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Defense Primer: United States Airpower

Almost since the invention of heavier-than-air flight, control of the air has been seen as a military advantage. Over time, the United States has come to treat air superiority as a necessity, and built such capable air forces that no enemy aircraft has killed U.S. ground troops since 1953.

Modern airpower is able to provide a full range of effects, from strategic operations at intercontinental ranges to direct support of troops in combat. Today, every branch of the U.S. military employs air forces for various purposes, employing nearly 14,000 aircraft.

Figure 1. U.S. Air Forces, 2019-2028

Inventory	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
Fighter/Attack	3413	3484	3439	3510	3571	3532	3523	3499	3484	3440
Attack Helicopter	923	911	918	924	956	949	934	919	887	876
Airlift/Cargo/Utility	4686	4745	4760	4703	4648	4490	4489	4514	4474	4438
Combat Search and Rescue	121	121	119	122	123	136	139	142	148	152
Air Refueling	558	554	550	549	551	558	570	576	584	589
Long Range Strike	157	157	157	157	157	158	157	157	157	157
Anti-Surface/Submarine	700	675	678	685	667	666	639	637	629	628
Trainers	2138	2078	2060	2040	2034	1990	1951	1906	1861	1830
ISR/Scout/C4	902	911	904	934	933	849	846	836	831	826
Special Operations Forces	477	488	497	506	518	502	502	502	502	502
Total	14061	14100	14054	14095	14120	13811	13731	13669	13535	13413

Source: Department of Defense, *Annual Aviation Inventory and Funding Plan, Fiscal Years (FY) 2019-2048*, March 2018. DOD has not been required to submit subsequent plans.

The United States Air Force

The bulk of U.S. airpower resides in the U.S. Air Force (USAF). With 511,500 active and reserve personnel and more than 5,000 aircraft, the USAF provides the capability to reach, observe, strike and/or carry people and materiel to any point on the globe. Four of the Air Force's five core missions directly involve applying airpower.

Table 1. Air Force Core Missions

<ul style="list-style-type: none"> Air and Space Superiority Intelligence, Surveillance, and Reconnaissance Rapid Global Mobility Global Strike Command and Control
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Source: U.S. Air Force, *Global Vigilance, Global Reach, Global Power for America* at <http://www.af.mil/Airpower4America.aspx>.

The Air Force fleet covers the full range of aerial capabilities, from fighters to intelligence aircraft, bombers, transports, and helicopters. Moreover, USAF airpower enables other military services to apply their forces directly. USAF cargo planes get Army and Marine troops and equipment to the battlefield, and aeromedical transport rapidly evacuates and treats injured troops. Air Force aerial

reconnaissance assets give joint commanders real-time strategic and tactical intelligence. USAF tankers make worldwide deployments by joint and allied forces possible. And Air Force assets work directly with ground units to provide weapons on target when and where needed, and to secure them against attack from the air.

Taken together, the Air Force sums up its core missions as providing “Global Vigilance, Global Reach, and Global Power.”

Army Aviation

Helicopters capable of accompanying troops to provide tactical airlift, intelligence, surveillance, and reconnaissance (ISR), and supporting fires form the backbone of Army aviation, about 3,600 of its more than 4,600 aircraft. The service also operates light transport, special operations, and intratheater airlift aircraft. The USAF provides heavy transport and longer-range missions.

Naval Aviation

The U.S. Navy operates more than 2,500 aircraft (including about 900 fighters) in 10 air wings. Their unique asset is the ability to take their operating bases with them, as the Navy's 11 aircraft carriers (each with about 40 fighters plus other air assets) provide U.S. presence and operational capability far from home. Naval air assets are optimized for strike; intelligence, surveillance, and reconnaissance; and fleet defense.

Marine Corps Aviation

The nearly 1,200 Marine Corps aircraft (including just over 400 fighters) operate from Navy ships, Marine amphibious ships, and land bases, including expeditionary land bases with short runways. Some Marine Corps tactical aircraft are capable of vertical/short takeoff and landing, a useful capability because Marine aircraft are deployed and operated as part of Marine air/ground task forces, in which aviation is integrated into and moves with the unit, often at a remove from prepared airfields.

Fighting as One

While the military services offer different capabilities and provide the equipment, personnel, and training, under current joint operations doctrine, they fight as one force. A joint air component commander oversees all airpower in a given campaign, assigning targets and allocating forces as needs warrant, without regard for the service that owns a particular capability.

Major Procurement Programs

The largest current DOD programs include the following:

- The **F-35 Lightning II** strike fighter, a multi-service, multi-national program slated to acquire 2,456 jets for

the USAF, Navy, and Marine Corps. This is the largest acquisition program in Department of Defense history.

- The **KC-46 tanker**, 179 of which are scheduled to replace 50-year-old Air Force KC-135s, with possibly more to follow.
- The **B-21 Raider** bomber, at least 100 of which are expected to enter USAF service in the mid- to late-2020s, replacing 1980s-era B-1s and B-2s.
- The Navy continues to procure the **F/A-18E/F Super Hornet** multirole fighter and its electronic warfare variant, the EA-18G Growler.
- The main Army aviation procurement, as has been the case for many years, is for more **UH-60 Black Hawk** helicopters to move cargo and troops.

Several major development programs are underway to offer future airpower capabilities:

- **Next-Generation Air Dominance**, an Air Force program to develop the major technologies likely to appear on next-generation combat aircraft.
- **F/A-XX**, the Navy's research effort for next-generation aircraft.
- The Army's **Future Vertical Lift** program, which seeks to demonstrate and develop new technologies to enable a family of advanced rotorcraft.

Relevant Statutes

Title 10, U.S. Code, Chapter 803 – Department of the Air Force

Title 10, U.S. Code, Chapter 303 – Department of the Army

Title 10, U.S. Code, Chapter 503 – Department of the Navy

Title 50, U.S. Code, Chapter 44 – National Security

CRS Products

CRS Report RL30563, *F-35 Joint Strike Fighter (JSF) Program*, by Jeremiah Gertler

CRS In Focus IFI1367, *Army Future Vertical Lift (FVL) Program*, by Jeremiah Gertler

CRS In Focus IFI1659, *Air Force Next-Generation Air Dominance Program: An Introduction*, by Jeremiah Gertler

CRS Report R43049, *U.S. Air Force Bomber Sustainment and Modernization: Background and Issues for Congress*, by Jeremiah Gertler

CRS In Focus IFI0486, *Defense Primer: Naval Forces*, by Ronald O'Rourke

CRS In Focus IFI0547, *Defense Primer: The United States Air Force*, by Jeremiah Gertler

Other Resources

Department of Defense. *Annual Aviation Inventory and Funding Plan, Fiscal Years (FY) 2019-2048*, March 2018.

USAF. *Global Vigilance, Global Reach, Global Power*, September, 2013.

U.S. Navy. *Naval Aviation's Role: Supporting the Six Core Capabilities*, January 2010.

DOD. Joint Publication 3-30, *Command and Control of Joint Air Operations*, February 10, 2014

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