a future possibility, it is one that an evolving 21st century missile defense architecture should take into account and be prepared to address.

Conclusion

America is well on its way to building a robust missile defense architecture that can deny our adversaries from carrying out a strategic attack on the American homeland. This will require patience, innovation, and resources, but from an engineering perspective, building a credible orbital missile defense shield such as Golden Dome is simple in

comparison with putting a man on the moon within seven years or coming up with the idea for an atomic bomb and then building and employing it in less than four years.

The time is now.

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U.S. Coast Guard

Phillip Smyth

Introduction

The United States Coast Guard (USCG), after years of underfunding, particularly during the Biden years, is on the verge of major changes following the infusion of \$25 billion from President Trump's One Big Beautiful Bill Act (OBBBA) and the announcement of Force Design 2028. However, needed programs, ships, and other equipment still face delays and cancellations, and recruitment has been abysmal. In the face of competition from near-peer and peer competitors, especially the People's Republic of China (PRC), the Coast Guard remains at a severe disadvantage.

The USCG maintains a unique place as both an armed service and a civilian law-enforcement entity. Along with providing port security and mass-mobilization capabilities to support the U.S. Navy, it must deal with such serious problems as marine safety and the flow of illegal immigration, illegal criminal narcotics, and illegal fishing in addition to assisting partner and allied states around the world in building their own naval and coast guard capabilities.

The USCG is still woefully underprepared and ill-equipped to deal with a peer competitor such as the PRC. China's distant-water fishing fleet, People's Liberation Army Navy (PLAN), Maritime Militia, and China Coast Guard (CCG) have grown exponentially during the past decade. Additionally, China continues to increase deployments of its state-controlled fishing fleets, research ships, and military vessels not just in the seas around Southeast and Northeast Asia, but into the U.S.'s Exclusive Economic Zone (EEZ) and extended continental shelf. All of these multiplying threats pose serious challenges to the USCG's policy of "meeting presence with presence."

Heavy use, old age, maintenance problems, and lack of funds continue to undermine USCG capabilities. The USCG's shorter-range HH-65 helicopter is being decommissioned after 36 years of service, and its workhorse HH-60 helicopters, the platform on which the USCG was hoping to base future helicopter purchases and strategy, have been grounded because of safety issues resulting from their decrepit state and overuse.

The United States also needs to replace and expand its aging polar icebreaker fleet. With more than 1,000 miles of coastline in the Arctic, a presence in other Arctic states and Antarctica, and deficient capabilities, the U.S. is strategically vulnerable. One of its two active polar icebreakers is nearly 50 years old; to continue deployments, the USCG was forced to cannibalize from a sister ship. China, a state with no Arctic coastline, was able to deploy five new polar icebreakers to the Arctic (near Alaska) in August 2025.

Nor are new platforms and equipment all the USCG needs to remain viable. Maintaining and staffing the Coast Guard requires a more concerted effort to recruit and retain servicemembers. The USCG has a strong auxiliary volunteer element that can be utilized in time of war; it should also be used to increase participation in rebuilding the organization. The USCG will need both to reinvigorate its reserve elements and to attract new active-duty members.

A service that is charged with protecting the homeland should not be allowed to continue its rudderless drift, especially as competitors and other threats are actively increasing their capabilities.

Service Overview

Since the beginning of the Republic, the U.S. Coast Guard has taken on countless roles in defense

of the United States. Founded in 1790 as the United States Revenue Cutter Service, the Coast Guard served as America's first and only official naval force until the creation of the U.S. Navy in 1798.¹

In 1861, Coastguardsmen fired the first maritime shot of the American Civil War.² During World War II, off the coast of Greenland, the Coast Guard seized the *Busko*, a Norwegian Nazi-aligned Quisling government ship. It was the first capture of an enemy surface vessel by the United States during the war.³

Today's Coast Guard is also the result of an amalgamation of numerous governmental organizations dealing with safety, port security, and smuggling. It includes what was once the U.S. Revenue Cutter Service, the U.S. Life-Saving Service, and several other former sections of the U.S. government related to managing lighthouses. The combination of these elements culminated in the U.S. Coast Guard Act of 1915.⁴

As the only armed service that performs law-enforcement duties, the USCG has operated under shifting authorities since its beginning. From 1790–1967, it belonged to the U.S. Department of the Treasury. The U.S. Navy took over leadership of the Coast Guard during the War of 1812 as well as from 1941–1945 during the Second World War. From 1967–2003, the USCG was under the U.S. Department of Transportation, and in 2003, following the terrorist attacks of September 11, 2001, it was transferred to the U.S. Department of Homeland Security (DHS).

As a mission-oriented organization, the U.S. Coast Guard has a number of set programs that fall under both homeland and non-homeland security tasks. Specifically:

The Coast Guard manages six major operational mission programs: The operational mission programs oversee 11 Missions codified in the Homeland Security Act of 2002. That act delineates the 11 missions as “homeland security” or “non-homeland security” missions.

1. Ports, Waterways & Coastal Security
2. Drug Interdiction
3. Aids to Navigation (ATON: including maintaining the nation's lighthouses, buoys & VTS; also legacy ATON missions including lightships & LORAN)
4. Search & Rescue (SAR)

5. Living Marine Resources
6. Marine Safety
7. Defense Readiness (National Security & Military Preparedness)
8. Migrant Interdiction
9. Maritime Environmental Protection
10. Polar, Ice & Alaska Operations (including the International Ice Patrol)
11. Law Enforcement (including Prohibition Enforcement History)

Homeland Security Missions: Ports, Waterways, and Coastal Security; Drug Interdiction; Migrant Interdiction; Defense Readiness; and Other Law Enforcement

Non-Homeland Security Missions: Marine Safety; Search and Rescue; Aids to Navigation; Living Marine Resources; Marine Environmental Protection; and Ice Operations.⁵

The contemporary USCG safeguards over 100,000 miles of U.S. coastline, the U.S.'s Exclusive Economic Zone (EEZ) and extended continental shelf, and such inland waters as major rivers and lakes. It also operates with partner states and allies in law enforcement to prevent illegal fishing, smuggling, and narcotics. As a force, it has 39,000 active-duty members,⁶ approximately 6,300 reservists,⁷ and 26,000 to 32,000 volunteer auxiliary members.⁸

Search and rescue efforts continue to be a principal focus for the Coast Guard, which was heavily utilized to rescue those on disabled or sinking ships, survivors of natural disasters, and victims of other incidents throughout 2025. The Coast Guard also has continued to aim for a two-hour search and rescue response time within USCG sectors.⁹

The contemporary Coast Guard has been plagued by chronic underfunding, major recruitment shortfalls, old or declining equipment, extensive maintenance problems, and the lack of enough key ships to carry out the missions it has been tasked with performing. If a conflict with China over Taiwan were to develop, the USCG's strong search and rescue, seamanship, vessels, and aircraft would play a major role in assisting the U.S. Navy and protecting the U.S. homeland. However, in its current state, it is doubtful that the service could execute many of its other assigned missions.

Nevertheless, 2025 saw a number of major changes that will have a positive impact on the service as it continues into the 21st century. The most significant were the creation of Force Design 2028 and the funding provided by the OBBBA.¹⁰ The additional funding has allowed the USCG to put more attention into acquisition and shipbuilding. These efforts have also helped the USCG to demonstrate what systems have not worked or what newer tools might be needed in the future.

Force Design 2028. In an effort to reconfigure and modernize the U.S. Coast Guard, DHS and Coast Guard leaders issued a new strategy in 2025: Force Design 2028, a program to rebuild the organization around four major themes:

- Organization,
- People,
- Technology, and
- Contracts and Acquisitions.¹¹

Focusing on these four major issues sets a clear standard for where and how the Coast Guard is to be rebuilt with new funds and focuses attention on the need to ready the service for the future.

Decline of Coast Guard Assets and Forces

Chronic underfunding has undermined the U.S. Coast Guard's capabilities. In May 2025, DHS Secretary Kristi Noem told Congress that the USCG was underfunded by at least \$21 billion.¹² The purchase and acquisition of new cutters, ice breakers, and aircraft and the updating of facilities to remove backlogged maintenance issues are all needed to restore the Coast Guard as an effective multi-mission force that can tackle its multi-mission focus.

Cutters. The USCG's cutters are the backbone of its fleet of vessels, which also includes smaller boats. Cutters are ships that have crew accommodations and are over 65 feet in length. The USCG had 241 cutters as of January 2025¹³ and 1,508 smaller boats as of 2024.¹⁴ These ships take on roles related to port security, drug interdiction, surveillance, and illegal fishing, among many others. Unfortunately, however, many of these vessels have suffered from maintenance backlogs, and cutters are often unavailable for major anti-drug missions, in addition

to which many cutters currently in the fleet are quite old: Many inland and river cutters average around 55 years of age, and medium endurance cutters average between 30 and 50 years of age.¹⁵

Newer cutters were beset by delays in design and production, but the OBBBA enabled Coast Guard shipbuilding programs to receive \$162 million for inland buoy tenders (Waterways Commerce Cutters); \$1 billion to buy more of the service's small but successful Fast Response Cutters; and \$4.3 billion to acquire more Offshore Patrol Cutters, the long-delayed replacements for the aging medium endurance cutter fleet.¹⁶ However, until shipbuilding is ready to take on and deliver these orders, the delivery process for these cutters will likely be a slow one.

Icebreakers and the Arctic. Given the geopolitical and climatological changes in the Arctic, the USCG's need for new icebreakers has never been more pressing. Icebreakers protect the sea-lanes needed for commerce, scientific research, and the maintenance of presence and projection in both the Arctic and the Antarctic. However, there is a serious shortage of the vessels that the United States requires for these tasks. A 2023 U.S. Coast Guard analysis said the service would need "eight to nine" new icebreakers,¹⁷ but efforts to produce these ships have been undermined by cost overruns, issues with design, and numerous delays.

As of August 2025, the USCG was operating only three polar-capable icebreakers.

- The USCGC *Polar Star* is 49 years old, the USCG's only heavy icebreaker, and currently the only Coast Guard ship capable of Antarctic missions to the McMurdo Station.¹⁸ The *Polar Star* has also suffered from fires, maintenance issues, and other problems.¹⁹
- Commissioned in 1999, the medium icebreaker USCGC *Healy* has experienced numerous fires and lacks spare parts.²⁰
- The newest, a non-military icebreaker, is the USCGC *Storis*. Purchased from a private owner, the *Storis* was commissioned on August 10, 2025.²¹ It is still waiting for its future homeport in Juneau, Alaska, to be fitted with an up-graded pier.²²

Compared to America's deficient icebreaker capabilities, Russia currently operates the world's largest and best-equipped fleet of polar icebreakers: 57 ships including the world's only nuclear icebreaker.²³ It also has extensive facilities and other security architecture to support icebreaking in the Arctic. Canada has the world's second largest fleet of icebreakers: 18 with delivery of two more expected by 2032.²⁴ Nordic states such as Sweden, Norway, and Finland heavily utilize icebreakers in their ice-filled coastal waters, and Finland is a world leader in icebreaker construction.²⁵

For its part, China, a state with no coastline in the Arctic and an initially limited albeit expanding presence in the Antarctic, claims to be a "near-Arctic state" and seeks to create a "Polar Silk Road."²⁶ From 2024–2025, China has increasingly sent its ships into the Arctic, particularly near the U.S. EEZ and extended continental shelf. In 2024, three Chinese icebreakers sailed near the Aleutian Islands.²⁷ In August 2025, China sent five icebreakers north of Alaska "in or near the U.S. Arctic."²⁸

In late 2024, the Icebreaker Collaboration Effort (ICE) Pact was created to facilitate the delivery of additional icebreakers, in part by partnering with Finnish and Canadian shipbuilders. The tripartite ICE Pact would also facilitate the exchange of knowledge to American shipbuilders by allowing Finnish and Canadian expertise in icebreaking design and construction of icebreakers to be utilized within America's ailing shipbuilding apparatus.²⁹

President Trump has affirmed the importance of closing the U.S.'s growing icebreaker gap. In June 2025, the President announced that he intended to buy 40 icebreakers, potentially from Finland.³⁰ The OBBBA allotted \$4.3 billion for three new PSCs; \$3.5 billion for up to three new medium Arctic Security Cutters (ASCs); and \$816 million for small and medium cutters.³¹ This funding certainly allowed for more to be done on the acquisition of new icebreakers. However, for almost a decade, shipyards tasked with building and designing the PSCs have experienced delays and cost overruns. The ASC, a vessel that the Coast Guard needs to accomplish its Arctic goals, is still in need of a design; a Request for Information was not submitted until April 2025.³²

Since 2017, the USCG has intended to replace its aging heavy icebreakers with what would become the PSC.³³ Yet, according to the Congressional

Budget Office, despite having been authorized in 2019, "[a]s of July 2024, the design of the PSC was only 59 percent complete."³⁴ In May 2025, Bollinger Mississippi Shipbuilding was approved to begin production on the first *Polar Sentinel* PSCs.³⁵

Increased funding is a positive development, but delays and the need for new vessels quickly require a faster and more proactive approach. As former Coast Guard Captain Luke Slivinski has suggested, allowing the Coast Guard "to bypass the traditional acquisitions process and go straight to...an existing medium polar icebreaker warship design in current operation...would enable an immediate start to construction" and eliminate "years' worth of time devoted to establishing requirements; advertising, bidding, and awarding the contract; and vessel design."³⁶ The United States should also buy available non-military icebreakers as it did with the USCGC *Storis* to fill critical gaps. The U.S. may be forced to buy from overseas shipyards to fulfill its icebreaker needs, and while continued multilateral cooperation with partners and allies is a net benefit for U.S. policy and projection, the Coast Guard should seek out foreign options that are affordable and include U.S. shipbuilders in the building of the vessels. The United States needs icebreakers and the capabilities to construct them *now*.

Aviation. Funding increases in the OBBBA have given the Coast Guard the ability to purchase newer aircraft that comport with its Force Design 2028. Specifically, \$1.1 billion was included for six new long-range HC-130J aircraft, along with simulators; \$2.3 billion was included for more than 40 MH-60 helicopters; and \$266 million was allocated for long-range unmanned aircraft systems (UAS), providing the Coast Guard with another increasingly required asset both for surveillance and for search and rescue. Such funding of specific and more purpose-built aircraft will enable the Coast Guard to move forward with a more streamlined fleet.

"As of 2024," according to the Congressional Budget Office, "the Coast Guard had about 200 aircraft. About three-quarters were helicopters, and the rest were fixed-wing aircraft."³⁷ These aircraft perform missions ranging from search and rescue to drug interdiction, surveillance, security, and environmental protection. Due to the harsh extremes of their operating environments and issues with supply, many of these aircraft require more intensive maintenance services.

Reduced budgets under the Biden Administration, repairs, and the number of different airframes operated by the USCG have affected the ability of the service to field needed aircraft. From fiscal year (FY) 2018–FY 2022, according to the U.S. Government Accountability Office (GAO), USCG fixed-wing and rotary-winged aircraft failed to meet availability targets.³⁸ Systemic maintenance and issues related to heavy use with its air fleet stretched the USCG to its limit in 2023–2024 following a series of groundings.

Fixed-Wing Aircraft. The Coast Guard’s fixed-wing aircraft often perform transportation, patrol, rescue, surveillance, command and control, and interdiction duties. Additionally, some of these platforms’ longer ranges allow the USCG to patrol larger zones—a necessity in the Pacific, Arctic, and stretches of the Atlantic. It was the Coast Guard’s longest-range platform, the HC-130Js, that were key elements in monitoring Chinese ship movements near Alaska, for example, in 2025.³⁹

The fixed-wing fleet has been undergoing a process of modernization, and many older airframes have been retired. The last long-range HC-130H was retired in 2024. The platform had been in service for 56 years.⁴⁰ The Gulfstream C-37A, a long-range command-and-control aircraft acquired in 2007, was complemented by a C-37B, which was acquired in 2022.⁴¹ However, the fixed-wing fleet also has had maintenance-related problems. In 2023, all of the USCG’s 14 C-27J Spartan Patrol Aircraft had to be grounded when it was discovered that all had structural cracks.⁴²

Rotary-Winged Aircraft. The Coast Guard was an early adopter of rotary-winged aircraft, and because of the multitude of missions that helicopters can perform, they form a large and core portion of the USCG aviation force. In 1944, for example, it was the USCG that flew the first lifesaving mission using a helicopter.⁴³

Around 100 MH-65 helicopters are currently in service with the USCG. A workhorse for the service, particularly with search and rescue, since its first delivery in 1984, the aircraft have cumulatively logged over 1.8 million flight hours.⁴⁴ Although the MH-65 is currently being phased out in favor of the MH-60 Jayhawk, the USCG has signed a memorandum of understanding with Airbus that could keep the helicopter operating until 2037.⁴⁵

The USCG intends to have the MH-60 as its sole helicopter platform, a move to a single platform that

would allow a level of standardization for the USCG to invest more in new attachments, perform more functional maintenance, and streamline training, but the helicopter has been beset by operation stresses as a result of its high usage. “By late 2023,” according to *Forbes*, “over 90 percent of the Coast Guard’s MH-60T helicopters were operating with more than 16,000 flight hours,” and “[a]s of early December, almost 18 percent of the Coast Guard’s 45-strong MH-60T ‘Jayhawk’ medium range recovery fleet [was] out of service.”⁴⁶ After the November 2023 crash of an MH-60 in Alaska, the USCG cut the service life of the helicopter from 20,000 hours to 19,000.⁴⁷ As a result, six MH-60s were immediately grounded.

Despite these issues, Coast Guard aviation’s talent and mission focus have allowed the service to perform its essential duties. In July 2025, while flying in an MH-65, one Coast Guard swimmer rescued 165 people following major floods in Texas.⁴⁸ However, Coast Guard aviation’s readiness and resources have not recently been tested in a major national crisis such as a Hurricane Katrina–type event. Even with funding increases, the Coast Guard’s performance vulnerabilities are still present.

The Coast Guard requires a cohesive plan and evaluation of its aircraft assets. When there are numerous aircraft types with different maintenance requirements, training regimens, and complex supply chains, costs rise and efficiency diminishes. This is partly why the USCG has not been meeting availability targets. The recently grounded C-27Js came into the Coast Guard by way of an ultimately unneeded U.S. Air Force procurement program when the USCG was already integrating a more purpose-built aircraft, the HC-144 Ocean Sentry, into its fleet.

As more funding arrives, the USCG must address its pressing maintenance issues. Increasing the availability of and access to parts supplies to meet immediate needs should also be factored into its plans. The USCG should explore options for long-range aircraft and unmanned systems that can be utilized for longer-range intelligence, surveillance, and reconnaissance (ISR) equipment. Longer-range ISR assets that can allow other resources to be prepositioned would also help the USCG to maintain presence and support DHS and other national security missions.

Facilities and Maintenance. The maintenance issues that have plagued the Coast Guard, in addition to reflecting ongoing funding neglect, have

directly affected mission readiness and capacity to operate. Because the Coast Guard's facilities, vessels, and aircraft operate in harsh environments and are heavily used, major maintenance shortfalls have caused cutters and air assets to be unable to deploy, thereby hurting their capability to perform missions. The OBBBA gave the USCG \$2.2 billion to maintain readiness through depot maintenance.⁴⁹ Without these funds, the service would likely continue to experience major maintenance shortfalls. However, according to a 2025 GAO report, the USCG would need upwards of \$7 billion for infrastructure facilities.⁵⁰ This money would not be needed just for rebuilding, overhaul, and regular maintenance, but also to compensate for the extensive backlog created by years of neglect.

Access to spare parts has been another long-term readiness problem for the Coast Guard. During an August 2024 event, then-USCG Vice Commandant Admiral Kevin Lunday told the audience that:

On the asset side we're struggling to sustain the readiness of our current fleet of ships, of boats, of aircraft, and offshore infrastructure, and our IT systems, and networks. Let me give you an example: If you want to get underway on a major Coast Guard cutter today, you have to do what we call a 'controlled parts exchange' with other ships at the pier. That's a fancy term for cannibalization. We'll steal parts or borrow...from the other ships just to get another ship underway. Now, you can do that for a short amount of time, but when you do it over a number of years, you're eating your own readiness. And that's what we're seeing.⁵¹

The USCG Auxiliary. The Auxiliary is a 26,000-strong to 32,000-strong volunteer element of the U.S. Coast Guard.⁵² Any adult who meets eligibility requirements and is over the age of 17 can join the Auxiliary, and this allows it to recruit from a broad spectrum of talents and capabilities.⁵³ Nevertheless, the force includes many individuals of retirement age, and many lack skills beyond assisting in search and rescue. The Auxiliary does not carry out the Coast Guard's military or law-enforcement duties, but it does act as a cost-effective and increasingly important force multiplier.

Costing less than \$20 million annually and saving taxpayers approximately \$240 million a year,⁵⁴

Auxiliary flotillas raise their own funds. As noted, the Auxiliary acts as a force multiplier for the USCG by assisting in safety, maintenance of facilities and vessels, inspection duties, public education, public affairs, and search and rescue.⁵⁵

The U.S. military is currently hard-pressed to find enough translators and interpreters who specialize in Indo-Pacific languages; the Auxiliary has an Interpreter Corps that serves with Coast Guard operations around the world.⁵⁶ Another major goal of Force Design 2028 is to strengthen the Coast Guard's cyber capabilities; members of the Auxiliary could be used to further enhance the USCG's cyber assets and in a cost-effective manner.⁵⁷ And during 2010's Deep Water Horizon oil rig explosion and spill, Auxiliarists were there to provide extensive environmental, rescue, and other forms of support.⁵⁸

In a potential war—for example, a war with China—U.S. Naval militias, potentially under National Guard auspices, would be required for the war effort. However, only Alaska, California, New York, Ohio, and South Carolina can currently call upon such units. In World War II, Auxiliarists could join or be enrolled in the Coast Guard's now-disbanded Temporary Reserve.⁵⁹ In a contemporary conflict, the Auxiliary could be called upon once more to fill the ranks of state-run maritime militias and activities within the USCG.

Recruitment and Retention. The U.S. military's multi-year recruitment crisis has not left the USCG unscathed. The USCG must do more to address its recruitment and retention of officers, enlisted members, and reserves. This is a particularly challenging issue given that recruitment issues have long plagued the USCG, especially from 2019–2023 when the service did not meet its recruitment goals. In 2022, the Coast Guard “recruited 2,793 service members out of a goal of 4,200,” which was just “a little over 66.5 percent of its annual objective.”⁶⁰ In 2024, then-Vice Commandant Admiral Kevin Lunday told an audience at the Brookings Institution that “we've had to lay up three...of our major cutters because we don't have enough enlisted personnel to crew them.”⁶¹ In May 2025, the GAO noted that “[h]eavy workloads, command leadership, and physical and technical infrastructure issues hurt morale and affected retention.”⁶²

In 2022, in an attempt to alleviate recruitment issues, the USCG removed some barriers to

enlistment. The enlistment age was raised from 34 to 42, single parents were allowed to join, and restrictions on those with higher debt-to-income ratios were relaxed.⁶³ In 2024, the Coast Guard finally exceeded its recruitment goal with about 200 more recruits than their target number of 4,200. New recruiting stations and about 100 new recruiters were largely credited with meeting the 2024 goals.⁶⁴ The USCG's continued use of more recruiters and recruitment offices, along with more targeted marketing of the service, would certainly assist in recruitment efforts.

Nevertheless, the USCG continued to lose servicemembers faster than it could replace them.⁶⁵ Citing the GAO, *Stars and Stripes* reported in May 2025 that because of retention issues, the USCG was “short about 3,000 members” and “operating below the workforce level that it deems necessary to meet operational demands.”⁶⁶ The GAO has recommended that the Coast Guard focus on collecting and analyzing more data to make up for recruitment shortfalls and for future targeted recruitment,⁶⁷ but the growing need for specialized skills within the USCG indicates that a more immediate focus on certain areas is required. Increasingly, individuals with key skills that assist with retention and/or missions, such as those with a cyber or technology background and those with medical experience, should be a targeted recruitment focus.⁶⁸

The USCG's demand for medical, technology, and other professionals, both for its missions and to meet the needs of USCG servicemembers, faces stiff private-sector competition. Salaries for those in the technology and medical fields, for example, are higher in the private sector.⁶⁹ Since August 2025, the USCG has offered upwards of \$75,000 as an enlistment bonus,⁷⁰ and additional financial incentives may be required for more specialized skillsets. Retention among those stationed in isolated or rural areas, often key zones for USCG presence, has suffered because of issues related to the provision of health care. Therefore, notes USCG Lieutenant (junior grade) Victoria Folz, “increasing recruitment efforts targeting medical students and professionals could yield positive results.”⁷¹ Attracting individuals working for technology companies and those attaining degrees for technology positions should also be goals for USCG recruiters.

Attracting those in technology fields often requires a more dynamic approach beyond direct

recruitment at schools and universities focused on those skillsets. Many in the cyber field maintain irregular schedules and do not match Coast Guard physical fitness requirements.⁷² Using the USCG's Auxiliary to appeal to volunteers would save money and create a new opportunity for recruiting outside of the normal paradigms of direct recruitment into the Coast Guard.

Countering Narcotics, Illegal Immigration, Human Smuggling, and Human Trafficking

Illegal Narcotics. The U.S. Coast Guard's narcotics interdiction efforts have increased significantly since 2024. Approximately 1,024 metric tons (2,257,534 pounds) of cocaine were seized from 2020–2024.⁷³ The Eastern Pacific, the Caribbean, and the border with Mexico have been key areas of focus. In July 2025, the USCG stated that it had “seized over 242,000 pounds [around 109 metric tons] of cocaine” since January 20, 2025.⁷⁴ In March 2025, one seizure in the Pacific yielded narcotics worth more than \$500,000,000.⁷⁵ Also in 2025, during Operation Pacific Viper, the USCG made the largest seizure of cocaine in its history: 61,740 pounds.⁷⁶

In February 2025, the U.S. Department of State listed eight Mexican, Central American, and South American drug cartels as foreign terrorist organizations;⁷⁷ the USCG's efforts to counter the threat of illegal narcotics have never been greater than they have been since then. In view of the 2026 actions in Venezuela and continued efforts to counter drug flows, elements of the USCG's special operations Maritime Security Response Team might be better utilized if they were more integrated with the ranks of the United States Special Operations Command. Along with the use of dedicated aircraft devoted to deploying fast-ropers, the USCG could better assist in many of these efforts.

Drug cartels, particularly many of these recently listed groups, have been expanding their trafficking through maritime routes. According to DHS, non-commercial go-fast boats, fishing boats, and sailing vessels have transported a majority of illegal drugs into the United States.⁷⁸ In August 2025, DHS Secretary Noem noted that “80% of illicit drug seizures occur at sea.”⁷⁹

Increasingly, the drug cartels are using narco-submarines to traffic illegal narcotics. According to InSight Crime, “A near-record number of

narco-submarines were intercepted crossing the Atlantic and Pacific in 2024.”⁸⁰ USCG Lt. Commander Stephen Brickey told CNN in 2019 that “[t]hey blend in.... Most of the vessel is underwater, so it’s hard to pick out. They’re painted blue. They match the water.”⁸¹ According to one report, these low-cost and difficult-to-detect vessels “have also become more advanced.”⁸² One intercepted narco-submarine came equipped with a Starlink system and antenna.⁸³

Narco-submarines are also traversing greater distances, traveling to Europe and Australia. *The Wall Street Journal* has characterized their utilization as the equivalent of a “secret cocaine super-highway under the Atlantic,” noting that narco-submarines were transporting narcotics as far away as Spain.⁸⁴ By mid-2025, the cartels were often complementing their smuggling efforts by also using underwater drones.⁸⁵

As the quality and technological capabilities of narco-submarines have increased, the USCG has relied primarily on human intelligence generated by partner states in intercepting narcotics shipments.⁸⁶ The addition of higher-technology approaches with a focus on ISR and combining new passive sensors and unmanned systems would certainly aid in the anti-narcotics mission. Additionally, given that the USCG must continue its patrols over expansive areas, the further integration of these systems would help it to cover more ground. In keeping with Force Design 2028, the USCG has been looking at capabilities and systems that can better integrate a wider spectrum of information to “Sense, Make Sense, and Act.”⁸⁷

The USCG must also look at its core capabilities. Increased access to newer and better-maintained cutters would also be beneficial. The Coast Guard’s extensive maintenance issues have had a negative effect on its missions. According to the DHS Inspector General, “Coast Guard cutters were unavailable for 2,058 cumulative days over a 3-year period” from 2021–2023.⁸⁸ In 2024, citing a Coast Guard statement, the GAO noted that the USCG’s medium endurance cutters, “a key asset for interdicting drugs,” were not available because “the declining condition of the cutters risked decreased capability for meeting mission requirements.”⁸⁹

Illegal Immigration, Human Smuggling, and Human Trafficking. Illegal immigration utilizing sea routes expanded during the Biden

Administration, and illegal immigrants, professional human smugglers, and human traffickers have continued to use them.⁹⁰ Moreover, smuggling and illegal immigration attempts have not abated. By March 2025, the USCG had “tripled” its personnel commitment to dealing with these issues.⁹¹ At around the same time, the USCG announced that it had diverted cutters, aircraft, and other patrol craft to heighten its “operational presence near southwest border between [the] U.S. and Mexico.”⁹² While distinct issues, illegal immigration, human smuggling, and human trafficking often overlap and require specialized expertise and resources.

Countering China

The PRC has aggressively promoted a strategy of grey-zone conflict with the U.S. and its Pacific partners. From 2024–2025, the Chinese have increasingly been sending icebreakers, ostensible research vessels, and their CCG into the U.S. EEZ off the coast of Alaska. In October 2024, a China Coast Guard vessel entered the Arctic for the first time and was later joined by another CCG vessel for exercises with Russia.⁹³ Thus, the USCG is increasingly coming into contact with Chinese vessels that are both creeping closer to U.S. claims and challenging America’s ability to protect the homeland.

As China has continued its efforts to copy and then utilize lessons gleaned from the United States, it has invested heavily in its CCG. In 2017, analyst and researcher Ryan Martinson noted that “China’s expansion in maritime East Asia has relied heavily on non-naval elements of sea power, above all white-hulled constabulary forces.”⁹⁴ Nearly a decade later, the buildup of and reliance on these “white-hulled constabulary forces” (the CCG) has only increased.⁹⁵ The CCG has exhibited close cooperation with the PLAN and China’s maritime militia forces.⁹⁶ In fact, it has been so close that a PLAN warship collided with a CCG vessel in the South China Sea as they were harassing Filipino fishermen in August 2025.⁹⁷

Known by Western observers as the PRC’s “Second Navy” or “Shadow Navy,” the China Coast Guard was created in 2013 and modeled after its U.S. counterpart.⁹⁸ The CCG has also undergone a meteoric rise in its adoption of new types of shipping, equipment, tasking, and restructuring as well as its contribution to China’s militant posturing in the Pacific.

A 2019 Naval War College study reported that the CCG had 1,275 hulls. By 2024, the CCG had 150 oceangoing patrol vessels.⁹⁹ Compared to the USCG, which has around 200 cutters and 1,400 smaller boats, the CCG's vessels are newer and have not suffered from the same maintenance issues. CCG ships have been widely utilized in the disputed waters of the South China Sea. Many of the CCG's ships have had a more naval than white-hulled focus. Many of China's ships can be fitted with anti-ship missiles.

Like the USCG, the CCG is an amalgamation of different capabilities with a multi-mission focus. The China Marine Surveillance, China Fishery Law Enforcement Command, China Maritime Police, and some seaborne units belonging to the PRC's General Administration of Customs were all combined into the CCG.¹⁰⁰ Superficially, the CCG's strongest elements relate to its maritime patrol and law-enforcement capabilities,¹⁰¹ although the CCG was removed from its position under the Ministry of State Security's People's Armed Police in 2018.¹⁰²

The combining of these disparate entities and their centralization through the creation of a new force bears many hallmarks similar to the U.S.'s 1915 Coast Guard Act and the later incorporation of different agencies into the USCG. Unlike the USCG's, the CCG's goals appear to be more military-focused and law enforcement-focused with search and rescue as a distant secondary goal.

The CCG has been involved in "rescue" operations that were made necessary by its ramming of other ships. In January 2025 and in rough seas, the CCG shadowed and did little to assist in the Filipino effort to recover the body of a Filipino fisherman.¹⁰³ The CCG even impeded the rescue of a drowning Filipino fisherman in July 2024 near the disputed Scarborough Shoal.¹⁰⁴

These incidents also show how the USCG can better assist regional partners in their efforts to counter the Chinese menace. In fact, the USCG has conducted a number of deployments to the Western Pacific, including assisting with the monitoring of fisheries in the Marshall Islands in July 2025 and joint exercises with Japan, South Korea, and the Philippines in June.¹⁰⁵ The USCG has also increased assistance to its Filipino counterparts in the Philippine Coast Guard.¹⁰⁶ Through continued joint training, the promotion of interoperability, and collaboration with the Philippines and other regional partners and allies, the United States can

better counter China's grey-zone tactics. The USCG's exchange of tactics and new knowledge about how to counter China with overseas partners is a great asset in U.S. military planning.

In 2022, the USCG launched its first anti-illegal, unreported, and unregulated fishing (IUU) effort for the intergovernmental South Pacific Regional Fisheries Management Organization. The South Pacific Ocean covers nearly a quarter of the world's oceans and is plied regularly by ships belonging to China's distant-water fishing fleet, which has deep links to the PRC's maritime militias and has contributed to depleting the seas of numerous resources.¹⁰⁷ Near the Galapagos Islands, the USCG has shadowed Chinese fishing vessels that have plundered local fisheries. The Chinese maritime militia fleet also fields several skilled units, some of which have been used repeatedly to advance Chinese geopolitical goals in the South China Sea.¹⁰⁸

The increase in the use of Chinese "research" vessels, CCG, and maritime militias will require the USCG to move at a faster pace to acquire icebreakers, cutters, and longer-range ISR equipment to assist in countering Chinese grey-zone warfare. The USCG has a valuable role in countering Chinese illegal fishing maneuvers and penetrations into U.S. territory and claims, along with backing partners and allies in the Pacific and Arctic.

Assisting regional partners and allies must also include the construction and modernization of bases that can give the Coast Guard a more forward operating position. Geographically, the Pacific is incredibly vast, and the area between USCG in Honolulu, Hawaii, and other USCG facilities in Guam is around 4,000 miles. A Coast Guard facility that could host cutters in American Samoa, an American territory in the South Pacific, would improve America's ability to assist allies and safeguard large swaths of ocean against Chinese projections.¹⁰⁹

As a military support element for the U.S. Navy, however, the USCG is at an extreme disadvantage vis-à-vis a militarized China and a CCG set up to act as a support element for China's PLAN. The USCG's main tasks in wartime would include the execution of anti-submarine warfare (ASW) and convoy escort, but its personnel lack the training, weapons, and equipment that would enable them to assume those functions quickly. In order to counter narco-subs in the Pacific, for example, the USCG has had to ask the U.S. Navy to provide ASW capabilities and

support.¹¹⁰ Given the USCG's maintenance backlogs and demonstrated inability to deploy cutters to deal with drug flows in the Caribbean and Pacific, the extent to which the U.S. Navy could depend on the Coast Guard's capabilities in an all-out fight against China becomes a matter of some doubt.

Beijing has shown a keen interest in pushing the United States out of the South Pacific. In 2022, China signed a security pact agreement with the Solomon Islands. That year, the island country turned away a USCG cutter engaged in patrols in the area.¹¹¹ In 2023, China and the Solomon Islands also agreed to a pact on "law enforcement and security matters."¹¹² In 2024, the island nation of Nauru switched its diplomatic recognition from Taiwan to China. A direct and more formidable USCG presence in the region would do much to let the Chinese know that the South Pacific is not their property.

Conclusion

The USCG's 2025 adoption of Force Design 2028 and the needed funds provided by the OBBBA will

go far to ready the USCG for the future. The challenge of systemic institutional dysfunction within the Coast Guard is beginning to be addressed. The USCG has executed record-breaking drug busts, countered Chinese projections near the United States, assisted partners and allies abroad, continued missions for port security, and performed many search and rescue operations. However, the service continues to suffer from the residual effects of years of neglect and underfunding.

As the U.S. Coast Guard finds a firmer footing with new fiscal support, there are still many questions to be resolved with regard to how many and how effectively missions can be executed. Despite significant investments in the Coast Guard, the road to being a fully functional service with negligible backlogs—particularly with regard to new ships, maintenance, and aircraft—is still years away. The USCG will require sustained support to become the service it needs to be in case of any potential conflict with China over Taiwan.

Scoring the U.S. Coast Guard

Capacity Score: Weak

Funds allotted to the USCG by the OBBBA combined with Force Design 2028 will push the Coast Guard in a more positive direction, but its current capacity score is "weak." Maintenance issues continue to undermine the effectiveness of the service's nearly 240 cutters, and facilities needed to maintain newer ships have not yet been constructed. More recruitment and retainment mechanisms are necessary along with the acquisition of new ships and aircraft and an extensive rebuilding of the Coast Guard's maintenance capabilities. In 2025, the Government Accountability Office reported that "the Coast Guard is short about 2,600 active-duty staff and operating below the workforce level it thinks necessary to meet mission needs."¹¹³ Lacking sufficient staff and maintenance capacity, the Coast Guard struggles to remain mission ready.

Capability Score: Weak

The USCG's capability score is "weak" trending toward "marginal." The lack of icebreakers in the Arctic puts the United States at a severe disadvantage with peer competitors and near-peer

competitors, particularly China and Russia. Because of maintenance issues, the USCG had problems deploying cutters to the Caribbean. In the Arctic and Pacific, China's newer and more modern vessels make it harder to meet "presence with presence" against its increasingly frequent aggressive advances. The inability to field functional cutters, helicopters, and fixed-wing aircraft in a variety of zones has had a detrimental effect on the USCG's ability to execute its missions. As a warfighting entity, the USCG lacks anti-submarine and convoy escort capabilities, and "as competition with China accelerates," in the words of Navy Lieutenant Commander James Halsell, "the homeland once again is not secure from undersea threats. Chinese and perhaps Russian submarines could interdict logistics, disrupt critical infrastructure, or threaten the American public's sense of security."¹¹⁴

Readiness Score: Very Weak

The USCG's readiness score is "very weak." Modernization has hit numerous snags that have forced the service to rely on older and/or deficient equipment. Inadequate maintenance infrastructure and

a workforce that is not large enough to meet current needs continue to be major problems. In 2025, the DHS Inspector General observed that “Coast Guard cutters were unavailable for 2,068 cumulative days over a 3-year period” and “calculated that the Coast Guard could have interdicted an additional 57 to 89.1 metric tons of cocaine had these cutters been performing the counterdrug mission.”¹¹⁵ The fact that the need for parts and need for cannibalization are ever-present issues means that entire air fleets have been grounded because of maintenance issues that, along with a lack of personnel, make the USCG’s readiness to face a peer competitor such as China a matter of serious concern.

Overall USCG Score: Weak

Maintenance issues have been a major problem for the U.S. Coast Guard, and significant backlogs were a significant issue from 2024–2025. With the passing of the One Big Beautiful Bill Act, the USCG finally has much of the funding (approximately \$25 billion) it needs to be less dysfunctional than it has been for many years. Even as the Coast Guard’s air and sea fleets are modernized, there will likely be continued shortfalls in its ability to deploy assets. The USCG still lacks the icebreaking capabilities required to compete with China and Russia in the Arctic, and in the Eastern Pacific and Caribbean, as noted above, the lack of enough key vessels and aircraft has hurt the Coast Guard’s ability to complete drug interdiction missions and carry out other critical operations.

Policy Recommendations

- **End the maintenance backlog.** As it receives needed funding, the USCG can assess its maintenance needs, refit some facilities, buy needed parts, and improve training. Security infrastructure in the Caribbean, Pacific, and Arctic should take precedence because of their harsher operating environments and security needs.

Too many bases, particularly smaller facilities that are placed closely together, are in disrepair and unnecessary. As the USCG continues its efforts to become a more modern and well-organized force, some base closures and consolidations may be necessary. Due to faster boats, helicopters, and other equipment, and

as assessed by the GAO and by the Coast Guard, some of these bases are functionally obsolete. Although closing USCG facilities would be a relatively unprecedented move, the closing and consolidation of some bases might be very effective in assisting the USCG in its modernization and deployment efforts.¹¹⁶

- **Improve recruitment and retention.** Despite the dedication of its servicemembers and having recruited at a desired level in 2024, the Coast Guard is still woefully undermanned. As of August 2024, the Coast Guard had “more than 4,000 empty billets in its military workforce” out of an authorized “active duty end strength of 44,500.” Specifically, “according to the latest figures from the Defense Manpower Data Center, from the end of June [2024], the active force only [had] 40,358 members.”¹¹⁷ In 2023, recruitment and retention issues “forc[ed] the Coast Guard to take ten cutters out of service, transfer five tugs to seasonal activation, and shutter 29 boat stations.”¹¹⁸ The USCG should continue to offer financial incentives for new recruits, increase its marketing for recruitment, target recruits that can bring added value to the service, and create facilities (particularly in more isolated areas) that better cater to the needs of its servicemembers. Additionally, a more focused utilization of volunteer elements, such as the Coast Guard Auxiliary, might do more to provide some services needed by the USCG.
- **Increase investment in unmanned aerial systems.** The USCG has put \$350 million into AI and robotics research but only \$11 million of its budget into upgrading and purchasing current autonomous systems, many of them short-range.¹¹⁹ Upgrading current systems and bringing more onboard should be a primary focus. As drug flows through the eastern Pacific and Caribbean increase and the threat of China looms, the USCG requires larger numbers of and more advanced equipment to maintain a layered approach to interdiction and military support. The adoption of further unmanned aerial systems, particularly medium-range and longer-range vehicles, would significantly enhance these efforts. The first MQ-9 Reaper

U.S. Military Power: Coast Guard

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Capacity		✓			
Capability		✓			
Readiness	✓				
OVERALL		✓			

ABOUT THE ASSESSMENT CATEGORIES

OVERALL ASSESSMENT. The overall assessment of a military service is measured against its ability to perform its respective role in a two-major regional contingency (MRC) scenario. The assessment of the U.S. Marine Corps is sized against a single major regional contingency (MRC) scenario. This benchmark is the *minimum* standard for U.S. hard-power capacity with the understanding that maintenance, operational tempo, training cycles, crisis response, treaty commitments, and/or strategic reserve considerations can cause some forces to be unavailable. Other factors that influence this assessment are the availability of logistical support to enable combat power (fueling ships, supply ships, cargo aircraft, etc.) and the ability to reconstitute combat power for protracted conflict (defense industrial base capacity, etc.).

CAPACITY. The U.S. military must have a sufficient quantity of the right capability or capabilities to meet its mission sets. Capacity (numbers) can be viewed in at least three ways:

- Compared to a stated objective for each category by each service,
- Compared to amounts required to complete various types of operations across a wide range of potential missions as measured against a potential adversary, and
- As measured against a set benchmark for total national capability.

drones came into service with the USCG in September and quickly demonstrated their worth in countering illegal immigration, smuggling, and illegal drugs.¹²⁰ These systems help the USCG to maintain a more constant presence, are cheaper to operate and maintain, and do not require the same levels of training that are needed for the USCG's aviation wing.

- **Significantly increase the number of USCG icebreakers.** The United States has only three operational icebreakers, and only one is capable of reaching U.S. facilities in Antarctica. At a time when a focus on security infrastructure in the Arctic should be a priority, the USCG lacks the icebreakers it needs, particularly as the Arctic becomes a zone for great-power competition. In October 2025, the Trump

CAPABILITY. Examining the capability of a military force requires consideration of:

- The proper tools (material and conceptual) with the design, performance characteristics, technological advancement, and suitability that the force needs to perform its function against an enemy successfully;
- The sufficiency of armored vehicles, ships, airplanes, and other equipment and weapons needed to win against the enemy;
- The appropriate variety of options to preclude strategic vulnerabilities in the force and give flexibilities to battlefield commanders; and
- The degree to which elements of the force reinforce each other in covering potential vulnerabilities, maximizing strengths, and gaining greater effectiveness through synergies that are not possible in narrowly stovepiped, linear approaches to war.

READINESS. While capacity and capability considerations are central to the warfighting ability of the U.S. military, readiness performs a crucial role in determining whether combat power is prepared when it is needed. Factors that are considered include (among others):

- Sufficient staffing levels,
- Fulfillment of training requirements, and
- Age and maintenance of equipment.

Administration announced that it would purchase 11 Arctic Security Cutter icebreakers from Finland; four would be produced in Finland, and seven would be produced in the United States.¹²¹ This can serve as a needed stopgap before the Arctic Security Cutters can be brought into service, but the U.S. will still need to accelerate domestic efforts and produce at least 20 heavy and medium-sized vessels. In the shorter term, a mix of at least nine medium and heavy icebreakers would help to fill gaps in the Arctic for the U.S.¹²² As northern sea-lanes continue to open to billions of dollars in trade and resource acquisition, newer, more capable icebreakers can support a longer-range U.S. strategic approach to the Arctic. However, these icebreakers will need specialized docking and maintenance facilities,

and purchased icebreakers should have modular capabilities that comport with changing Coast Guard requirements.

- **Replace old and outmoded cutters.** The USCG's cutters are old and need to be replaced. The age and poor maintenance of these cutters have undermined the USCG's ability to counter the activities of cartels operating in Central and South America. Replacing its 29 medium endurance cutters should be a priority. Additionally, the USCG has requested funding for two more fast response cutters for deployment to the Pacific, but more should be commissioned and brought online.¹²³ Despite many successful missions countering drug cartels and Chinese IUU in the Caribbean and Eastern Pacific, the lack of key vessels and aircraft has hurt the Coast Guard's ability to complete other drug interdiction missions and carry out other critical operations.
- **Increase forward positioning in the South Pacific.** American Samoa provides a needed base for the USCG to project American strength and counter Chinese advances in the region. The United States cannot afford to ignore this region and its importance to the security of key American allies such as Australia.

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U.S. Merchant Marine

Salvatore R. Mercogliano, PhD

Introduction

On June 12, 1775, the British armed sloop HMS *Margaretta* found herself pursued by the citizens of Machias, Maine. Following the Battles of Lexington and Concord in Massachusetts, American Captain Jeremiah O'Brien, on board the sloop *Unity*, followed by another sloop, *Falmouth Packet*, aimed to seize and arrest British sloop-of-war commander Midshipman James Moore. The capture of Moore's *Margaretta*, while only a small footnote in the Revolutionary War, is seen as the beginning of the American Merchant Marine.¹

Two hundred and fifty years later, the U.S. Merchant Marine is ranked as the world's 22nd largest merchant marine.² In January 2025, the U.S. Maritime Administration identified only 188 ships of over 1,000 gross tons in the active fleet.³ That placed the United States commercial fleet at only 0.55 percent of the world's fleet by deadweight tonnage. In terms of shipbuilding, the United States pales in comparison with nations like China (54.57 percent of world shipbuilding); South Korea (28.02 percent); and Japan (12.56 percent); in fact, as of December 2, 2025, the United Nations Conference on Trade and Development's "Maritime Profile" entry for the United States says only "No value reported or collected."⁴

With a small commercial fleet and a diminutive commercial shipbuilding infrastructure, the United States finds itself in the strange position of being the most significant naval power in the world while also lacking the key commercial component to make it a true maritime power. This is a strategic vulnerability that leaves the U.S. exposed to economic coercion by China.

On April 9, 2025, President Donald Trump signed Executive Order 14269, "Restoring America's

Maritime Dominance," which announced his new shipping strategy:

Section 1. Purpose. The commercial shipbuilding capacity and maritime workforce of the United States has been weakened by decades of Government neglect, leading to the decline of a once strong industrial base while simultaneously empowering our adversaries and eroding United States national security. Both our allies and our strategic competitors produce ships for a fraction of the cost needed in the United States. Recent data shows that the United States constructs less than one percent of commercial ships globally, while the People's Republic of China (PRC) is responsible for producing approximately half.

Rectifying these issues requires a comprehensive approach that includes securing consistent, predictable, and durable Federal funding, making United States-flagged and built vessels commercially competitive in international commerce, rebuilding America's maritime manufacturing capabilities (the Maritime Industrial Base), and expanding and strengthening the recruitment, training, and retention of the relevant workforce.

Sec. 2. Policy. It is the policy of the United States to revitalize and rebuild domestic maritime industries and workforce to promote national security and economic prosperity.⁵

The President's action was preceded by issuance of the United States Trade Representative's *Report on China's Targeting of the Maritime, Logistics, and*

Shipbuilding Sectors for Dominance and reintroduction of the Shipbuilding and Harbor Infrastructure for Prosperity and Security (SHIPS) for America Act, sponsored by Senators Mark Kelly (D–AZ) and Todd Young (R–IN) and Representatives John Garamendi (D–CA) and Trent Kelly (R–MS), on April 30, 2025.⁶

These three actions represent the most significant reform in American maritime legislation since the Merchant Marine Act of 1970. Moreover, the reconciliation budget enacted in the summer of 2025, the so-called One Big Beautiful Bill, allocated limited resources to the commercial maritime sector—\$450 million “for maritime industrial workforce development programs” and \$600 million “for the lease or purchase of new ships through the National Defense Sealift Fund”—but within defense spending and not for the lead agency, the U.S. Maritime Administration.⁷ As the assessment in this chapter will make clear, more resources will be required.

The Fall of the American Maritime Sector

The United States Merchant Marine and maritime infrastructure finds itself in this situation as a result of a series of actions dating back to the end of the Second World War. During World War II, the United States transformed itself into the Arsenal of Democracy, but it was the U.S. Merchant Marine and the American maritime sector that allowed for delivery from the home front to the battle front. That victory did not come without a cost: The United States lost 733 ships and approximately 9,500 American merchant mariners. With the defeat of Germany and Japan, the United States found itself with a Navy and Merchant Marine that were second to none. United States ships delivered 63 percent of the cargo for the Allies in the Second World War, and the U.S. Maritime Commission, the precursor to the modern Maritime Administration (MARAD), oversaw the construction of 5,777 ships and the training of nearly 250,000 merchant mariners.⁸

At the end of the Second World War, the United States was in a position akin to that of the British Empire before the First World War with a massive Navy, a worldwide network of bases, and a commercial fleet that could transport the products from its factories to a world devastated by war in 1945. However, from the beginning, the United

States adopted a series of policies to minimize its commercial dominance, and these policies in turn undermined the ability of the U.S. to sustain its maritime infrastructure.

- The Ships Sale Act of 1946 provided Allied merchant marines with 1,113 replacement vessels to repopulate their fleets.
- The General Agreement on Tariffs and Trade (GATT) lowered American tariffs but allowed for higher reciprocal tariffs against the United States to foster industries overseas.
- Before its entry into World War II, the United States used the Panama registry to avoid neutrality laws, particularly the transportation of 100-octane fuel to the United Kingdom. The use of these open registries proliferated with creation of the Liberian Registry by the U.S. in 1948. The aim was to provide one of the few independent states in Africa with an income source (registration fees) with lower regulatory thresholds to provide a registry for low-cost ocean transportation for emerging nations around the world.
- The Marshall Plan of 1949 provided loans to nations to restore their industry—in this case, to rebuild their shipyards using the pre-fabrication methods adopted in American shipyards by American industrialist Henry J. Kaiser, who brought assembly-line manufacturing techniques to shipbuilding.
- In 1949, the new U.S. Department of Defense (DOD) created its own military merchant marine, the Military Sea Transportation Service (renamed Military Sealift Command in 1970), which would manage the transportation of DOD cargo but still relied on the U.S. Merchant Marine for its crews and sustainment during times of war.
- The Federal-Aid Highway Act of 1956 led to the creation of the Interstate Highway System and shifted coastal cargo off of ships and onto shore. This had the effect of reducing demand for domestic U.S. shipping.

- The introduction of the Boeing 707 and McDonnell Douglas DC-8 jetliner freed space on intercontinental rail lines for more cargo.
- The Colonial Pipeline in 1962 diminished the need for tanker transportation between the U.S. Gulf Coast and East Coast.⁹
- The Vietnam War demonstrated the need for a commercial merchant marine to meet initial demands in 1965, but the prolonged nature of the war required the breakout of ships from the National Defense Reserve Fleet, using ships left over from the Second World War (largely the *Victory* class) to free commercial ships to return to commercial service.
- In 1981, it was decided that the construction differential subsidy, which had been initiated under the Merchant Marine Act of 1936 to offset the higher costs of building American merchant ships involved in international trade, should be ended. This led to the shifting of commercial ship construction to nations in Europe, Japan, and Korea. (For a time in the 1980s, the U.S. Navy’s goal of building and maintaining a 600-ship fleet to counter the Soviet Union did keep domestic shipyards busy.)¹⁰

All of these issues led to the overall decline of the U.S. merchant fleet from its commanding position in 1945. The U.S. Merchant Marine continued its significant fall, accelerating downward in the 1990s and early 2000s as the nation chased a supposed Cold War “peace dividend.” This occurred despite the emergence of China’s military to challenge America’s former maritime dominance.

Composition and Functions of U.S. Merchant Marine Fleets

The Merchant Marine Act of 1920, commonly referred to as the Jones Act—one of its authors was Senator Wesley Jones (R-WA)—laid out the purpose and policy of the United States toward its merchant marine:

It is necessary for the national defense and for the proper growth of its foreign and domestic commerce that the United States shall have a merchant marine of the best equipped and

most suitable types of vessels sufficient to carry the greater portion of its commerce and serve as a naval or military auxiliary in time of war or national emergency, ultimately to be owned and operated privately by citizens of the United States; and it is declared to be the policy of the United States to do whatever may be necessary to develop and encourage the maintenance of such a merchant marine, and, insofar as may not be inconsistent with the express provisions of this act, the Secretary of Transportation shall, in the disposition of vessels and shipping property as hereinafter provided, in the making of rules and regulations, and in the administration of the shipping laws keep always in view this purpose and object as the primary end to be attained.¹¹

This statement lays out both the American Merchant Marine’s national security role and its commercial role. In 2025, both are in question because of the size, age, and infrastructure needed to sustain the service.

There are four different categories of fleets that make up the U.S. Merchant Marine:

1. The Maritime, Tanker, and Cable Security Fleets,
2. The Jones Act/Cabotage Fleet,
3. The Military Sealift Command Fleet, and
4. The Ready Reserve Force.

The three security fleets—Maritime, Tanker, and Cable—maintain a fleet of commercially viable, military useful merchant ships that are active in international trade. These fleets would be available to the U.S. Department of War (DOW) in times of conflict or national emergency. Established on October 8, 1996, the Maritime Security Program (MSP) resurrected the operational differential subsidy from the Merchant Marine Act of 1936, which had been phased out in the 1980s and early 1990s. The initial contracts were for 47 ships, which was later expanded to 60¹² as depicted in Table 1.

Maritime Security Program (MSP). The Maritime Security Fleet provides a worldwide presence for U.S.-flagged ships and taps into the commercial

networks of some of the largest shipping companies in the world, including Maersk, CMA CGM, HAPAG-Lloyd, Hoegh Autoliners, and Wallenius Wilhelmsen. The 60 ships are all built overseas, under 25 years of age, and engaged in commercial service. They are also available and in many cases under contract to transport DOW cargo, either as part of their scheduled voyages or when chartered for exclusive use by the DOW. The ships provide nearly 2,000 at-sea billets for American licensed merchant mariners. Their presence on all the world's oceans gives the armed services the ability to move critical equipment and supplies. The MSP has three types of vessels: roll-on/roll-off ships (ro/ro); containerships (both non-sustaining and self-sustaining); and heavy-lift ships.¹³

The MSP's 20 roll-on/roll-off ships are operated by American Roll-on Roll-off Carrier (ARC); US Ocean; Farrell Lines; and Liberty Global Logistics.¹⁴ They cover the globe with services from the United States to Europe, the Middle East, and Asia including some round-the-world voyages. These ships are commonly used for military resupply and deployments to Europe in support of the North Atlantic Treaty Organization (NATO) and provide 3.5 million square feet of military useful capacity to the nation on a ready basis.

The 35 containerships include ships operated by Maersk Lines from the U.S. East Coast to Europe and the Middle East. Since Yemen's Houthi attacks against ships in January 2024, U.S.-flagged ships have avoided the Red Sea and the Bab el-Mandeb Strait and instead have routed around the Cape of Good Hope. Other operators include APL, a subsidiary of the French-owned CMA CGM. APL recently swapped its six ships for newer ones and operates in the Pacific. Plans are for CMA CGM to transfer more ships to the U.S. registry, but those ships will operate under the CMA CGM banner, and it is unclear whether the MSP will be expanded to include them. HAPAG recently shifted their ships from Europe to the Pacific. Seven of the 35 containerships have cranes that allow them to operate in ports without shore cranes and operate around Africa and Asia. These ships are important if the ship-to-shore (STS) cranes in ports are damaged by combat, weather, or cyberattacks. Overall, the containerships provide the capability to transport 131,147 20-foot-equivalent units (TEUs) and are utilized to move DOW sustainment equipment and material around the world.

The final segment of the MSP consists of the five heavy-lift ships of US Ocean, LLC. These ships feature heavy-lift cranes with a maximum lifting capacity of 900 tons, a ro/ro ramp capacity of 150 metric tons, and the ability to carry watercraft. The ships demonstrated their versatility when they transported Army LCU-2000s back to the United States from Gaza relief operations in 2024.¹⁵ The ships also have the highest ice ratings, which makes them ideal for the yearly supplies to McMurdo Station in Antarctica and Pituffik Space Base in Greenland. All five of these ships were built in yards across China.

Tanker Security Program (TSP). In 2022, Congress approved funding for a 10-ship Tanker Security Program.¹⁶ Prior to creation of the TSP, there were two tankers in the MSP that the State Department used to transport fuel to Israel. The TSP was created to ensure that a core fleet of U.S.-based product tankers can operate competitively in international trade and enhance U.S. supply chain resiliency for liquid fuel products. Each ship receives an annual stipend of up to \$6 million. Unlike the MSP containerships, which operate on set routes, TSP tankers, much like the ro/ros and heavy-lift ships of the MSP, depend on individual charters and voyages. The TSP targeted Medium Range (MR) product tankers of between 30,000 and 60,000 deadweight tons with a fuel capacity of 230,000 barrels. For comparison, a new *John Lewis*-class Military Sealift Command oiler can carry 156,000 barrels.¹⁷

The initial contract was for nine tankers, evenly split among three companies. Crowley, in conjunction with Stena Bulk, reflagged *Stena Immaculate*, *Stena Imperative*, and *Stena Impeccable*. Overseas Shipping Group (OSG) added one tanker to the two that were in the MSP to make three: *Overseas Santorini*, *Overseas Mykonos*, and *Overseas Sun Coast*. The final company, TORM, teamed up with Seabulk and reflagged the ships *Torm Thunder*, *Torm Thor*, and *Torm Timothy*. The tenth ship, *Shenandoah Trader*, came from US Marine Management.¹⁸

The 10-ship program did not remain in place long. The provisions of the TSP prevented the ships from being chartered by the U.S. Department of Defense for longer than 180 days. This meant that when Military Sealift Command advertised contracts for U.S.-flagged tankers, these ships were excluded if the terms went beyond half a year.¹⁹ *Overseas Mykonos* was withdrawn from the TSP so

that OSG could charter the ship to MSC. On March 10, 2025, *Stena Immaculate*, on a short-term contract to Military Sealift Command to haul U.S. Air Force fuel to the United Kingdom, was rammed by the MV *Solong*, a Portuguese-flagged containership under the command of a Russian master. *Stena Immaculate* survived a massive fire, and all of the crew were saved, but one on board *Solong* perished. It is unclear whether *Stena Immaculate* will be able to return to service, leaving just eight ships operational in the TSP.²⁰

Plans to increase the TSP to 20 ships will depend on the global tanker market, the availability of MR tankers on the open market, and whether future contracts will allow for longer charters to the U.S. Department of War. With the closing of the Red Hill fuel facility in Hawaii and the need for distributed logistics across the Indo-Pacific theater, the growing demand for floating tanker storage means growing demand for TSP tankers.²¹

Cable Security Program (CSP). The final security fleet is comprised of the cable security ships. Recent anchor drags in the Baltic Sea have highlighted the danger to undersea telecommunication, power, gas, and fuel pipelines and cables. The Military Sealift Command has operated just one cable repair ship since the 1980s, USNS *Zeus* (T-ARC 7). The CSP added two ships to the U.S. registry: MV *Decisive* and MV *Dependable*, both of which were built in Singapore in 2003 and 2002, respectively. In August 2024, then-Secretary of Transportation Peter Buttigieg announced plans to cut the \$10 million in funding for the CSP, but the ships remain under U.S. registry.²²

The protection of U.S. coastal trade has always been of vital importance. The second law adopted by the First Congress in 1789 imposed “a duty on goods, wares, and merchandizes, imported into the United States” and was followed by an act imposing “duties on tonnage.” In 1817, following the War of 1812 with Great Britain, the U.S. passed legislation to prohibit foreign shipping from operating in the coastwise trade. Since then, most famously with Section 27 of the Merchant Marine Act of 1920, protection of domestic transportation or cabotage has been the law.²³ Under its current version, “a vessel may not provide any part of the transportation of merchandise by water, or by land and water, between points in the United States to which the coastwise laws apply, either directly or via a foreign

port” unless it “is wholly owned by citizens of the United States for purposes of engaging in the coastwise trade.”²⁴

In January 2025, the Maritime Administration identified 92 of the 188 ships over 1,000 gross tons and engaged in carrying cargo between U.S. ports as “Jones Act Eligible” (although certain sectors and ships are omitted). Freighters (a combination of containerships, general cargo, and ro/ro) and tankers make up the 92-ship fleet.

Freighters are used to move cargo between the continental United States and its non-contiguous states and territories. Matson Navigation Company operates in the Pacific, principally between the U.S. West Coast, Hawaii, and Alaska, but also Guam, China, and Okinawa. PASHA operates between Hawaii and the Mainland; TOTE operates between the U.S. and Alaska and between the continental U.S. and Puerto Rico and the Caribbean; and Crowley services Puerto Rico. Coastal Transportation and Trident Seafoods operate exclusively in and around Alaska in the fishing trade.²⁵

The second major group of ships in the Jones Act are the 55 tankers owned and operated by a variety of firms: Fairwater—a joint venture between SEACOR Holdings and Crowley—and Maritime Partners, OSG, BP Exploration, and Polar Tankers. They operate between Alaska and the U.S. West, Gulf, and East Coasts. Some haul crude oil directly to refineries in the mid-Atlantic from the Gulf, and others sail to Florida because the state is not serviced by pipelines. All of these tankers are double hulled, having been replaced following the Oil Pollution Act of 1990.²⁶

The other component of the Jones Act fleet are those directly involved in the inland waters of the United States. These include the tugs and barges along the coasts and inland water, and the Great Lakes cargo fleet that operates between March and January. According to the Lake Carriers’ Association, U.S.-flagged Great Lake freighters moved 78.2 million tons, including sand, salt, iron, grain, coal, cement, and limestone, in 2024.²⁷ The replacement of U.S. Coast Guard icebreakers on the Great Lakes has been delayed, and the current 140-foot icebreaking tugs are now beyond their 40-year life cycle. The one positive aspect has been the continued progress on the new Sault Ste Marie (Soo) lock in Michigan. Currently, only the Poe Lock can handle the largest Lakers, which means that a crucial

component of our national economic security is reliant on a single piece of infrastructure.²⁸

Military Sealift Command (MSC). The third major fleet in the U.S. Merchant Marine is operated by the Navy's Military Sealift Command. Created in 1949, as the Military Sea Transportation Service (MSTS), MSC is the largest single employer of merchant mariners with more than 5,500 directly employed by the U.S. Department of War as civil service mariners and another 1,500 on contract operated ships. When MSTS was created at the beginning of the Cold War, its mission was to transport troops, fuel, and cargo for the U.S. military. Over its 75-year history, MSC has adopted new missions such as oceanographic surveys and support to missile defense, and its current fleet reflects that evolution.²⁹

In 1972, the Navy oiler USS *Taluga* was redesignated as the United States Naval Ship (USNS) *Taluga* (T-AO 62), and its crew of naval sailors was replaced by civilian merchant mariners. The ship was the first oiler transferred to MSC and proved that civilians could support the underway replenishment mission of refueling vessels off the coast of Vietnam.³⁰ By the 2010s, MSC operated all of the U.S. Navy's auxiliary vessels, including several with hybrid crews (a combination of civil service mariners and U.S. Navy sailors). By 2025, one out of every five ships in the U.S. Navy had civil service mariners on board, and many of the ships were integrated into the force structure and operation of the fleet.³¹

Combat Logistics Force. The first of MSC's five major missions is that of the Combat Logistics Force. They are the descendants of *Taluga* and are broken into three groups. Two of the *Supply*-class fast combat support ships—USNS *Supply* (T-AOE 6) and USNS *Arctic* (T-AOE 8)—are based on the East Coast. Both ships recently proved their value in supporting the deployments of the *Eisenhower* and *Truman* strike groups to the Red Sea against the Houthis.³² All of the civilian-manned U.S. Navy replenishment ships are unarmed and defenseless and could well be at serious risk in a future peer-to-peer conflict on the world's oceans.

The largest group in the Combat Logistics Force is comprised of the fleet replenishment oilers. The mainstay of the fleet is the aging *Henry J. Kaiser* class. The first of these ships, which are capable of hauling 180,000 barrels of fuel at 20 knots, entered service in the mid-1980s, so they are approaching the end of their operational life. The plan is to retire

them as new *John Lewis*-class oilers come online from the National Steel and Shipbuilding Company (NASSCO).³³ However, delays in production of the first three ships necessitated prolonged post-delivery availability: USNS *John Lewis* (T-AO 205) conducted its first deployment in mid-2025.

In September 2024, the oiler USNS *Big Horn* (T-AO 198) ran aground while supporting the *Lincoln* strike group off Oman. The ship suffered flooding of its engine room and damage to the propellers and rudders. Towed back to the United States, *Big Horn* was withdrawn from service. The loss of *Big Horn* demonstrated the vulnerability of naval logistics when a single oiler was tasked to support an aircraft carrier and its escorts. The *Lincoln* group had to dispatch several of its escorts into the Red Sea to refuel, and a commercial tanker, fitted to conduct underway replenishment, had to refuel the carrier.³⁴

The last of the Combat Logistics Force are the 14 ships of the *Lewis and Clark*-class dry cargo/ammunition ships. As the name implies, the *Lewis and Clark* ships marry the capabilities of store ships (AFS) and ammunition ships (AE), into a composite T-AKE ship. Two of the ships are allocated to the afloat prepositioning force, and the other 12 are based around the world to support the Navy. Typically, two are forward deployed in the Persian Gulf: USNS *Alan Shepard* (T-AKE 3) and USNS *Amelia Earhart* (T-AKE 6). Some are based in the western Pacific and rotate between Singapore, the Philippines, Korea, and Japan. The remaining are on the West and East coasts with the latter being deployed to Europe and the Mediterranean as needed.³⁵

Special Missions. Special Missions dates to 1958 and involves survey ships exploring the ocean depths and range instrumentation vessels such as USNS *Howard O. Lorenzen* (T-AGM 25) and SBX-1 monitoring ballistic missile tests by China, Russia, and North Korea. Seven ships provide a unique form of ocean surveillance by towing passive and active sonar arrays. The five MSC T-AGOS operate in the western Pacific amid the First Island Chain to monitor Chinese submarines, and the two commercial ships are on the U.S. East Coast. The venerable cable ship USNS *Zeus* completed its last mission in early 2024, and the chartered CS *Global Sentinel* has taken its place.³⁶

Prepositioning and Seabasing. The third area, Prepositioning and Seabasing, goes back to the early 1960s when U.S. Secretary of Defense Robert S.

McNamara decided to load and preposition *Victory* ships near potential trouble spots around the world. Only three were activated, and all of them were off-loaded in Vietnam in 1966. In 1979, the Rapid Deployment Joint Task Force, the forerunner of U.S. Central Command, needed shipping preloaded and prepositioned to marry with troops flying in from the United States. The Near Term Prepositioning Force, later the Afloat Prepositioning Force, took form in the anchorage of Diego Garcia in the Indian Ocean. By the time of the Persian Gulf War, the U.S. Marine Corps had three squadrons with a total of 13 ships stationed in the Atlantic, Indian, and Pacific Oceans. Another dozen ships carried equipment for the Navy, Air Force, and Army along with fuel and even water. By 2001, the Army had added its own brigade afloat along with the combat support and combat service support for an entire corps.³⁷

The concept of afloat prepositioning has largely fallen out of favor with the Department of War. From a high of four squadrons of ships—three Marine Corps and one Army—just a handful of ships remain. The Marine Corps operates a few ro/ros around Korea, Japan, and the Marianas. The Army decided to shift its afloat war reserves (AWR-3) to shore bases in western Asia and the Middle East. The Air Force, which once operated four container ships, has halved its program.

The newest element in prepositioning/seabasing consists of the new *Lewis B. Puller*-class expeditionary support bases (ESBs). The ESBs are designated as USS with a Navy O-6 in command but a civilian mariner crew to handle the engine room, navigation, and feeding for the ship. A modification of the commercial *Alaska*-class supertankers built by NASSCO, ESBs feature an immense landing platform and facilities for embarked personnel to launch and recover aerial and surface drones.³⁸

Fleet Support. This fourth area of the MSC fleet includes a host of specialized ships, both purpose-built and converted. They include many off-shore support ships that are used to support the submarine force and special forces as well as some that are used for fleet experimentation. This second group includes the fleet's two venerable hospital ships—USNS *Mercy* (T-AH 19) and USNS *Comfort* (T-AH 20)—along with rescue and salvage ships, which are about to be replaced by the new *Navajo Nation*-class salvage ships, and a fleet of fast transports. The fast transports were designated by the

commander of Military Sealift Command, Rear Admiral Philip Sobek, and U.S. Fleet Forces for layup in order to free crews to support the ships in the Combat Logistics Force.³⁹

Chartered Ships. The final area is made up of ships chartered from the U.S. Merchant Marine and used to transport dry cargo and tankers. According to MSC, the latter category has grown with 10 tankers under charter as of December 2025. Many are used to distribute fuel to Defense Logistics Agency depots worldwide, but with the closing of Red Hill in Hawaii, the Indo-Pacific Command required afloat storage for some of its fuel as part of distributed logistics.

Additionally, since 2015, MSC had returned to outfitting its leased tankers with the capability and requisite training to conduct Consolidating Operations (CONSOLs) with ships of the Combat Logistics Force, and those warships were fitted with underway replenishment rigs. It was one of these ships, MV *Overseas Mykonos* (the ship that withdrew from the Tanker Security Program), that was dispatched to provide needed fuel to USS *Abraham Lincoln* (CVN 73). The tankers in the MSC charter fleet are a mix of vessels and demonstrate one of the reasons why the United States needs once again to begin constructing commercial tankers.⁴⁰

Ready Reserve Force (RRF). The fourth U.S. Merchant Marine fleet is designated not as a fleet, but as the Ready Reserve Force. Following the Vietnam War, the U.S. Department of Defense realized it needed a pool of vessels that would be available when the Merchant Marine was unable to respond. In 1965, the U.S. commercial fleet answered the call, but as the war progressed, the shipping lines needed their ships to return to their normal service. In their place, 172 ships were activated from the National Defense Reserve Fleet, but those ships were poorly maintained, took weeks if not months to activate, and were excessively costly while reliability was low. In 1977, the RRF was created, and in January 2025, it consisted of 51 ships: 45 ro/ros, four crane ships, and two aviation logistics support ships.⁴¹

The RRF was maintained in a five-day reduced operating status with the ships operated by commercial shipping firms on a 10-year contract. Ships were berthed evenly among the U.S. West, Gulf, and East Coasts. The heart of the fleet was the 45 ro/ros, which provided over 10 million square feet of cargo space. The ships were a mix of designs, and the majority were foreign built with propulsion varying

from steam boilers to gas turbines and diesels. Their average age was 45 years. In 2019, during a massive readiness exercise—Turbo Activation 19—28 ships received no-notice orders to activate. Of these, 23 activated, just below the required 85 percent threshold, but the test demonstrated some other major issues.⁴²

In the fleet, 22 ships were in a non-mission capable status, meaning they could not meet the five-day activation if alerted. This reduced the RRF's overall capability by 3.7 million square feet. The ships that were activated and did not sail experienced a myriad of issues. The final finding was the most damning: When all factors were considered, including the performances and tests conducted on the ships that did activate, the RRF's overall rating was 40.7 percent.

This poor performance in 2019 and again in 2021 pushed the need to accelerate the RRF Re-capitalization Program. Since its inception, seven ro/ros—have joined the RRF, but the reflagging of the first two (*Cape Arundel* and *Cape Cortes*) ran into difficulties with the U.S. Coast Guard, which is ironic as the ships had previously been U.S.-flagged. As new ships entered the fleet, older ships were retired, including the venerable Fast Sealift ships and several ships in some of the major classes, to provide parts.⁴³ It is expected that some of the LMSRs (Large, Medium-Speed Roll-On/Roll-Offs) used in the Marine Corps and Army prepositioning programs will join the RRF, but efforts to revitalize the surge sealift force have just barely maintained the status quo.

Scoring the U.S. Merchant Marine

Capacity Score: Marginal

The current size of the U.S. Merchant Marine—188 commercial ships (those in the security fleets and cabotage trade), over a hundred ships in the Military Sealift Command, and 51 ships in Ready Reserve Force—along with the personnel and maritime infrastructure, is not sufficient to support the U.S. military and economy adequately including, when required, in a protracted conflict. Despite current efforts to reverse this trend, such as the SHIPS for America Act and the President's executive order on shipbuilding, the aging of the surge sealift fleet and reduction in the number of active ships in the MSC fleet because of critical crewing issues cause the U.S. Merchant Marine's capacity to be rated as "marginal."

Capability Score: Weak

The current Merchant Marine, Military Sealift Command, and surge sealift fleets meet the requirements as set out by the U.S. Department of War and commercial needs. Issues with delayed entry of replacement vessels, such as the *Lewis*-class replacing the *Kaiser*-class oilers, have further strained the fleet. However, the reduced overall size of afloat prepositioning and the age of the surge sealift fleet cause the ability of the Merchant Marine to meet its required capabilities to be rated as "weak."

Readiness Score: Very Weak

It is in readiness that the U.S. Merchant Marine scores lowest. The loss of USNS *Big Horn* while supporting the *Abraham Lincoln* battlegroup and the collision involving MT *Stena Immaculate* demonstrate the vulnerability of afloat support for naval and military forces around the world. Tests involving the Ready Reserve Force have highlighted concerns about readiness, and issues remain with respect to whether there are adequate personnel to fully crew the RRF in an emergency lasting more than six months. The Merchant Marine's overall readiness is therefore rated as "very weak."

Overall U.S. Merchant Marine Score: Weak

With a Merchant Marine ranked as 22nd in the world, the reduced readiness of 17 ships in the MSC fleet, and the aging of the Ready Reserve Force and inability to keep up vessel replacement versus retirement, the overall capacity and capability of the U.S. Merchant Marine are clearly in decline. Given the lack of current shipbuilding—the shipyard in Philadelphia is the only one building any commercial vessels for the merchant marine—the fleet will likely continue to age without adequate replacements. These issues have an impact on direct support to the Navy; on maritime infrastructure as shipyards and repair facilities have no commercial alternatives to sustain them; and on the

U.S. Department of War as any deployments will be forced to rely on a shrinking and aging fleet and workforce that are potentially unable to support them at required levels. The U.S. Merchant Marine's overall score is therefore "weak."

Policy Recommendations

The U.S. Merchant Marine serves as a crucial auxiliary for the military in time of war and national emergency while providing an essential service in the transportation of goods in the coastwise cabotage trade. A potential peer-to-peer conflict would severely strain the Merchant Marine's capabilities, and the shifting of ships from domestic and international trade into military support missions would have a disruptive effect on the American economy.

Several studies that have been conducted point to a significant deficit in American sealift; one report commissioned by the Maritime Administration remains embargoed a year after its conclusion in late 2024. Nevertheless, several reviews that are publicly available and a workshop hosted at The Heritage Foundation with industry and military experts confirm the need for approximately 1,300 commercial ships to mitigate Chinese maritime dominance. Specifically, the nation will need the following U.S.-flagged and U.S.-crewed vessels, augmented perhaps with allied assured sealift, for a total of 1,315 ships of six different classes:

- 960 containerships;
- 122 tankers;
- 33 liquefied natural gas (LNG) carriers;
- 77 roll-on/roll-off ships;
- 106 bulk carriers;
- Seven heavy-lift ships (four for military damage repairs and three for cargo that can be delivered only on this class of ships); and
- 10 cable-laying and repair ships.

This total represents a conservative estimate that still assumes significant risk of Chinese interference.⁴⁴ Regarding wartime sealift needs, ongoing TIDALWAVE wartime campaign simulations being

conducted by The Heritage Foundation validate a need for no fewer than 45 oilers (TAO): As of December 26, 2025, the Navy had only 20.

The sealift capacity of the Military Sealift Command and the Maritime Administration's Ready Reserve Force is adequate based on current estimates, but the readiness, age of the fleet, and personnel for any conflict lasting more than six months are in serious question. Not factored into the current fleet are any attrition or losses and how to replace such displacements. In the First World War, this was accomplished through the seizure of the interned German fleet; the chartering of neutral shipping; and, in a final instance, the seizing of the neutral Dutch merchant marine in American harbors in March 1918. In the Second World War, the United States initiated a building program before the outbreak of the war through the Merchant Marine Act of 1936 and then used a series of emergency construction programs to produce the *Liberty*-class and *Victory*-class freighters.

In terms of international trade, the diminutive size of the U.S. Merchant Marine means that about 2 percent of imports and exports is handled on board U.S.-flagged ships, the majority of which are in the Maritime or Tanker Security Program fleets. This small amount—less than 1 percent of world trade—would clearly not be enough if the United States were to suffer disruptions from conflict or boycotts from major shipping lines. U.S. operation of ships with higher costs to build, crew, and maintain against ships employing foreign mariners and in open registries would be cost prohibitive. However, national registries do not merely provide reserves of ships to carry trade; they employ mariners and maintain the maritime industrial base with shipyards, repair facilities, and the supply chain.

The diminutive and aging workforce also presents a challenge because the U.S. Department of War relies on the surge ships to transport forces overseas. With only one-third of the required crew personnel on board, the shortfall must be drawn from the commercial merchant marine. This does not factor in crew reliefs or casualties in a protracted conflict. With graduates from the U.S. Merchant Marine Academy, along with the state maritime academies and union schools, the nation can produce mariners, but issues with credentials and certifications have led many mariners to leave the

U.S. Military Power: Merchant Marine

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Capacity			✓		
Capability		✓			
Readiness	✓				
OVERALL		✓			

ABOUT THE ASSESSMENT CATEGORIES

OVERALL ASSESSMENT. The overall assessment of a military service is measured against its ability to perform its respective role in a two-major regional contingency (MRC) scenario. The assessment of the U.S. Marine Corps is sized against a single major regional contingency (MRC) scenario. This benchmark is the *minimum* standard for U.S. hard-power capacity with the understanding that maintenance, operational tempo, training cycles, crisis response, treaty commitments, and/or strategic reserve considerations can cause some forces to be unavailable. Other factors that influence this assessment are the availability of logistical support to enable combat power (fueling ships, supply ships, cargo aircraft, etc.) and the ability to reconstitute combat power for protracted conflict (defense industrial base capacity, etc.).

CAPACITY. The U.S. military must have a sufficient quantity of the right capability or capabilities to meet its mission sets. Capacity (numbers) can be viewed in at least three ways:

- Compared to a stated objective for each category by each service,
- Compared to amounts required to complete various types of operations across a wide range of potential missions as measured against a potential adversary, and
- As measured against a set benchmark for total national capability.

profession, and there is a lack of senior licensed and unlicensed personnel.

Beyond the current programs that support the Merchant Marine, new programs such as revised cargo preferences that would require a certain percentage of American goods to be shipped on U.S.-flagged ships could increase the demand for domestic shipping: Cargo is king. Current proposals such as the U.S. Trade Representative's port fees for Chinese-built and Chinese-owned ships, the SHIPS Act, and President Trump's executive order can produce a new framework of maritime laws akin to the Merchant Marine Acts of 1920, 1936, and 1970.

There remain many challenges for and criticisms of the U.S. Merchant Marine. Open registries overseas with fewer regulatory costs and oversight, offshore corporations, foreign mariners, and heavily subsidized shipbuilding programs make

CAPABILITY. Examining the capability of a military force requires consideration of:

- The proper tools (material and conceptual) with the design, performance characteristics, technological advancement, and suitability that the force needs to perform its function against an enemy successfully;
- The sufficiency of armored vehicles, ships, airplanes, and other equipment and weapons needed to win against the enemy;
- The appropriate variety of options to preclude strategic vulnerabilities in the force and give flexibilities to battlefield commanders; and
- The degree to which elements of the force reinforce each other in covering potential vulnerabilities, maximizing strengths, and gaining greater effectiveness through synergies that are not possible in narrowly stovepiped, linear approaches to war.

READINESS. While capacity and capability considerations are central to the warfighting ability of the U.S. military, readiness performs a crucial role in determining whether combat power is prepared when it is needed. Factors that are considered include (among others):

- Sufficient staffing levels,
- Fulfillment of training requirements, and
- Age and maintenance of equipment.

an American alternative appear non-competitive. New legislation and reforms must address this, but it should be clear that a truly level playing field is likely not achievable without forceful federal action. However, U.S.-flagged vessels do come with the advantage of U.S. government support and the protection of the U.S. military. What is currently needed is proactive action to address these issues, not more reactive policies like those that have been present since 1970.

Overall, the aging ships and personnel, limited global market share, higher operating costs, and lack of readiness make the U.S. Merchant Marine a liability in any potential situation, both today and in the future. Proposals by the Trump Administration have aimed to address these challenges, but actions to address them adequately have yet to be taken. Plans to resume building LNG carriers

domestically constitute a positive development, but it will be years before they yield the desired results. Proposals to reflag ships in the U.S. Merchant Marine by CMA CGM and other shipping firms are a good initial step.

Nevertheless, 2025 marked the most significant year in U.S. Merchant Marine development and action in more than 50 years. The United States appears to be awakening from its period of sea blindness toward commercial shipping. This is attracting nearly \$200 billion in new investments in America's waterfront communities from allies like South

Korea and Japan; notable is the purchase and \$5 billion of renovations begun by Hanwha shipbuilder in Philadelphia.⁴⁵ Events like the grounding of *Ever Given* in the Suez Canal, the backlog of ships off the ports of Los Angeles and Long Beach, and the closing of the port of Baltimore after *Dali* struck the Francis Scott Key Bridge have highlighted the vital role of commercial shipping. Naval shipbuilding issues have also demonstrated the need for work in domestic yards to maintain personnel and infrastructure as government contracts wane.

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Conclusion: U.S. Military Power

The Active Component of the U.S. military is two-thirds the size it should be, operates equipment that is older than it should be, and is burdened by readiness levels that are more problematic than they should be. To the extent that progress has been made, it has been at the expense of both capacity and modernization. Accordingly, this *Index* assesses:

- **The U.S. Army as “Marginal.”** Based on the historical use of its ground forces in combat, the Army has less than two-thirds of the forces in its Active Component that it would need to handle more than one major regional contingency (MRC). This shortfall in capacity might be offset if the modernity or technological capability of its forces were very high, but this is not yet the case, and the Army has a long way to go in modernizing its key systems. The Army has fully committed to modernizing its forces for great-power competition, but its programs are still in their development phase, and it will be a few years before they are ready for acquisition and fielding. Insufficient capacity for more than one MRC might also be offset if capabilities and readiness in the National Guard and Reserves were to be enhanced.

In other words, the Army is aging faster than it is modernizing, in addition to which it has faced relatively stagnant budgets in comparison to the Navy and Air Force. At the broadest strategic level, this makes sense, as the Navy and Air Force are more central to Indo-Pacific planning and need major investments to keep up with the People’s Liberation Army. The Army, however, also has an important role to play in the Indo-Pacific and needs targeted investment in new capabilities like the

Multi-Domain Task Force (MDTF). More generally, the Army also needs to maintain an edge over all potential adversaries in the traditional aspects of ground power. The Army remains “weak” in capacity with 62 percent of the force it should have but has significantly increased the force’s readiness, exceeding its own internal requirement that 66 percent of its Brigade Combat Teams (BCTs) must be at the highest readiness levels, thereby earning the highest score of “very strong” for readiness.

- **The U.S. Navy as “Weak.”** The technology gap between the Navy and its peer competitors is narrowing in favor of competitors, and the Navy’s ships are aging faster than they are being replaced. The fleet is too small relative to mission workload, and supporting shipyards are overwhelmed by the repair work that is needed to ensure that ships are available. This inadequate maintenance infrastructure contributes to ships not returning to the fleet in a timely manner, which in turn causes readiness problems as steaming days needed to train crews to levels of proficiency are lost. The Navy is projected to have a fleet of 280 ships by 2027, which is smaller than the current force of 290 and well below the 400 needed to meet operational demands. Current and projected funding shortfalls will make it harder to deal effectively with any of these serious deficiencies. This leaves the Navy unable to arrest and reverse the decline of its fleet as adversary forces grow in number and capability.
- **The U.S. Air Force as “Weak.”** The Air Force is smaller, older, and less ready than at any point in its history. This matters because America’s asymmetric military advantage is

the ability to own the skies and hold adversary targets at risk across the globe. The Air Force's responsibility to America is to field an appropriately sized, capable, and ready force that can execute these critical, Joint Force-enabling military functions. Yet during the decades following the Cold War, this sacred responsibility has been gradually marginalized, and America's ability to own the skies and hold adversary targets at risk has been steadily eroded. As a result, the United States is accepting more strategic risk than it should—risk not just of conflict or deterring a conflict, but risk of losing a conflict. For example, the Air Force has only two-thirds the number of active-duty combat-coded fighter aircraft required to fight two MRCs. Additionally, its warfighting readiness is very low because of aircraft age, aircraft availability, and low sortie rates and flight hours for its aircrew. Finally, the Air Force's fleet seemingly gets smaller every year, and the FY 2026 budget continues this downsizing trend despite President Trump's One Big Beautiful Bill Act (OBBBA).

Overall, the service is not ready for peer conflict at a time when the world is increasingly dangerous. Fortunately, a properly sized, capable, and ready Air Force can reduce strategic risk, deter conflict, and ensure that the nation could prevail if deterrence fails, and there are encouraging signs, including passage of the OBBBA in July 2025, that Congress may be ready to resource the Air Force in line with today's strategic environment. To this end, Congress should increase the Air Force's budget to account for the immense cost of nuclear modernization, grow the size of the service's fleet to meet the requirements the Air Force identified in 2018's "The Air Force We Need" for a 2030 fight with China, and assist the service in improving the readiness of combat units with the right mix of jets, maintenance capability and capacity, and trained aircrew, all while prioritizing the core missions the service is uniquely tasked to execute: air superiority and global strike. These actions would ensure that America's Air Force is ready to "fly, fight, and win" anytime and anywhere.

- **The U.S. Marine Corps as "Strong."** The Marine Corps' capacity is evaluated against a one-MRC standard, whereas the other services are evaluated against a two-MRC construct. The Corps consistently meets its unique requirement to produce three simultaneous Marine Expeditionary Units every day of the year. The Corps' strong capacity and capability ratings stem in large part from the inherent flexibility of fighting as O6-led Marine Air Ground Task Forces (MAGTFs). MAGTFs combine ground and air combat power with their associated logistics support under a single commander and can be modified as mission sets dictate. The Marine Corps' strong readiness rating comes from a consistent equipment modernization campaign and being five years into reorganizing itself to fight the PRC more effectively if needed.

The Marine Corps is not without its challenges. The shortages of amphibious shipping, sealift, long-distance transportation, and sustainment affect the entire Joint Force, but the Marines may feel those impacts most acutely in their role as the rapidly responsive expeditionary force. However, while these challenges are significant, they do not yet prevent the Marine Corps from completing its assigned missions.

- **The U.S. Space Force as "Marginal."** The Space Force is assessed the same in this year's *Index* as it was in the *2024 Index*. The Space Force has made significant progress in the six years it has existed. The FY 2026 budget is projected to be more than 250 percent larger than the service's first-year budget. The Space Force established a field command dedicated to testing, training, education, and readiness. It has fielded many new domain awareness sensors and C2 systems. It has launched many next-generation GPS satellites and operationally accepted the long-beleaguered GPS command-and-control program. The Space Force is taking advantage of commercial space capabilities and international allies and partners. It has architected and begun to field resilient data transportation and missile warning constellations of satellites. The Space Force has embraced and initiated many of the

acquisition reforms directed by the FY 2026 National Defense Authorization Act and Secretary of War Pete Hegseth.

At the same time, however, the Space Force has not kept pace with the rapidly advancing threats to and from space. China and Russia are fielding ground-based and space-based threats to our space assets that outpace the Space Force's efforts to develop resilient architectures and defensive capabilities. China is also rapidly fielding space systems that will target our fixed and mobile air, land, and maritime forces in the Pacific Area of Responsibility (AOR). The Space Force must field capabilities to defeat these space-based threats. Additionally, our nation continues to ask more of the Space Force, which will need, for example, to provide critical sensors and interceptors as part of the Golden Dome missile defense program. The Air Force has retired or will retire airborne intelligence, surveillance, and reconnaissance (ISR) and air battle management sensors; the Space Force is racing to field capabilities to mitigate these retirements. The nation's growing economic dependence on space capabilities suggests that the Space Force will need to have the capability to defend all of our interests in the domain. In short, while the Space Force has made remarkable progress in a few short years, it will need to accelerate its capabilities and capacities if it is to be fully capable of answering our nation's demands.

- **U.S. Strategic Deterrent as “Strong.”** America's strategic deterrent remains strong and credible and is able to impose significant—even catastrophic—costs on any who would carry out a strategic attack on the United States or its allies. However, challenges in modernization of delivery systems, particularly the Sentinel missile, and the production of plutonium pits prevent a rating of “very strong.” Moreover, as time progresses, America's nuclear-armed adversaries—particularly China—will field larger arsenals that will create ever larger deterrence challenges for the United States. Consequently, the United States in the coming years must field a larger and more diverse nuclear arsenal, particularly among theater

nuclear weapons, to deter adversary aggression successfully. This means not only that the nuclear modernization program of record (to include the relevant components within the Department of War and Department of Energy) must be put back on schedule, but also that the United States will likely have to augment the program of record to increase the number of operationally deployed nuclear weapons.

- **U.S. Missile Defense as “Strong.”** Missile defenses have shown—from Ukraine to the Middle East to live-fire tests—that they work remarkably well. Integrated air and theater missile defenses continue to demonstrate their value in deterring and, if necessary, mitigating the impact of adversary missile strikes. As the United States builds Golden Dome, which will integrate existing homeland missile defenses with regional missile defense architectures, and expands global sensor coverage while at the same time fielding additional ground-based and space-based missile interceptors, it will be better postured to deter and, if necessary, defeat enemy missile threats.
- **The U.S. Coast Guard as “Weak.”** Despite some successes in 2025, such as record-breaking drug seizures, a continued fast response to disasters and search and rescue missions, an improvement in recruitment, and a much-needed increase in funding from the One Big Beautiful Bill Act, the U.S. Coast Guard remains burdened by a variety of negative issues. Historically, the Coast Guard has been an underfunded service, and many of its ships and aircraft are old and experience heavy usage, which causes further deterioration. In addition, newer vessel designs have been beset by delays. The USCG's cutters, the backbone of its fleet, have suffered from poor maintenance, maintenance backlogs, and delays in programs that are intended to bring new, more advanced, and more functional modular cutters online. This necessarily has a negative effect on the interdiction of narcotics and illegal immigration insofar as they involve the Coast Guard.

Faced with over 2,500 miles of U.S. Arctic coastline along with missions to U.S. bases in

U.S. Military Power: Summary

VERY WEAK

WEAK

MARGINAL

STRONG

VERY STRONG

the South Pole, the USCG operates only two medium icebreakers and one heavy icebreaker—and its only heavy icebreaker is now 50 years old. Coast Guard helicopters, particularly the workhorse HH-60s, have experienced maintenance issues and groundings as a result of accidents and heavy use. Although recruitment improved in 2025, retention issues persist. The Coast Guard has also gone without antisubmarine training, a deficiency that, in view of the drug cartels' increased use of narco-submarines and the service's duty to escort U.S. vessels during wartime, puts it at a distinct disadvantage. As a result, the USCG would also be at a disadvantage in the event of a conventional great-power conflict, particularly in the Pacific. Acquiring newer modular vessels, aircraft, unmanned systems, and newer training regimens can help to reverse these trends, but the process will necessarily be a slow one.

- **The U.S. Merchant Marine as “Weak.”** Most emblematic of this sad state of America's sealift is the sidelining of 17 Military Sealift Command ships because of crew shortages. That too few seaworthy commercial ships is a persistent problem that drives low readiness assessments is borne out in activation exercises like Turbo Activation 19 Plus. Moreover, there is little good news on the horizon as both future classes of logistic ships and the revival of America's commercial maritime industry seem to be stalled and delayed. Action is urgently needed to reverse this trend and begin a serious effort to fill gaps in the military and assured commercial shipping that the nation would need to sustain a prolonged major war.

In the aggregate, America's overall military posture must be rated “marginal.” The Space Force and Army are rated “marginal,” and the Navy, Air Force, Coast Guard, and Merchant Marine are rated “weak.” Only the Marine Corps, nuclear forces, and missile defense are rated “strong,” but the Corps is a one-war force, and its overall strength is

therefore not sufficient to compensate for the shortfalls of the larger services. Moreover, if the United States should need to employ nuclear weapons, the escalation into nuclear conflict would seem to imply that handling such a crisis would challenge even a fully ready Joint Force at its current size and equipped with modern weapons. Additionally, the war in Ukraine, which threatens the economic and political stability not just of Europe, but of other regions as well, shows that some actors (in this case Russia) will not necessarily be deterred from conventional action even though the U.S. maintains a strong nuclear capability. Strong conventional forces of necessary size are therefore essential to America's ability to respond to emergent crises in areas of special interest.

The *2026 Index* concludes that the current U.S. military force is at significant risk of being unable to meet the demands of a single major protracted regional conflict while also attending to various other presence and engagement activities. The force would probably not be able to do more and is certainly ill-equipped to handle two nearly simultaneous MRCs—a situation that is made more difficult by the generally weak condition of key military allies.

In general, the military services continue to prioritize readiness and have made some progress over the past few years, but modernization programs, especially in shipbuilding and the production of fifth-generation combat aircraft, continue to suffer as resources are committed to preparing for the future, recovering from 20 years of operations, and offsetting the effects of inflation. With respect to the Air Force, some of its limited acquisition funds are being spent on aircraft of questionable utility in high-threat scenarios while research and development receives a larger share of funding than efforts meant to replace quite aged aircraft are receiving. As observed in the 2021, 2022, 2023, and 2024 editions of the *Index*, the services have normalized reductions in the size and number of military units, the forces remain well below the level needed to meet the two-MRC benchmark, and past difficulties involved in trying to recruit young Americans

U.S. Military Power: Army

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Capacity		✓			
Capability			✓		
Readiness					✓
OVERALL			✓		

U.S. Military Power: Navy

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Capacity	✓				
Capability			✓		
Readiness	✓				
OVERALL		✓			

U.S. Military Power: Air Force

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Capacity		✓			
Capability				✓	
Readiness	✓				
OVERALL		✓			

U.S. Military Power: Marine Corps

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Capacity				✓	
Capability				✓	
Readiness				✓	
OVERALL				✓	

U.S. Military Power: Space Force

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Capacity			✓		
Capability			✓		
Readiness		✓			
OVERALL			✓		

U.S. Military Power: Nuclear

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Nuclear Stockpile				✓	
Strategic Delivery Systems				✓	
Extended Deterrent Credibility				✓	
NNSA Warhead Modernization			✓		
Nuclear Delivery Systems Modernization			✓		
OVERALL				✓	

U.S. Military Power: Missile Defense

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Integrated Command and Control				✓	
Existing Under Layer				✓	
Existing Ground-Based Layer				✓	
Existing Space-Based Overlayer			✓		
Theater Defenses				✓	
Architecture Evolution				✓	
OVERALL				✓	

U.S. Military Power: Coast Guard

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Capacity		✓			
Capability		✓			
Readiness	✓				
OVERALL		✓			

U.S. Military Power: Merchant Marine

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Capacity			✓		
Capability		✓			
Readiness	✓				
OVERALL		✓			

U.S. Military Power

	VERY WEAK	WEAK	MARGINAL	STRONG	VERY STRONG
Army			✓		
Navy		✓			
Air Force		✓			
Marine Corps				✓	
Space Force			✓		
Nuclear				✓	
Missile Defense				✓	
Coast Guard		✓			
Merchant Marine		✓			
OVERALL			✓		

to join the military services have had their effect on service end strength even as recruiting has recently improved.

As currently postured, the U.S. military is at significant risk of not being able to defend America’s vital national interests with assurance. It is rated “marginal” relative to the force needed to defend national interests on a global stage against actual challenges in the world *as it is* rather than as we wish it were. As demonstrated by The Heritage Foundation’s recent TIDALWAVE war simulation, these challenges are particularly grave in a protracted conflict. This is the inevitable result of years of sustained use, underfunding, unclear priorities, shifting security policies, poor discipline in program execution, and a lack of seriousness across the national security establishment even as threats to U.S. interests have surged.

Although the One Big Beautiful Bill Act, signed by President Trump on July 4, 2025, added more than \$150 billion in defense spending on top of annual defense appropriations, more investment is needed. The President’s call on January 7, 2026, for a \$1.5 trillion defense budget—more than \$500 billion more than the current budget—is a positive sign that greater investment is on the way, but this must be done in a disciplined and fiscally responsible manner that also seeks savings, reforms, and efficiencies from the U.S. Department of War.¹ The focus of the United States should be on restoring peace through strength, and while some work has been done in this regard, much remains to be finished to reverse the effects of years of defense budgetary decline and lack of prioritization.

Endnote

1. See U.S. Senate Committee on Armed Services and U.S. House Committee on Armed Services, "SASC/HASC Defense Reconciliation Overview," undated, https://armedservices.house.gov/uploadedfiles/obbb_hasc_and_sasc_defense_legislation_summary.pdf (accessed January 13, 2026).