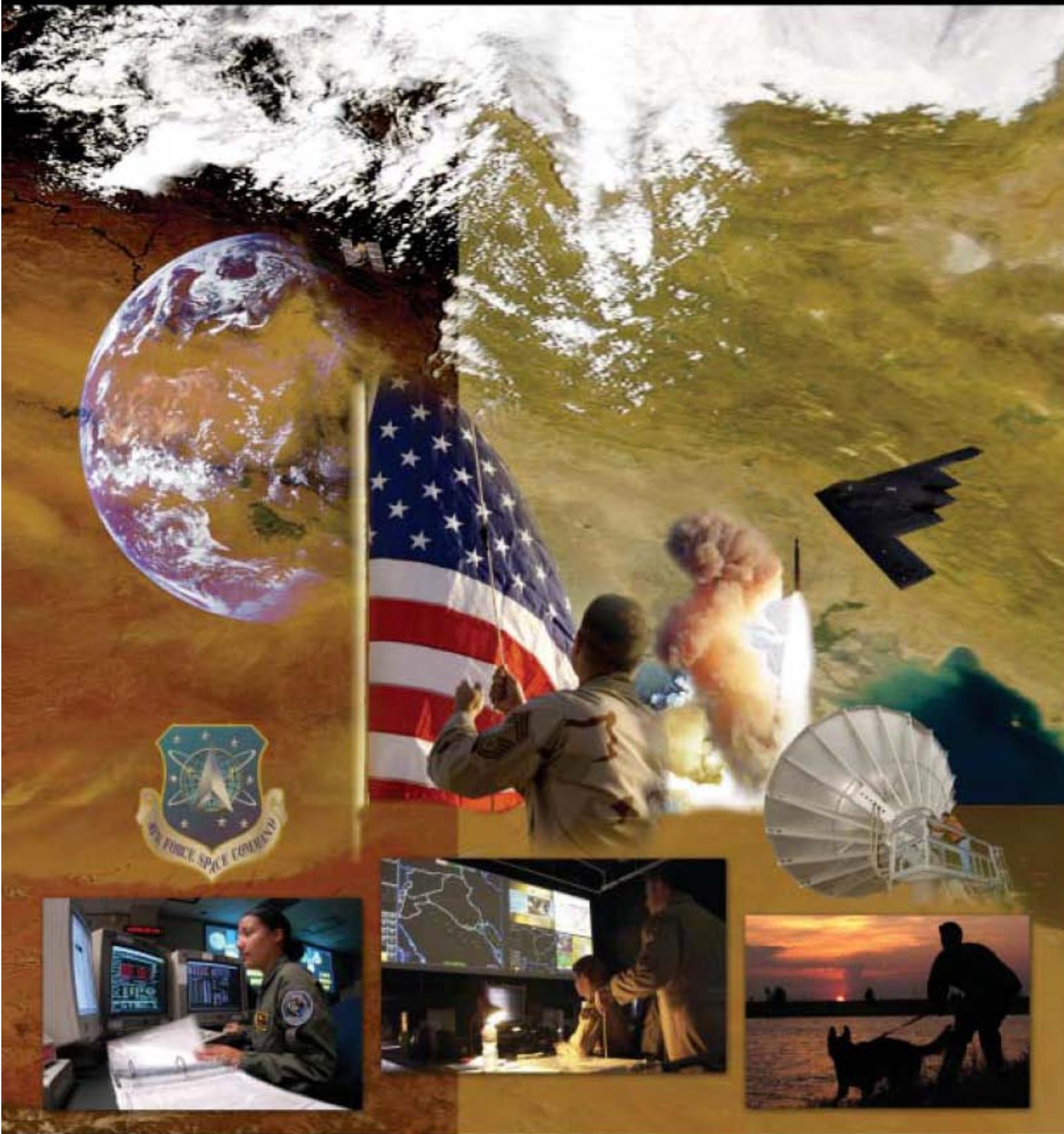


# AIR FORCE SPACE COMMAND



ALMANAC 2004-2005

**“You can’t go to  
war and win  
without space.”**

**General Lance W. Lord  
Commander  
Air Force Space Command**



# Air Force Space Command **Almanac**

## Contents

### AFSPC History 4

An abbreviated history of the command that looked up at the stars and said, "Why not?"...

### Our missions 7

Our goals and the way we accomplish them every day in space and on Earth...

### 14th Air Force 10

Launch, satellite control, missile warning...these are just a few of the missions for this numbered air force...

### 20th Air Force 16

Always ready and able with the best missile force in the world...

### SMC 20

The Space and Missile Systems Center streamlines the acquisition and integration process...

### Space Warfare Center 22

Finding better ways to support the warfighter through the use of space assets...

### Future of AFSPC 23

A brief look at what the future holds for the command and how we'll get there...

### Where we operate 24

A graphic view of where in the atmosphere AFSPC and space assets perform their functions...

#### AFSPC Almanac

The AFSPC Almanac outlines who we are, what we do and where we operate. While not intended to answer all questions about AFSPC, this publication is a primer -- a reference tool to use when you need information about our resources, responsibilities and weapon systems.

The contents of the AFSPC Almanac are not necessarily the official views of, or endorsed by, the U.S. government, the Department of Defense or the Department of the Air Force. The editorial content is edited, prepared and provided by the public affairs office of Headquarters Air Force Space Command, 150 Vandenberg St. Suite 1105, Peterson AFB, Colo. 80914-4500. Photographs are official U.S. Air Force photos unless otherwise noted.

#### Editors

Master Sgt. Austin Carter  
Tech. Sgt. Gino Mattorano

For more information on Air Force Space Command, see the Web site at:  
[www.peterson.af.mil/hqafspc](http://www.peterson.af.mil/hqafspc)

About the cover:  
Photo illustration by Diane Vulcan, 21st Space Communications Squadron, Peterson AFB, Colo.

# Air Force Space Command History

The origins of the military in space date from the last days of World War II circa 1945. With the war over in Europe, the United States and the United Kingdom raced to acquire as much German rocket technology and expertise as possible before the former Soviet Union could take control of certain parts of Germany.

Shortly thereafter, America's use of the atomic bomb helped end the war in the Pacific. However, it also led to the emergence of a climate of distrust and military competition between the United States and former Soviet Union, setting the stage for the nuclear, missile and space races of the Cold War.

To counter the threat of a possible Soviet nuclear attack, President Dwight Eisenhower made development of an intercontinental ballistic missile a national priority. By the end of the 1950s, the Air Force accepted its first long-range Atlas ICBM, followed later by the Titan system. Meanwhile, the launch of the Soviet Sputnik space vehicle on Oct. 4, 1957, fueled American concern over space. The race was on in ballistic missile development and the space program.

Also in response to the Soviet threat, a new defense agreement grew between the United States and Canada, resulting in the activation of the North American Air Defense Command (NORAD) in 1957. More than 45 years later, this defense partnership continues to flourish.

With the Cold War well underway, the Defense Department gave the green light

in 1959 to develop a system to track both space objects and incoming Soviet missiles. In the early 1960s, this led to the construction of three Ballistic Missile Early Warning System (BMEWS) radars, based at Thule Air Base, Greenland; Clear Air Force Base, Alaska; and Royal Air Force Fylingdales, England. Other systems focused on the growing number of space objects orbiting the Earth.

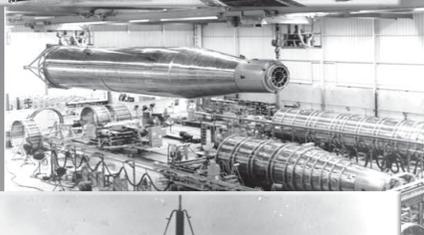
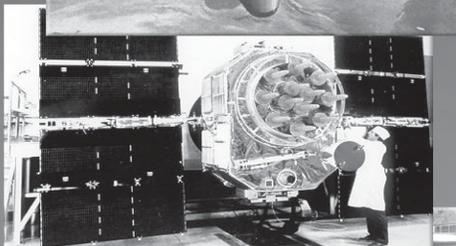
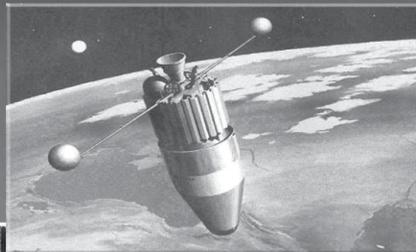
The Cuban Missile Crisis in October 1962 heightened America's awareness of the

growing nuclear threat. To blunt the Soviets' resolve during the crisis, the first group of Minuteman missiles were placed on alert at Malmstrom AFB, Mont. President John F. Kennedy called these missiles his "ace in the hole" against the Soviets.

During the 1960s and 1970s, the United States and Soviet Union began deploying submarine-launched ballistic missiles (SLBMs). To give North America early warning against this new threat, the Air Force began construction on a new generation of radar networks. By the late 1980s, PAVE Phased Array Warning System (PAVE PAWS) radars at Cape Cod AFS, Mass., and Beale AFB, Calif., joined the BMEWS radar network.

The Air Force also took control of the Army's Perimeter Acquisition Radar Characterization System (PARCS) at Cavalier Air Force Station, N.D., as an additional SLBM and ICBM early warning radar. Augmented by other radars and optical sensors, these systems also provided the means to catalog and monitor the ever-increasing satellite population in orbit.

Following three years of restructuring its units and forces, the Air Force combined space operations into one command when it activated Space Command on Sept. 1, 1982. Originally organized to manage missile early warning and space tracking systems, Space Command brought together operators from Strategic Air Command and technicians from Air Force Systems Command. The new



command's commander, Gen. James Hartinger, described the command's activation as a milestone in the evolution of military space operations.

In May 1983, Space Command took control of space surveillance and missile warning sites around the world. Air Force planners then looked at moving satellite operations into the new command. As a result, the Consolidated Space Operations Center at Falcon AFB (now Schriever AFB), Colo., began construction in 1983. During this phase, the command (renamed Air Force Space Command in 1985) acquired the worldwide network of sites comprising the Air Force Satellite Control Network.

When the Falcon center opened in the early 1990s, it assumed the responsibility for commanding, controlling and receiving telemetry information from a variety of military satellites.

During the same period, Air Force Space Command doubled in size after acquiring the space launch mission from Air Force Systems Command. And in 1993, AFSPC took control of the nation's ICBM force.

Also in the early 1990s, space came out of the "black world" of secrecy and into the mainstream military during the Gulf War.

Warfighters in the Gulf – soldiers in the foxholes, pilots flying people and equipment, and sailors on ships at sea – gained greater access to space-based information delivered by AFSPC. This information gave coalition forces the "high ground" necessary to drive Iraqi forces from Kuwait.

The Gulf War set the stage for the command's support of military operations throughout

the 1990s and into the 21st century. As in the Gulf, United States and allied forces relied heavily on space systems during operations in Somalia, Bosnia and Kosovo, and again during Operations Enduring Freedom and Noble Eagle in the aftermath of the terrorist attacks of Sept. 11, 2001.

The onset of the new century also marked another significant change in the mission and organization of the command.

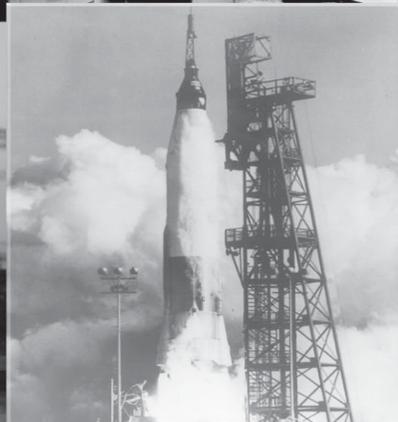
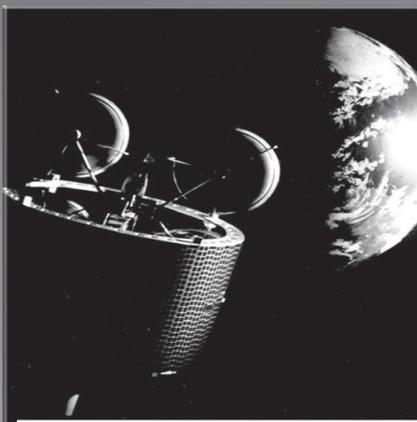
In October 2001, implementing one of the key recommendations of the Congressionally chartered Space Commission, Air Force Materiel Command transferred

its Space and Missile Systems Center at Los Angeles AFB to Air Force Space Command. The move brought to the command responsibility for the development and acquisition of space and missile systems, thus merging within a single organization operations and acquisitions functions.

In April 2002, for the first time in history, AFSPC became a separate four-star Air Force command with the designation of the AFSPC commander as a four-star position distinct from the commanders of U.S. Space Command and NORAD.

As part of the ongoing initiative to transform the U.S. military into a 21st century fighting force, DoD merged U.S. Space Command with U.S. Strategic Command Oct. 1, 2002. The merger improves combat effectiveness and speeds up information collection and assessment needed for strategic decision-making. The new command is responsible for early warning of and defense against missile attack as well as long-range strategic attacks.

AFSPC provides a significant portion of USSTRATCOM's warfighting capabilities, to include missile warning, the ICBM leg of nuclear deterrence, and all intelligence, surveillance, and reconnaissance capability from space. Additionally, AFSPC is the sole provider of positioning, navigation, and timing as well as the bulk of satellite communication. As the Air Force's Executive Agent for Space, AFSPC advocates space capabilities and systems for all unified commanders across the services, collectively providing space capabilities the nation requires today and into the future.



# Air Force Space Command Introduction

Shortly after Desert Storm, a young Marine told a CNN reporter: "Space didn't have anything at all to do with Desert Storm. All I needed was my M-16 and this little box that tells me where I am."

The "little box" was a Global Positioning System, or GPS, receiver.

The Marine can be forgiven for his ignorance of how space affects the warfighter every day – it has become so much a part of our lives that we take it for granted.

We live in a time when a Special Forces troop on horseback in Afghanistan can call in GPS coordinates to the Combined Air Operations Center via a Milstar satellite call. Those coordinates are transmitted to an aircraft crew, again by satellite communications, who programs a GPS kit on a joint direct attack munition, or JDAM. Satellites, thousands of miles away in orbit, guide that bomb to within four meters of the target with less than 15 minutes between notification and time on target.

In Desert Storm, while most U.S. aircraft had GPS capability, there were no bombs outfitted with GPS technology. During the recent Iraqi Freedom campaign, more than 80 percent of the munitions dropped on Iraq were GPS-guided. And consider this: In World War II it took as many as 650 bombs to destroy a target. Now, one GPS-guided bomb can do the trick.

If World War II, Korea and Vietnam showed the revolution of air power on modern warfare, recent conflicts in Kuwait, Kosovo, Afghanistan and Iraq are showing the impact of space on the battlefield.

It goes further than GPS. Defense Meteorological Satellite Program weather satellites beam images and data directly to the battlefield. Surveillance and reconnaissance satellites are providing intelligence updates in almost real time, covering a wider area than a U-2 aircraft without the inherent danger to air

crews. Communications satellite programs, such as the Defense Satellite Communications System and Milstar, give our allies and us the ability to contact anyone in the world, faster than a stockbroker's speed dial, and transmit unprecedented amounts of voice telephonic data.

And it's a force with almost unlimited possibilities. Before Desert Storm, the 70s-era Defense Support Program satellites were focused on detecting

infrared heat signatures of ICBM missile launches to warn America about an attack. However, during Desert Storm, DSP was drafted into service to detect SCUD launches. AFSPC was only able to get on the phone and say, "Look out!"

Now, the newest generation of DSP sensors is more sensitive to medium- and short-range missiles. Faster communication to the warfighter on the ground began in 1993 with the Attack and Launch Early Reporting to Theater, or ALERT, system. It harnessed the capabilities of the sensors in space with quicker communications to soldiers, sailors, airmen and Marines in the field.

Within the command's lifespan, space on the battlefield has gone from "nice to have" to as essential as a helmet and M-16 to the combatant.

And while space assets protect our nation's interest from space, the ICBM force stands ready to strike America's enemies from silos in five Western states. They have proved to be the ultimate deterrence to the use of weapons of mass destruction and have been for more than 40 years.

An ancient warrior's maxim holds that in order to dominate the battlefield, your forces must occupy the high ground. Space has proven to be the "ultimate high ground." AFSPC is using the high ground of space to protect and defend America and her allies to an extent never envisioned by the most imaginative science fiction writer.



# Air Force Space Command

# Missions

The mission of Air Force Space Command is to defend the United States of America through the control and exploitation of space.

AFSPC makes space-based support reliable and routine for the warfighter and is continuously improving the command's ability to support combat forces. AFSPC has five mission areas: Counterspace, Space Force Enhancement, Space Force Application, Space Support and Mission Support.

**COUNTERSPACE:** Consists of operations conducted to attain and maintain a desired degree of space superiority by allowing friendly forces to exploit space capabilities while negating an adversary's ability to do the same. Counterspace operations include two elements – offensive and defensive, both predicated on space situation awareness.

Offensive counterspace precludes an adversary from exploiting space to his advantage. OCS actions may target an adversary's space system, forces or support to them from third-party space system. Possible methods include the use of deception, disruption (such as "jamming"), denial, degradation and destruction of space capabilities.

Because assured access to space is a vital national interest, we must be prepared to protect and defend it through defensive counterspace operations. These preserve U.S. and allied ability to exploit space to its advantage via active and passive actions to protect friendly space-related capabilities from enemy attack.

Space situation awareness forms the foundation for all counterspace and other space actions. For example, SSA

capabilities provide awareness to the theater commander of overhead activities, such as enemy intelligence gathering or communications satellite windows that could impact operations. SSA includes traditional space surveillance, detailed reconnaissance of specific space assets, collection and processing of space intelligence data and analysis of the space environment.

Counterspace is the means by which the Air Force gains and maintains space superiority. Without capabilities to ensure the survivability and operational utility of friendly space forces as well as capabilities to deny the adversary use of space, space superiority cannot be achieved.

**SPACE FORCE ENHANCEMENT:** This mission area focuses on providing capabilities to enable or support air, land, sea and space military operations. It is the means by which AFSPC helps achieve information superiority. Our capabilities provide the U.S. military with a means of gathering and disseminating highly accurate information to provide our joint warfighting forces with situation awareness, effective command and control and maximum force effectiveness.

In its space force enhancement role, AFSPC provides space-based navigation, weather, communications and surveillance capability to U.S. forces around the world including military planners and commanders, air crews, sailors at sea and soldiers on the ground.

Using information from space, the command helps theater warfighters examine the battlefield to locate and track enemy and friendly forces, target threats,

command and control forces, communicate operational and logistical information, precisely navigate weapons and forces, ascertain weather and locate missile launches and other infrared events. Force enhancement for the warfighter in the recent Iraq conflict included: Global Positioning System-guided bombs; GPS navigation for ground forces; missile warning from Defense Support Program satellites; and communications fed by military satellites communications systems.

**SPACE FORCE APPLICATION:** The overarching objective of the force application mission area is to conduct global operations by the direct and prompt application of force from and through space against terrestrial targets.

For force application, AFSPC maintains a combat-ready force of more than 500 intercontinental ballistic missiles on alert around the clock. Today's force application systems include nuclear-capable Minuteman III and Peacekeeper ICBMs.

Protected in underground launch facilities, ICBMs are the most rapid response strategic force available to the president, capable of accurately hitting targets more than 6,000 miles away within 30 minutes. They are the most potent and reliable component of the nation's nuclear force with a consistent on-alert rate of more than 99 percent.

The most cost-effective of the nation's strategic forces, ICBMs are still the nation's most prolific deterrent against countries that possess, or develop, weapons of mass destruction. For more than 40 years, ICBMs have been the backbone of America's strategic deterrent forces.

# Air Force Space Command Missions

**SPACE SUPPORT:** In its space support role, AFSPC manages launch and satellite operations. Launch operations at Vandenberg and Patrick Air Force Bases encompass the traditional spacelift mission of delivering payloads to orbit. Plus it means operating, servicing, recovery and repositioning those satellites once in orbit. Satellite operations consist primarily of control, telemetry, tracking and commanding of satellites.

AFSPC's current capabilities for launch operations include launch vehicles, such as the new Evolved Expendable Launch Vehicles Delta IV and Atlas V as well as stalwart warhorses from the older Titan, Atlas and Delta families. Capabilities also include ranges and space launch complexes for placing payloads in their required orbits. The command's Eastern Range at Cape Canaveral AFS, Fla., and the Western Range at Vandenberg AFB, Calif., support the pre-launch, launch and tracking of national, DoD, civil and commercial launch vehicles. In addition, the ranges support space shuttle landings, ballistic missile testing, and various guided weapons and aeronautical-related test and evaluation activities.

The satellite operations mission is handled by Schriever AFB, Colo., which is home to several satellite operation centers (GPS, DMSP and Milstar systems for example) and responsible for remote tracking stations and other command and control facilities around the world. These facilities monitor satellites during launch, put the satellites in their proper orbits, operate the satellites while they are in orbit, and fix satellite anomalies when they occur.



**Flowing through a network of electronic eyes and ears above Earth, information bathed the battlefield, sending location data to GPS units in tanks, messages to sturdy portable computers with the troops and satellite images to weather stations set up on the dusty front lines. The fire hose of information from space was a little-heralded but critical part of the swift victory in Iraq....**

*Los Angeles Times  
April 24, 2003*

# Air Force Space Command Missions



**MISSION SUPPORT:** The mission support area focuses on the basic resources necessary to support AFSPC systems and personnel. The mission area's responsibilities span the support areas of logistics, communications and information management, facilities, manpower and personnel, medical care and security forces among other things.

In its mission support role, AFSPC is responsible for the infrastructure, sustainment, security and trained personnel needed to perform our missions around the globe. Mission support areas ensure stable, effective and efficient operations across all the command's mission areas, but focus on five main parts:

**Civil Engineering.** Civil engineering provides, operates, maintains and restores the installation, facilities, housing and environment needed to support

space and missile forces.

**Logistics and Communications.** The communications and information infrastructure support area provides and sustains communications connectivity, computer resources and information management for forces worldwide. This is done through managing and sustaining a variety of systems and equipment including local and long-haul telephone networks, local area networks, mobile radios, computers and communication satellite services.

Logistics focuses on reliability, effectiveness and sustainability for the life cycle of all AFSPC systems. It provides the organization, systems and processes needed to maintain the mission readiness of ICBMs and supporting helicopters fleet, spacelift platforms and launch infrastructure, Air Force Satellite Control Network facilities and communica-

tions sites.

**Medical.** The medical support area ensures a fit and vital military force and provides health care to deployed forces and to all other beneficiaries. Medical units perform a crucial role through disease prevention and medical intervention, aiding both with non-battle injuries and combat casualties.

**Security Forces.** Security forces provide physical security of ICBMs, spacelift facilities, space system ground assets, command and control centers, and facilities where sensitive information is kept.

**Space Training, Education and Exercise.** The two primary Space Training, Education and Exercise objectives are to ensure that all mission forces, including allies, are trained and exercised in the technologies they employ on the job and that all command levels are "space educated."

# Air Force Space Command

# 14th Air Force

**Mission:** The mission of the 14th Air Force is to provide control and exploitation of space for global and theater operations. The organization is comprised of a headquarters and an Air and Space Operations center (AOC), which plans, tasks, and directs operations and five subordinate wings that conduct a full range of space operations. As the day-to-day operators of Air Force Space Command's space forces, the "Flying Tigers" of 14th Air Force provide space capabilities that ensure global presence, vigilance and reach for the nation.

Fourteenth Air Force has four key missions:

**Surveillance, Warning, and Battlespace Characterization** – Provide global and theater ballistic missile warning (strategic and tactical) and tracking capabilities to the U.S. and allied nations through the employment of satellite sensors and phased array radars.

**Counterspace** – Provide surveillance and tracking of more than 9,000 man-made objects ranging from active and inactive satellites to vehicle fragments, using a variety of sensors such as phased-array radars and optical surveillance systems. Conduct defensive and offensive counterspace operations.

**Satellite and Network Operations** – Command and control over 100 defense satellites that provide weather, communications, navigation, and surveillance-warning capabilities and operate a global network of satellite control stations and centers for a variety of defense and civil uses.

**Space Launch and Range** – Provide access to space through Western and Eastern U.S. launch sites to support national, military, civil and commercial launch operations to include testing and evaluating space, air, and missile systems.

**Responsibilities:** The historic 14th Air Force is headquartered at Vandenberg AFB Calif., and includes a total of approximately 7,200 military members and 12,000 civilian and contract employees assigned to worldwide units. It is comprised of five wings and one group and provides operational space capabilities to U.S. combatant commanders and all air component commanders. The numbered air force is the task force to U.S. Strategic Command for assigned space forces.

**Web Address:**

<http://www.vandenberg.af.mil>



# Air Force Space Command

## 21st Space Wing

**Mission:** The Air Force's most widespread and diverse wing, with 15 weapon systems, at 42 units, in 17 locations, in six countries, responsible for providing missile warning and space control to unified commanders and combat forces worldwide and host support for units including Air Force Space Command headquarters, USNORTHCOM, NORAD, 50th Space Wing and the 302nd Airlift Wing.

**Responsibilities:** The 21st Space Wing, headquartered at Peterson Air Force Base, Colo., provides worldwide missile warning, space surveillance and counterspace to unified commanders and combat forces worldwide.

The wing provides missile warning and counterspace to North American Aerospace Defense Command in Colorado Springs, Colo., and U.S. Strategic Command at Offutt AFB, Neb., through a network of command and control units and ground and space-based sensors operated by geographically separated units around the world.

The wing provides early warning of strategic and theater ballistic missile attacks and foreign space launches.

The men and women of the 21st also detect, track and catalog more than 9,000 man-made objects in space. The 21st manages and controls 24 squadrons at 20 locations in the United States and around the world. Made up of about 3,100 military and civilians, it operates and supports Cheyenne Mountain Air Force Station, Colo.; Thule Air Base, Greenland; Cavalier AFS, N.D.; Cape Cod AFS, Mass.; and Clear AFS, Alaska.

**Annual Budget:** \$292 million

**Web Address:**

<http://www.peterson.af.mil>



### Assigned Units:

21st OPERATIONS GROUP  
 21st Operations Support Squadron  
 1st Space Control Squadron (Cheyenne Mountain AFS, Colo.)  
 4th Space Control Squadron (Holloman AFB, N.M.)  
 6th Space Warning Squadron (Cape Cod AFS, Mass.)  
 7th Space Warning Squadron (Beale AFB, Calif.)  
 10th Space Warning Squadron (Cavalier AFS, N.D.)  
 12th Space Warning Squadron (Thule AB, Greenland)  
 13th Space Warning Squadron (Clear AFS, Alaska)  
 20th Space Control Squadron (Eglin AFB, Fla.)  
 76th Space Control Squadron  
 21st Operations Group Detachments:  
 Det. 1, Socorro, N.M.  
 Det. 2, Diego Garcia, Indian Ocean  
 Det. 3, Maui, Hawaii  
 Det. 4, Moron AB, Spain

21st MAINTENANCE GROUP  
 21st Maintenance Operations Flight  
 21st Space Communications Squadron  
 21st Space Management Flight

21st DIRECTOR OF STAFF

21st MEDICAL GROUP  
 21st Medical Operations Squadron

21st Medical Support Squadron  
 21st Area Dental Operations Squadron

21st MISSION SUPPORT GROUP  
 21st Mission Support Squadron  
 21st Civil Engineer Squadron  
 21st Security Forces Squadron  
 21st Services Squadron  
 21st Logistics Readiness Squadron  
 21st Contracting Squadron  
 Det. 1 Copenhagen, Denmark

721st MISSION SUPPORT GROUP (Cheyenne Mountain AFS)  
 721st Communications Squadron  
 721st Security Forces Squadron

821st AIR BASE GROUP (Thule AB, Greenland)  
 821st Support Squadron  
 821st Security Forces Squadron

### Major Tenant Units:

HQ North American Aerospace Defense Command  
 HQ U.S. Northern Command  
 HQ Air Force Space Command  
 84th Airlift Flight  
 302nd Airlift Wing (AFRC)  
 544th Information Operations Group  
 Forrest L. Vosler NCO Academy  
 Det. 5 Electronic Systems Center (AFMC)  
 367th Air Force Recruiting Squadron  
 Det. 11, Space and Missile Systems Center

# Air Force Space Command

## 30th Space Wing

**Mission:** Conduct Department of Defense, civil and commercial spacelift operations by launching a variety of space boosters -- Atlas, Delta and Titan rockets, and the Evolved Expendable Launch Vehicle -- from its launch pads. The 30th SW mission is to defend the US through launch, range and expeditionary operations. The wing also supports intercontinental ballistic missile and sea-launch ballistic missile test launches, and aircraft and cruise missile flight tests.

**Responsibilities:** The 30th Space Wing, headquartered at Vandenberg Air Force Base, Calif., manages and supports spacelift operations, including processing and launching Atlas, Delta, and Titan rockets and EELVs that carry DoD, civil and commercial satellites into polar orbits. The 30th also supports flight tests of the nation's intercontinental ballistic missile force. The wing provides support for both boosters and ICBMs through operations at the Western Range, a geographic region consisting of instrumentation sites along the California coast and extending downrange to Hawaii. The base is also involved in supporting the nation's Missile Defense Program initiative with

special mission test launches of ICBMs. The Missile Defense Agency plans to house four operational interceptors in support of the President's national defense policy.

As the host wing, the 30th also provides support services for the Vandenberg community, composed of about 7,000 civilians and military.

**Annual Budget:**  
\$272 million

**Web Address:**  
<http://www.vandenberg.af.mil>

**Assigned Units:**

30th OPERATIONS GROUP  
30th Operations Support Squadron  
30th Space Communications Squadron  
2nd Range Operations Squadron  
30th Range Management Squadron  
30th Weather Squadron  
76th Helicopter Flight

30th LAUNCH GROUP  
2nd Space Launch Squadron  
4th Space Launch Squadron  
1st Air & Space Test Squadron

30th MISSION SUPPORT GROUP  
30th Mission Support Squadron  
30th Civil Engineer Squadron

30th Contracting Squadron  
30th Logistics Readiness Squadron  
30th Services Squadron  
30th Security Forces Squadron

30th Range Maintenance Squadron  
Precision Maintenance Equipment Lab

30th MEDICAL GROUP  
30th Medical Support Squadron  
30th Medical Operations Squadron

**Major Tenant Units:**

HQ 14th Air Force  
Air Force Audit Agency  
AFMC Operating Location Ogden, ALC

AFMC Aerospace Fuels Lab  
9th Space Operations Squadron (AFRC)  
381st Training Group  
576th Flight Test Squadron  
U.S. AKMR Field Office (U.S. Army)  
U.S. Army Corps of Engineers  
Det 1, 22nd Space Operations Squadron,  
Vandenberg Tracking Station  
National Reconnaissance Office  
148th Space Operations Squadron,  
California Air National Guard  
595th Space Group  
Det 3, 17th Test Squadron  
9th Space Operations Squadron,  
Air Force Reserve Command

# Air Force Space Command

# 45th Space Wing

**Mission:** Enhance national strength through assured access to space for Department of Defense, civil and commercial users.

**Responsibilities:** Patrick Air Force Base, Fla., home of the 45th Space Wing, began as the Banana River Naval Air Station in October 1940. As the "World's Premier Gateway to Space," the 45th SW oversees the preparation and launching of Department of Defense, civil and commercial satellites from Cape Canaveral Air Force Station, Fla., and operates the Eastern Range.

The wing provides launch facilities, property and services to support NASA and commercial space operations from Cape Canaveral AFS, the historic base for man's quest of space

flight. It was from the Cape that Alan Shepard, John Glenn and many other space pioneers first rocketed into the unknown.

The 2,000 civilians and military personnel of the 45th Space Wing also provide logistics support to the Naval Ordnance Test Unit's missile tests and submarine operations at Cape Canaveral.

The wing's more than 11,000 government and contractor personnel are located at Patrick AFB, Cape Canaveral AFS, the Jonathan Dickinson Annex in Malabar, Fla., Antigua Air Station and Ascension Auxiliary Air Field.

**Budget:** \$430 million

**Web Address:**  
<https://www.patrick.af.mil/>

#### Assigned Units:

45th OPERATIONS GROUP  
45th Operations Support Squadron  
45th Space Communications Squadron  
1st Range Operations Squadron  
45th Range Management Squadron  
45th Weather Squadron  
Det. 1, Antigua AS  
Det. 2, Ascension AAF

45th LAUNCH GROUP  
1st Space Launch Squadron  
3rd Space Launch Squadron  
5th Space Launch Squadron

45th MISSION SUPPORT GROUP  
45th Civil Engineer Squadron  
45th Mission Support Squadron  
45th Security Forces Squadron  
45th Services Squadron  
45th Contracting Squadron  
45th Logistics Readiness Flight  
Det. 1, Cape Canaveral AFS

45th MEDICAL GROUP  
45th Medical Operations Squadron  
45th Medical Support Squadron  
45th Aeromedical Dental Squadron

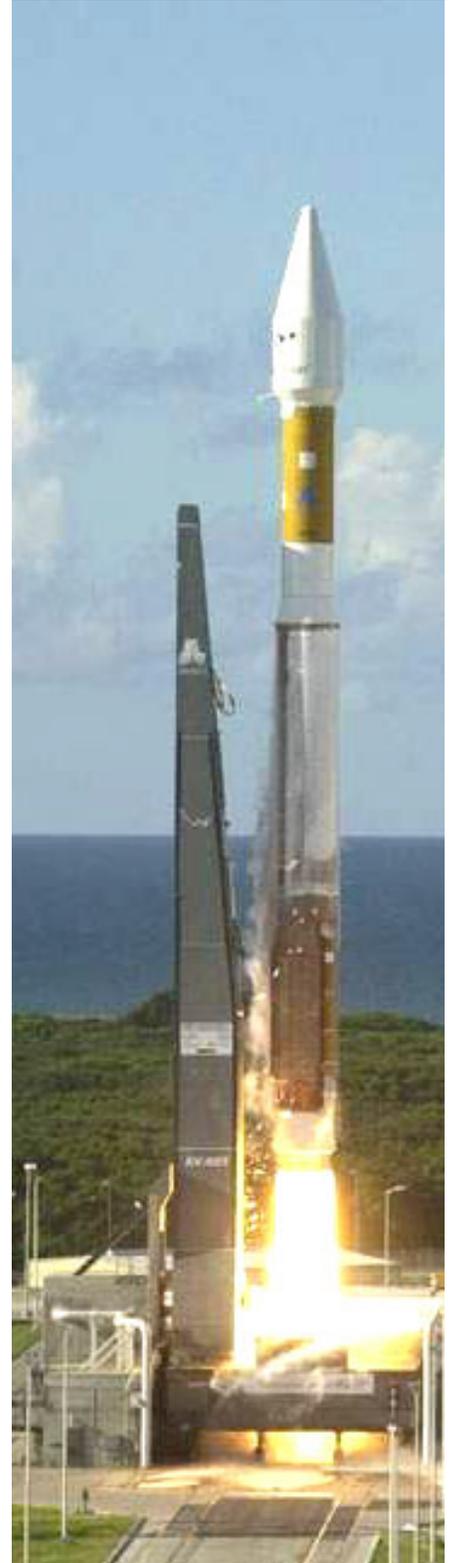
Department of Defense Manned Space Support Flight

#### Major Tenant Units:

ACC Program Management Squadron

#### Major Tenant Units cont.

Aerospace Fuels Laboratory  
Air Force Audit Agency  
Air Force Technical Applications Center  
Army 2nd Brigade, 87th Division  
Defense Contract Management, District South  
Defense Equal Opportunity Management Institute  
Defense Finance and Accounting Service – Orlando  
Department of State/Air Wing  
Det. 1, 2nd Space Operations Squadron  
Innovative Sciences Technical Experimentation Center  
Joint Stars Test Force  
Air Force Operational Test Evaluation Center  
Military Sealift Command Office  
954th U.S. Army Trans Co., Cape Canaveral  
NASA/AF Management and Aircraft Operations Office  
National Imagery and Mapping Agency  
Naval Ordnance Test Unit  
114th Range Flight, Florida Air National Guard  
333rd Recruiting Squadron  
766th Ordnance Company  
920th Rescue Wing



# Air Force Space Command

## 50th Space Wing



**Mission:** Provide combat capability through command and control of communication, navigation, warning and surveillance satellite weapon systems and conduct of expeditionary operations.

**Responsibilities:** The 50th Space Wing is located at Schriever Air Force Base, Colo. The wing was originally established on July 8, 1985, as the 2nd Space Wing, and then redesignated the 50th Space Wing on January 30, 1992.

Today, the 50th Space Wing operates satellite operation centers at Schriever AFB and remote tracking stations and other command and control facilities around the world. These facilities monitor satellites during launch, put the satellites in their proper orbits following launch, operate the satellites while they are in orbit and fix satellite anomalies when they occur.

The wing's space operations squadrons are primarily concerned

with control, telemetry, tracking and commanding of assigned satellites. Crew members conduct 24-hour operations to monitor status of and control assigned satellite systems.

The Air Force Satellite Control Network consists of eight subordinate tracking stations located around the world. Those stations are: 23rd Space Operations Squadron, New Boston AFS, N.H.; Det. 1, 22nd SOPS, Vandenberg AFB, Calif.; Det. 2, 22nd SOPS, Diego Garcia, Chagos Archipelago; Det. 3, 22nd SOPS, Thule AB, Greenland; Det. 4, 22nd SOPS, Kaena Point, Oahu, Hawaii; Det. 5, 22nd SOPS, Andersen AFB, Guam; Colorado Tracking Station, Schriever AFB; and Oakhanger, England, operated by the United Kingdom Royal Air Force.

The tracking stations provide on-orbit tracking, telemetry, commanding and mission data retrieval services to support the NASA Space Transportation System, North Atlantic Treaty Organization and DoD satellite

operations. The wing, made up of approximately 3,200 military, civilians and contract employees in its workforce, assumed operational control of the AFSCN in October 1987.

**Annual Budget:** \$194 million

**Web Address:**

<http://www.schriever.af.mil>

### Assigned Units:

50th OPERATIONS GROUP  
 1st Space Operations Squadron  
 2nd Space Operations Squadron  
     Det. 1, (Cape Canaveral AF, Fla.)  
 3rd Space Operations Squadron  
 4th Space Operations Squadron  
 50th Operations Support Squadron  
 148th Space Operations Squadron (ANG)

50th MISSION SUPPORT GROUP  
 50th Mission Support Squadron  
 50th Civil Engineer Squadron  
 50th Security Forces Squadron  
 50th Contracting Squadron  
 50th Services Division

50th NETWORK OPERATIONS GROUP  
 21st Space Operations Squadron  
     (Onizuka AFS, Calif.)  
 22nd Space Operations Squadron  
     Det. 1, Vandenberg  
     Det. 2, Diego Garcia  
     Det. 3, Thule  
     Det. 4, Kaena Point  
     Det. 5, Andersen  
     Colorado Tracking Station, Schriever  
     Operating Location-AE, RAF Oakhanger  
 23rd Space Operations Squadron, New  
     Boston AFS, N.H.  
 50th Space Communications Squadron  
 850th Space Communications Squadron

### Major Tenant Units:

Joint National Integration Center  
 Space Warfare Center  
 OL Det. 11, Space & Missile Systems  
     Center  
 6th Space Operations Squadron (AFRC)  
 Det. 46, Air Force Technical  
     Applications Center  
 Cheyenne Mountain Training and  
     Simulation System  
 310th Space Group (AFRC)  
 310th Security Forces (AFRC)

# Air Force Space Command

## 460th Space Wing

**Mission:** The mission of the 460th Space Wing is to provide combat commanders with superior global surveillance, worldwide missile warning, expeditionary forces and support to homeland defense missions.

**Responsibilities:** The 460th Space Wing is headquartered at Buckley AFB, in Aurora, Colo. It provides global surveillance and worldwide missile warning. It provides, security, communications, civil engineering, personnel, services, logistics and medical support to more than 38 active-duty, Guard and Reserve units from all

branches of service. In all, it supports 88,000 military, civilian and retired personnel. The wing, composed of approximately 1,500 military and civilians, also plans and executes \$198 million infrastructure and quality-of-life programs to make Buckley a model AFB. It ensures world-class support, maintains operationally ready forces and provides superior customer service.

**Annual Budget:** \$90.9 million

**Web Address:** <http://www.buckley.af.mil>



**Assigned Units:**

460th OPERATIONS GROUP  
 460th Operations Support Squadron  
 460th Space Communications Squadron  
 Det. 1 Space Communications Squadron (Overseas location)  
 2nd Space Warning Squadron

**460th MISSION SUPPORT GROUP**

460th Mission Support Squadron  
 460th Security Forces Squadron  
 460th Services Division  
 460th Civil Engineer Squadron  
 460th Contracting Squadron  
 460th Logistics Readiness Squadron  
 460th Medical Squadron  
 460th Comptroller Squadron

**Major Tenant Units:**

140th Fighter Wing (Colorado Air National Guard)

Aerospace Data Facility  
 566th Information Operations Squadron  
 Det. 4, Air Force Operational Testing and Evaluation Center  
 Det. 801, Air Force Office of Special Investigations  
 Marine Air Control Squadron 23  
 Det. 45, Air Force Technical Applications Center  
 Navy Marine Corps Reserve Center  
 Colorado Army National Guard  
 Civil Air Patrol  
 Air Force Audit Agency  
 U.S. Army Corp of Engineers  
 Ground Based Midcourse Defense  
 Buckley Support Team (SMC/MTGB)  
 Ground-Based Midcourse Defense

**Off-Base Supported Agencies:**

Air Force Accounting and Finance Office  
 Air Force Real Property Agency

Air Force Institute of Technology  
 Air Reserve Personnel Center  
 Det. 110, Air Force Office of Special Investigations  
 Combined Task Force  
 Continental U.S. NORAD Region  
 Defense Contract Manager  
 Defense Finance and Accounting Service  
 Military Entrance Processing Station  
 Naval Reserve Recruiting Area West 7  
 U. S. Army Recruiting Battalion  
 Defense Enterprise Computing Center  
 Defense Information Service Agency  
 DoD Inspector General  
 Defense Security Cooperation Agency  
 Defense Automated Printing Service  
 Rocky Mountain Arsenal  
 Headquarters Air Force Weather Service - Operating Location P

# Air Force Space Command

## 20th Air Force

**Mission:** America's intercontinental ballistic missile team, 20th Air Force, is the front line of deterrence against any threat to the United States.

A team of approximately 9,600 people based at three operational missile units and one operational location, 20th Air Force operates, maintains, secures and ensures the safety and combat readiness of the country's ICBM force.

**Responsibilities:** Missile combat crews perform around-the-clock alerts in underground launch control centers. These two-person crews monitor the status of 500 Minuteman III and less than 50 Peacekeeper missiles scattered across 46,000 square miles in parts of Colorado, Montana, Nebraska, North Dakota and Wyoming. The Peacekeepers are being gradually deactivated and the last will be phased out in 2005.

Based at F. E. Warren AFB, Wyo., 20th Air Force reports to both Air Force Space Command and U. S. Strategic Command. The ICBMs are the land-based component of the strategic nuclear triad, which also includes bombers and submarine-launched ballistic missiles. Twentieth Air Force's units include the 90th Space Wing at F.E. Warren, AFB, Wyo., the 91st Space Wing, Minot AFB, N.D. and the 341st Space Wing, Malmstrom AFB, Mont. Another unit is the 625th Missile Operations Flight at Offutt AFB, Neb., which verifies missile targeting, trains airborne launch control system crews and ensures strategic communications networks between the launch control centers and national leadership are operating.

Proper maintenance, safety and security of its missile assets have allowed America's ICBM team to maintain its on-alert rate above 99 percent – a rating unmatched by any other weapon system.

To maintain the highest levels of



missile security, about 12 percent of the Air Force's total security forces, along with a large complement of helicopters, are assigned to 20th Air Force. Every year, its people drive 2,000 vehicles more than 17 million miles to support the ICBM force.

To refurbish the 30-year-old Minuteman weapon system, the Air Force is executing a six billion dollar modernization program, both in the launch control centers and on the

missiles. These missile life-extension and upgrade programs will ensure the Minuteman ICBM continues to serve as the "tip of the spear" of deterrence well into the 21st Century. Plans include replacing Minuteman III fuel and propulsion systems, while new missile guidance set equipment will extend the life of the system to 2020.

**Web address:** <http://www.warren.af.mil/20af/index.htm>

# Air Force Space Command

## 90th Space Wing



**Mission:** Defending America with the world's most powerful combat-ready ICBM force.

**Responsibilities:** Francis E. Warren Air Force Base, Cheyenne, Wyo., is home to the nation's largest strategic missile unit, the 90th Space Wing. The 90th Space Wing was activated July 1, 1963, with the original designation of the 90th Strategic Missile Wing. The 90th Space Wing became the nation's first operational ICBM unit with the introduction of the Atlas missile in 1958.

Today, the 90th has more 1,500 combat-ready personnel who operate, protect, maintain and support Minuteman III and Peacekeeper missiles at 20 missile alert facilities

deployed over 12,600 square miles.

A tenant unit, the 153rd Command & Control Squadron (ANG), also provides road mobile, survivable and enduring command, control, communications and base support capability to the North American Aerospace Defense Command and U.S. Strategic Command.

The 90th Space Wing employs about 3,100 military personnel and approximately 470 civilian employees.

**Annual Budget:** \$104 million

**Web Address:** <http://www.warren.af.mil>

**Assigned Units:**

90th OPERATIONS GROUP  
 90th Operations Support Squadron  
 319th Missile Squadron  
 320th Missile Squadron  
 321st Missile Squadron  
 400th Missile Squadron  
 37th Helicopter Flight

90th MAINTENANCE GROUP  
 90th Maintenance Operations Squadron  
 90th Missile Maintenance Squadron

90th MISSILE SECURITY FORCES GROUP  
 90th Missile Security Forces Squadron  
 90th Security Forces Squadron  
 90th Security Support Squadron  
 790th Missile Security Forces Squadron

90th MISSION SUPPORT GROUP  
 90th Civil Engineer Squadron  
 90th Services Squadron  
 90th Mission Support Squadron  
 90th Communications Squadron  
 90th Contracting Squadron

90th Logistics Readiness Squadron

90th MEDICAL GROUP  
 90th Aeromedical-Dental Squadron  
 90th Medical Operations Squadron  
 90th Medical Support Squadron

**Major Tenant Units:**

HQ 20th Air Force  
 153rd Command & Control Squadron (ANG)

# Air Force Space Command

## 91st Space Wing



**Mission:** Defending America, when directed, with the world's most powerful combat-ready ICBM force.

**Responsibilities:** Headquartered at Minot Air Force Base, N.D., the 91st Space Wing is one of three operational missile wings in Air Force Space Command. For five decades, through three wars, a Cold War, and with vastly different missions, the 91st SW and its predecessors have answered America's call.

June 25, 1968, the 91st Strategic Missile Wing moved without personnel or equipment to Minot AFB. The wing absorbed the personnel, equipment and operational units from the 455th SMW, which was inactivated with the move of the 91st SMW. The wing's new mission was to maintain three squadrons of Minuteman I intercontinental ballistic missiles in a constant state of readiness.

In 1971, the 91st SMW moved to the forefront of Strategic Air Command's missile force by becoming the

first wing to convert to the Minuteman III ICBM.

Since coming to Minot AFB, the 91st SW has earned 13 Air Force Outstanding Unit Awards and a variety of other honors, including many Air Force, major command and numbered air force awards.

Today, the wing controls 150 Minuteman III missiles, located over an 8,500 square-mile area in north central North Dakota, an area approximately the same size as the state of Massachusetts.

The "Rough Riders" of the 91st SW are made up of approximately 1600 military and civilians and live up to their motto, "Poised for Peace," providing deterrence and a global nuclear strike capability.

**Annual Budget:** \$20 million

**Web Address:** <http://www.minot.af.mil>

**Assigned Units:**

91st OPERATIONS GROUP  
 740th Missile Squadron  
 741st Missile Squadron  
 742nd Missile Squadron  
 91st Operations Support Squadron

54th Helicopter Flight  
 91st MAINTENANCE GROUP  
 91st Maintenance Operations Squadron  
 91st Missile Maintenance Squadron

91st SECURITY FORCES GROUP  
 91st Missile Security Forces Squadron  
 91st Security Support Squadron  
 791st Missile Security Forces Squadron

# Air Force Space Command

## 341st Space Wing



### Assigned Units:

341st OPERATIONS GROUP  
10th Missile Squadron  
12th Missile Squadron  
490th Missile Squadron  
564th Missile Squadron  
341st Operations Support Squadron  
40th Helicopter Flight

341st MAINTENANCE GROUP  
341st Maintenance Operations Squadron  
341st Missile Maintenance Squadron

341st MISSION SUPPORT GROUP  
341st Civil Engineer Squadron  
341st Communications Squadron  
341st Mission Support Squadron  
341st Services Squadron  
341st Logistics Readiness Squadron  
341st Contracting Squadron

341st MEDICAL GROUP  
341st Medical Operations Squadron  
341st Medical Support Squadron

341st SECURITY FORCES GROUP  
341st Missile Security Forces Squadron  
341st Security Forces Squadron  
341st Security Support Squadron  
741st Missile Security Forces Squadron

### Major Tenant Unit:

819th RED HORSE Squadron  
219th RED HORSE Squadron  
(Montana Air National Guard)

**Mission:** Keeping America free and strong by providing combat-ready forces.

**Responsibilities:** Malmstrom Air Force Base, just east of Great Falls, Mont., is home to the 341st Space Wing. The base was opened in 1942 as an Army post for training war-bound B-17 crews. It became a staging point for Lend Lease planes ferried through Alaska to the Soviet Union, a World War II ally.

Malmstrom officially entered the ICBM age when the launch facilities of the 10th Strategic Missile Squadron were brought to alert status during the Cuban Missile Crisis. On Oct. 29,

1962, President John F. Kennedy acknowledged these efforts and their role in U.S. foreign policy when he referred to the 10th SMS as America's "ace in the hole," thereby giving the squadron its motto and tradition.

Malmstrom's roles have changed through the years. Today the missile wing is made up of 3,500 military and civilians, and has 200 launch facilities, housing Minuteman III missiles, spread throughout nine central Montana counties.

**Annual Budget:** \$102 million

### Web Address:

<http://www.malmstrom.af.mil>

# Air Force Space Command Space and Missile Systems Center

Space and Missiles Systems Center at Los Angeles Air Force Base, Calif., is the technical center of excellence for researching, developing and acquiring military space systems. It is responsible for on-orbit check-out, testing and endurance of military satellite constellations and other Defense Department space systems. SMC is the acquisition arm for Air Force Space Command. It is also responsible for the acquisition of satellite tracking, data acquisition, and command and control systems, including maintenance of communications and data handling operations.

SMC, supported by the LAAFB's host unit, the 61st Air Base Group, work with Air Force Materiel Command throughout space systems acquisitions processes. SMC strengthens the nation's security with integrated, affordable space systems and launch vehicles.

SMC delivers unrivaled space, missile, and information systems and capabilities to the joint warfighter and our nation through various program offices:

### Space-Based Infrared Systems:

The Space-Based Infrared Systems Program Office manages every aspect of acquisition for complementary, global systems: the Defense Support Program and SBIRS High, as well as the SBIRS ground segment.

Management includes logistical support, launch and anomaly resolution support for DSP.

It also includes logistical support for the SBIRS ground segment and design, risk reduction, engineering, manufacturing, launching and, finally, testing for SBIRS.



**Web Address:**  
<http://www.losangeles.af.mil>

### NAVSTAR Global Positioning System:

The Joint Program Office actively pursues accuracy, availability, integrity, and survivability improvements to meet emerging GPS needs for the military and civilian population. The next block of satellites, called GPS III, will continue to deliver the new civil signals and improved military codes initiated on the IIR-M and IIF programs.

NAVSTAR is the world's premier positioning and navigation system. Mapping, aerial refueling, rendezvous operations, geodetic surveying, and search and rescue operations have all benefited greatly from GPS's accuracy, and GPS permeates all facets of modern warfare. Forward air controllers, pilots, tank drivers, and ground troops all use GPS to help ensure victory on the battlefield. GPS receivers are integrated into every type of DoD system: aircraft, space-

craft, munitions, ground vehicles and ships, providing real-time situation awareness for the warfighter.

### Military Satellite Communications:

The MILSATCOM Joint Program Office (MJPO) is the DoD's primary acquirer of satellite communications systems to satisfy warfighter requirements. The MJPO's primary mission is to equip the President, Secretary of Defense and combat forces of all Services with survivable, worldwide, rapid communications for all levels of conflict.

The MJPO acquires major system segments including space, mission and satellite control and Air Force terminals. Together, these systems provide satellite communication capabilities in the Protected and Wideband frequency spectrum. The MJPO also develops and applies innovative communications concepts, leveraging state-of-the art technolo-

## Tenant Units

Air Force Audit Agency  
Det. 110, Air Force Office of Special Investigations  
Defense Contract Audit Agency  
Defense Systems Management College, Western Regional Center

Defense Contract Management Office  
Western Office, National Imagery and Mapping Agency  
Det. 1, 60th Aerial Port Squadron (AMC) Los Angeles International Airport

gies that are based on developments within the DoD, NASA, the National Laboratories and the National Security community.

Current MJPO programs include the Defense Satellite Communications System (DSCS), Military Strategic and Tactical Relay Satellite (Milstar), Wideband Gapfiller Satellites (WGS), Advanced EHF (AEHF) satellites, Interim Polar, Global Broadcast Service (GBS), Command and Control System-Consolidated (CCS-C), Ground Multi-band Terminal (GMT) and Family of Advanced Beyond-Line-of-Sight Terminals (FAB-T).

### Space Superiority System Program:

The Space Superiority System Program Office equips U.S. forces with offensive and defensive counterspace and space situational awareness systems required to gain, maintain, and exploit space superiority. It has cradle-to-grave responsibility for weapon systems development, fielding, and sustainment. Current programs include the Counter Communications System, the Counter Surveillance and Reconnaissance System, the Rapid Attack Identification and Detection Reporting System, and Space-Based Space Surveillance.

### Evolved Expendable Launch Vehicles:

The Evolved Expendable Launch Vehicle Program Office at SMC is the one stop for all Boeing Delta IV and Lockheed Martin Atlas V launch services. Essentially, the EELV Program Office controls every aspect of the Program's launch service acquisition and procurement. Due to the commercial nature of the EELV Program, the office at SMC does not

have operational control of actual Delta IV and Atlas V launches.

Operational control of launch services resides with the Government's prime contractors.

### Space-Based Radar:

Space-Based Radar is a new major defense acquisition program initiated in 2002 by the Secretary of Defense as a "transformational" capability and delegated program authority to the Air Force. A new program office at the SMC was established on Oct. 16, 2002, to lead this joint program with principle participation from Electronic Systems Center in Bedford, Mass., the National Reconnaissance Office, the U.S. Army and other services and agencies.

The main objective of the SBR program is to field, within the next decade, a space borne capability for theater commanders to track and identify time sensitive moving ground targets. The focus beginning in 2002 and continuing throughout 2005 includes requirements development (led by Air Force Space Command), technology risk reduction, concept exploration and cost feasibility.

### Launch:

The Launch Programs System Program Office provides assured access to space by acquiring and sustaining a reliable, affordable national space launch capability. The Titan II/IV, Atlas IIAS/III, and Delta II rockets respond to direct secretary of defense and Office of Joint Chiefs of Staff tasking to launch spacecraft into various orbits that support global military, national security and scientific objectives.

The program office at Los Angeles AFB, and prime contractors Lockheed

Martin and Boeing, work to provide each spacecraft customer a successful ride into orbit.

### Satellite and Launch Control Systems:

The Satellite and Launch Control Systems program office provides launch control for space lift vehicles and also supports tracking, telemetry and commanding for on-orbit satellites as well as test support for ballistic missiles and space experiments.

The Spacelift Range System and the Air Force Satellite Control Network provide the behind-the-scenes mission support described above. Both systems are vital to the health and status of our satellites.

### Defense Meteorological Satellite Program:

The system program office for the Defense Meteorological Satellite Program (DMSP) equips worldwide strategic and tactical forces with weather and space environmental data for planning and executing aerospace, ground, and naval operations. The \$3.5-billion program develops, tests, acquires, and sustains satellites, sensors, and ground systems to meet warfighter requirements.

The program office provides system acquisition, contract oversight, launch support, early orbit operations, and spacecraft anomaly resolution support of the DoD's sole operational weather satellite system. As of December 2002, there are five more DMSP spacecraft to be launched into a constellation that is expected to last until 2015.

**Annual Budget:** \$8 Billion

## SMC Detachments' missions

**Detachment 11**, located at Peterson AFB, Colo., sustains and improves fielded Space Weapon Systems in partnership with customers and suppliers. Systems supported include: Space-Based Infrared System (SBIRS), Defense Meteorological Space Program (DMSP), Military Satellite Communications MILSATCOM, Global Positioning System (GPS), Air Force Satellite Control Network (AFSCN), and Space Lift Range System (SLRS).



**Detachment 12**, at Kirtland AFB, N.M., serves as primary provider of launch capability, space flight, and on-orbit operations demonstrating transformation technologies for the warfighter. This wing-level unit directs the Rocket Systems Launch Program, DoD Space Test Program, and Research and Development Space and Missile Operations Program, acquiring, integrating, launching, and operating R&D and prototype operational launch vehicles and spacecraft.

# Air Force Space Command Space Warfare Center

The Space Warfare Center at Schriever AFB, Colo., is critical to integration of space into the Air Force. Its force enhancement mission looks at ways to use space to support warfighters with navigation, weather, intelligence, communications and theater ballistic missile warning capabilities.

As a center for adapting and integrating space into warfighting, the SWC researches and supports programs to meet combat Air Force requirements. It demonstrates the potential of space systems in warfighting scenarios and works with commanders to integrate space systems into war plans and exercises.

It also develops an academic curriculum to educate service members and allies on the capabilities of space systems and their potential military applications.

The SWC is a group and four directorates comprised of 595th Space Group, the Air Force Space Battlelab, the Tactical Exploitation of National Capabilities or TENCAP, and the Plans and Requirements Directorate.

The 595th Space Group is comprised of the 576th Flight Test Squadron at Vandenberg AFB, Calif., the 17th Test Squadron, the 14th Test Squadron (AFRC), the 527th Space Aggressor Squadron, the 26th Space Aggressor Squadron (AFRC) and the Space Operations School, all at Schriever.

The Air Force Space Battlelab, which rapidly identifies and proves the worth of innovative space operations and logistics concepts, also reports to the SWC.

The SWC's mission of taking existing space systems and developing new capabilities out of these systems is known as the TENCAP or Talon program.

The SWC highlighted the success of its Talon programs in 1995 when the Talon Shield program became fully operational at Schriever. That mission moved in 2002 to the 2nd Space Warning Squadron at Buckley AFB,



Colo. The 2nd SWS is the Air Force's only early-warning unit dedicated to theater missile warning – short-range missiles like Iraqi extended-range Scuds or variants used in the Gulf War.

The key to detecting these missiles was the Attack and Launch Early Reporting to Theater (ALERT) system which grew from the Talon Shield program. It sifted through information from DSP early-warning satellites to sniff out the tell-tale "heat signatures" produced by missile and rocket booster engines. This mission is now a part of the Space-Based Infrared System Phase I.

Another successful program was Talon Hook, which utilized space to help find and rescue downed aircrews. Developed through its Talon Hook program, the SWC designed the Hook 112 survival radio, which combines a standard survival radio with GPS technology. This radio relays the aircrew member's position to rescue centers without revealing their position to the enemy.

SWC programs continue to advance the use of technology in the

conduct of modern warfare.

## SPACE BATTLELAB

The Air Force Space Battlelab is one of seven Air Force battlelabs. Together with the Information Warfare; Command and Control; Unmanned Aerial Vehicle; Force Protection; Air Mobility; and the Air Expeditionary Forces Battlelabs, the Space Battlelab advances Air Force core competencies and joint warfighting by taking advantage of the rapid pace of technology.

The battlelab explores new concepts, then rapidly demonstrates military utility that influences organization, doctrine, training, requirements or acquisition. The Space Battlelab is manned with people representing a diverse cross section of specialties.

Although the Space Battlelab reports directly to the Space Warfare Center, it also coordinates its efforts with HQ USAF/XIIV, Innovation Division, at the Air Staff.

**Annual Budget:** \$70 Million

**Web Address:**

<http://www.schriever.af.mil>

# The Future of AFSPC



Space is completely integral to operations in every medium – air, land, sea and space. Secretary of the Air Force, Dr. James G. Roche, emphasized this point when he said, “Space capabilities are an integral, yet invisible part of the daily fabric of commercial and military operations.” He also said, “Space power is on an equal footing with air, land and maritime power.” We have an incredible and unprecedented combat synergy today, thanks to highly trained, highly skilled, highly connected and highly integrated combat warriors – immeasurably aided by eyes, ears, links, and beacons on the “high ground” of space. Space is clearly vital to combat operations and our national security – we must ensure it does not become a vulnerability.

To face the challenges of the future, we will transform Air Force Space Command to provide full spectrum of kinetic and non-kinetic combat capabilities. Air Force Space Command will evolve to meet existing, emerging and projected threats. Our charter for the future is to maintain the highly successful force enhancement and nuclear deterrent roles we provide our military today and increase our focus on producing warfighting effects with space superiority and strike capabilities.

Our Air Force Space Command strategy, *Commanding the Future*, is our flight plan for transformation. It involves seven strategic thrusts. These thrusts — *Command the Future*, *Enterprise*, *Partner*, *Unleash Human Talent*, *Warfighters*, *Wizards* and *Technology to Warfighting* — are each headed by a general officer and each have an execution plan and vision aligning with one of our three roles as a Command: Component to United States Strategic Command, Major Air Force Command and Support to the Air Force’s role as Executive Agent for Space.

Near-term, we will produce space experts to continue the integration of space capabilities in military operations.

These experts will lead our capabilities and effects-based planning and programming processes. They will create concepts of operation describe how we fight and the effects we generate.

These CONOPS drive the requirements for capabilities and the transformational systems that will make them a reality. Strong cooperative partnerships with the military services, other agencies and allies will allow us to maximize limited resources and focus technology development in order to rapidly produce and field transformational space capabilities.

Mid-term, our cadre of space experts will deploy a new generation of responsive assured space access, prompt global strike and space superiority capabilities. Integrating fielded space force enhancement systems with similar terrestrial systems will allow military forces to increase their situation awareness at a reduced cost. This operational synergy will also allow us to pursue a cost-effective sustainment strategy.

Far-term, our targeted capability resources will be devoted to fielding and deploying space combat forces in depth, allowing us to take the fight to any adversary in, from and through space, on-demand. We will employ well-equipped forces, manned with trained space experts and armed with the best capabilities to fight and win the battles of the future.

Our preeminent space capabilities — prompt global strike; predictive battlespace awareness and targeting-quality information; information dominance; space situation awareness; offensive and defensive counterspace; and transformational force enhancement effects — will allow our nation to deter hostile action, coerce when necessary, and fight when called, and prevail against any threat or adversary.

We will continue to explore advanced technologies that will revolutionize and transform our operations beyond 2025.



AIR FORCE  
*Space & Missiles*

1954 - 2004

