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Defense Primer: The United States Space Force

The United States Space Force (USSF) is the sixth branch of the Armed Forces, established under the Department of the Air Force (DAF) with the enactment of the FY2020 National Defense Authorization Act ([NDAA], P.L. 116-92). According to the law, Title 10, U.S.C. §9081, "The Space Force shall be organized, trained, and equipped to: 1) provide freedom of operation for the United States in, from, and to space; (2) conduct space operations; and (3) protect the interests of the United States in space."

Why the Space Force Was Created

The U.S. military operates 246 satellites, according to the Union of Concerned Scientists. This satellite fleet includes constellations such as the Global Positioning System (GPS), which is widely used by the public and the private sector. For decades, U.S. spacecraft operated without threat of attack by other nations.

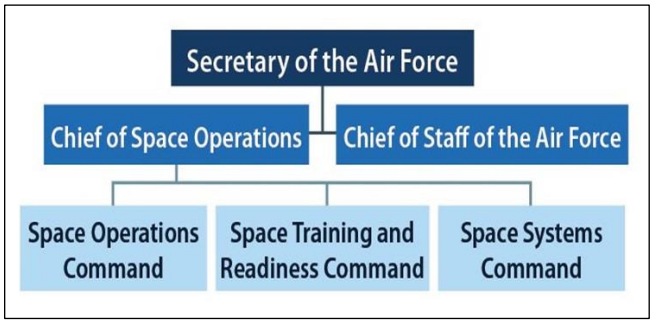
The United States and Soviet Union tested anti-satellite (ASAT) missiles in the 1980s. Largely because resulting debris could harm spacecraft in orbit, the United States last conducted such a test in 1985. China became the third nation to test an ASAT weapon in 2007. The event was a turning point, military commanders have said, as it revealed the vulnerability created by U.S. reliance on satellites. After 2007, China and Russia continued to build their military space capabilities. One decade later, advocates for a Space Force in Congress and the Administration proposed creating a service that could respond to increasing space, cyber space, and missile threats. They also sought to streamline the process for making decisions about space acquisition. The FY2020 NDAA established the service on December 20, 2019.

Space Force Organization

The Chief of Space Operations (CSO) is the highest-ranking uniformed space advisor reporting to the Secretary of the Air Force. The Space Force and the United States Air Force (USAF) are two separate and distinct military uniformed services with the same civilian leader in the Department of the Air Force. The structure is similar to how the Chief of Naval Operations and the Marine Corps report to the Secretary of the Navy. The CSO is General Chance Saltzman.

The Office of the Chief of Space Operations and the Space Force Headquarters are located at the Pentagon. The Space Force has a command structure with three levels. At the top of the hierarchy, three-star generals lead mission-focused field commands. The Space Force's three field commands are Space Operations Command (SpOC), Space Training and Readiness Command (STARCOM), and Space Systems Command (SSC). SpOC, based at Peterson Space Force Base (SFB) in Colorado Springs, provides space forces to combatant commands. STARCOM prepares space forces for operations. The Department of the Air Force has selected Patrick SFB in Florida as STARCOM's headquarters. SSC, based at Los Angeles Air Force Base, handles acquisition. On February 12, 2024, Saltzman announced the Space Force's intent to stand up a fourth field command, Space Futures Command, to forecast threats, test concepts based on those forecasts, and design missions.

Figure 1. U.S. Space Force within the Department of the Air Force



Source: Adapted from U.S. Space Force Headquarters Air Force - April 19, 2022 (spaceforce.mil).

Underneath field commands, colonels lead units called deltas. Lieutenant colonels lead still-smaller Space Force squadrons. The Space Force assigns space professionals, known as Guardians, to U.S. Space Command and the Department of Defense's 10 other unified Combatant Commands, each of which has a geographic or functional mission. Career tracks for Space Force Guardians include engineering, intelligence, leadership, logistics, and technology.

The Space Force manages space launch operations on the East Coast at Patrick SFB in Florida and on the West Coast at Vandenberg SFB in California. The service develops, defends, and operates cybersecurity networks, as well as satellites that provide secure communications, weather and navigational information, and missile warning. The service uses space surveillance sensors to track satellites and space debris for its own use and distributes much of that information publicly. The Space Force mission is to defend U.S. satellites from hostile attacks and conduct offensive counterspace operations to degrade an adversary's ability to conduct space-based attacks.

Great Power Competition

During the Air Force Association's Air and Space Warfare Symposium in February 2024, Air Force Secretary Frank Kendall directed the Air Force and Space Force to "Reoptimize for Great Power Competition" with a

particular focus on China, which has vastly increased its space capabilities in the past 20 years.

To better enable Guardians to meet the demands of conflict with China or Russia, Saltzman said the Space Force would redesign career paths and include training for leaders to be knowledgeable in operations as well as technology. The service has also proposed the creation of a Space Futures Command within the year.

FY2024 Budget Request

The budget request for the Space Force is included within DAF budget materials. The DAF request for the Space Force was $30 billion for FY2024, an increase from its FY2023 request of $24.5 billion. The FY2024 request included $19.2 billion for research, development, test, and evaluation; $5.0 billion for operations and maintenance; $4.7 billion for procurement; and $1.3 billion for military personnel (MILPERS). The FY2024 MILPERS request supports an end-strength of 9,400 military personnel and nearly 5,000 civilians.

The FY2024 budget request included six major investment areas—totaling $25.8 billion—for space-based systems, as shown in **Table 1**.

Table 1. FY2024 U.S. Space Force Request, by Selected Programs

Type	$ in billions
Space Procurement (Space Force)	4.7
Resilient Missile Warning Missile Tracking	2.3
Space Technology Development and Prototyping	2.1
Next-Gen Overhead Persistent Infrared	2.6
Evolved Strategic SATCOM	0.6
Protected Tactical SATCOM	0.4

Source: Department of the Air Force Budget Overview FY2024

Major Space Acquisition Programs

The FY2024 budget request included funding for the development and procurement of spacecraft, launch vehicles, space command and control systems, and terrestrial satellite terminals and equipment. Major acquisition programs include the following:

- The **National Security Space Launch (NSSL)** program procures commercial launch services for the Space Force, Air Force, Navy, the National Reconnaissance Office, the Space Development Agency, and other government agencies. This program ensures U.S. access to space.
- The **Global Positioning System Enterprise** provides 24-hour-a-day, worldwide coverage, including all-weather three-dimensional positioning, navigation, and timing (PNT) for military and civilian users.
- **Missile Warning Systems** supply initial warning of strategic missile attacks using the existing Space-Based Infrared System. The Space Force is developing the Next Generation Overhead Persistent Infrared and Resilient Missile Warning and Missile Tracking program.
- **Satellite Communications (SATCOM) Projects** deliver three types of SATCOM. *Strategic* SATCOM refers to Nuclear Command, Control, and Communications (NC3); *protected* SATCOM enables communications to deployed forces in contested environments; and *wideband/narrowband* SATCOM offers large amounts of data transfer in less-contested environments.
- Under the **Proliferated Space Warfighter Architecture**, the Space Force is soliciting, purchasing, and launching low-Earth orbit satellites to create a constellation that will conduct multiple missions. The missions will overlap with the systems conducting PNT, missile warning, and communications. These satellites will fly at lower altitudes and in greater numbers, providing additional capabilities and more resilience.

Potential Issues for Congress

Space National Guard

Some analysts and organizations, including the National Guard Association of the United States (NGAUS), have argued that the Department of Defense (DOD) should establish a Space National Guard (SNG). They say a Space Force National Guard would help align Air National Guard units conducting space missions at a reasonable cost. The Biden Administration and others have opposed its creation, citing the cost to establish a new headquarters. The Congressional Budget Office estimates that facilities and equipment for a Space National Guard would range from $400 million to $900 million. The FY2024 NDAA requires the Secretary of Defense to conduct a study to assess the feasibility and advisability of transferring the space components of the Air National Guard to the Space Force.

Space Acquisitions

The FY2023 NDAA directed the Defense Business Board (DBB) and the Defense Innovation Board (DIB) to study means for DOD to more rapidly acquire space assets. The resulting report recommends further empowering the Space Acquisition Executive (SAE), who oversees the military's space architecture, leads the Department of the Air Force's purchase of space systems, and reports to the Secretary of the Air Force. The report recommends allowing the SAE to approve contracting vehicles (called Other Transaction Agreements) that exceed $500 million without seeking additional approval. The DBB and DIB report also calls for the SAE to determine the membership and frequency of meetings of the Space Acquisition Council, which manages DOD space procurements. The report advises allowing the SAE to hold funds in reserve for adding technology to existing programs, risk reduction, program acceleration, or corrective actions. Congress may consider these recommendations in its deliberations for FY2025.

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