SCHRIEVER SPACE HISTORY

Brief History of the Schriever SFB and Its Assigned Units

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INTRODUCTION

In May 1983, Air Force Space Command leadership and contractors broke ground for the base. Soon after construction began and the majority of the work occurred was within the restricted area. In July 1985, the Air Force officially opened the base, as Falcon Air Force Station (AFS). In September 1985, the Air Force activated the 2d Space Wing (2 SW). In 1987, the 2 SW began limited space control operations. In October 1987, the 2d Space Tracking Group activated at Sunnyvale AFS, California assuming the operations of the Air Force Satellite Control Facility and became a part of the 2 SW. In 1988, the Air Force renamed the installation, Falcon Air Force Base (AFB). In February 1989, Global Positioning System operations transferred to Falcon AFB. In December 1989, Air Force Space Command assumed control of the Mission Control Complex to support satellite operations. In January 1992, 2 SW inactivated and the 50th Space Wing activated. The 50th was the designation of a former fighter wing in Europe, now a space wing.

The wing's transition to satellite and network operations would present opportunities over the next two decades to add to its list of awards, honors, and accomplishments. As the wing assumed authority for Falcon AFB--a small, operationally focused, installation about 10 miles east of Colorado Springs—few could have foreseen the changes ahead. Falcon AFB, renamed in honor of General Bernard A. Schriever in June 1998, became in the next two decades a major installation with a variety of space-based tenant organizations and 242 family housing units. The wing's space operations squadrons increased the number and variety of their operated satellite systems and ensured other satellite control centers access to the Air Force Satellite Control Network's resources located around the globe, delivering decisive combat effects. These effects, including the positioning, navigation, and timing effects provided by the Global Positioning System (GPS) and communications capabilities provided by the wing's military satellite communications (MILSATCOM) and Global Broadcast Service (GBS) were present in virtually every military engagement and humanitarian effort in which U.S forces engaged. Wing personnel and units garnered numerous awards and accolades, while the wing earned the prestigious Omaha Trophy for Global Operations three time in five years.

In 2019, the Department of Defense established the United States Space Force (USSF). Space and satellite operations were a key part of the new services mission and infrastructure. In July 2020, USSF inactivated the 50 SW, made Schriever AFB a part of the Peterson-Schriever Garrison (P-S GAR) and established Space Deltas to carry out the operational missions, while establishing the Peterson-Schriever Garrison to manage to installation infrastructure. The Space Deltas include Space Delta 6, which carried out the satellite control network operation and defensive cyber operations; Space Delta 8, which accomplished military satellite communications and navigation warfare; and Space Delta 9, which undertook orbital warfare operations.

CHRONOLOGY

1979	The Department of Defense approved the concept of a back-up satellite control facility essential to support the expansion of the DoD's satellite fleet and to support the National Aeronautics and Space Administration's Space Shuttle program. The facility became the Consolidate Space Operations Center (CSOC).
December 20, 1979	Dr. Hans Mark, Under Secretary of the Air Force announced the purchase of land for consideration in the CSOC decision near Colorado Springs, Colorado.
May 17, 1983	Air Force officials and contractors broke ground on the site east of Colorado Springs near the intersection of Highway 94 and Enoch Road. The installation would become Falcon Air Force Station (AFS) and construction soon started on the CSOC and its support facilities.
July 8, 1985	The Air Force officially activated Falcon AFS, Colorado.
September 26, 1985	The Air Force activated the 2d Space Wing (2 SW) at Falcon AFS.
October 1, 1985	The Air Force activated the 2d Space Control Squadron (2 SCS, later 2d Space Operations Squadron [2 SOPS]) at Vandenberg AFB, whereby the unit began actions to relocate to Falcon AFS. Their mission to fly the new Global Positioning System (GPS) satellites.
1987	Satellite crews from the 2 SW began limited satellite control operations from Falcon AFS.
May 1987	The majority of construction was complete on Falcon AFS.
October 5, 1987	Air Force Space Command activated the 1st Space Control Squadron at Falcon AFS. The mission was to fly the Defense Support Program and early GPS satellites prior to 2 SCS.
June 13, 1988.	Air Force Space Command renamed the installation Falcon Air Force Base.
December 21,1988	Air Force Space Command began control of the first GPS satellite turned over to the command and flown from Falcon AFS.
February 14, 1989	The 1 SCS controlled the launch of a GPS satellite (GPS II-1) at Falcon AFB.
February 23, 1989	The 1 SCS conducted its first GPS satellite (GPS II-1) transfer to 2 SCS at Falcon AFB.
December 21, 1989	Air Force Space Command accepted control of (from Air Force Systems Command) and declared the Mission Control Complex at Falcon AFS operational.
February 2, 1990	The 3d SCS activated at Falcon AFS, their mission fly military satellite communications spacecraft.
April 24, 1990	The 2d SCS accepted control of the GPS system at Falcon AFB.

January 30, 1992	The 50th Tactical Fighter Wing activated as the 50th Space Wing at Falcon Air Force Base, Colorado. The 50th assumed the personnel, equipment, and functions of the 2d Space Wing, which inactivated at Falcon on that date. Colonel Roger DeKok assumed command.
April 30, 1992	The 4th Space Operations Squadron activated as a component of the 50th Operations Group. The squadron would later operate the Milstar satellite system.
July 1, 1993	Headquarters, Air Force Space Command (AFSPC) ordered the reassignment of the 50th Space Wing to the newly activated Fourteenth Air Force.
August 22, 1993	A ribbon-cutting ceremony marked the opening of the fire station at New Boston Air Force Station.
September 27, 1993	A ceremony marked the formal Air Force Space Command acceptance of the Falcon AFB Consolidated Space Operations Center.
December 13, 1993	On the 20th anniversary of the satellite's launch, the 5th Space Operations Squadron began end-of-life operations for Defense Satellite Communications System (DSCS) II satellite B4.
February 7, 1994	The first Milstar satellite launched at 2147Z.
March 22, 1994	Milstar Demonstration Flight Satellite (DFS)-1 arrived on station. Crews of the 4th Space Operations Squadron (4 SOPS) assumed mission control element responsibilities in April 1994.
November 15, 1994	The 4th Space Operations Squadron assumed satellite control authority for the first Milstar satellite.
June 5, 1998	Falcon Air Force Base was renamed Schriever Air Force Base in honor of General Bernard A. Schriever, the former commander of Air Force Systems Command and a pioneer in developing USAF missile and space systems.
January 1, 2000	Operating Location B (OL-B) of the 3d Space Operations Squadron inactivated at Wahiawa, Hawaii. The squadron turned over the facility, one of five Ultra-High Frequency Follow-On (UFO) satellite communications centers, to the 614th Space Operations Squadron, a Fourteenth Air Force unit based at Vandenberg AFB, California.
February 4, 2000	The Air Force redesignated Onizuka and New Boston Air Force Bases as Air Force Stations.

February 5, 2000	A crew at the New Boston Remote Tracking Station achieved a new record of error-free supports, logging 20,000 satellite supports with no errors. The crew, Bill Hickerson, Bob Curren, Paul McCay, Bill Cheshire, Vern Townsend, Jim Veach, Matt Curry, Gary Collins and Mike Williams, began working toward the record on 28 July 1997.
February 10, 2000	3d Space Operations Squadron crewmembers performed the last support of Ultra High Frequency Follow-On satellite, Flight 10. The US Navy assumed satellite control authority for the constellation the next day, ending a 2-year transfer of responsibility for the system from the 3d Space Operations Squadron at Schriever AFB to the Naval Satellite Operations Center at Point Mugu, California. The inactivation of Operating Location C, 3d Space Operations Squadron on April 1, 2000 marked the end of the wing's involvement with the Ultra-High Frequency satellite system.
June 13, 2000	The 5th Space Operations Squadron inactivated at Onizuka Air Force Station, California. Other 50th Space Wing squadrons assumed most 5th Space Operations Squadron missions and the 21st Space Operations Squadron assimilated most of the inactivated squadron's people.
August 28, 2000	El Paso County Sheriff John W. Anderson presented MSgt Ken Merritt of the wing's Inspector General office with the Sheriff's Office Lifesaving Medal. The award recognized MSgt Merrit's actions at the scene of a rollover accident on 8 June 2000.
October 1, 2000	The wing assumed control of the Midcourse Space Experiment (MSX) satellite from the Ballistic Missile Defense Organization.
October 11, 2000	Space Shuttle Discovery (STS-92), on a mission to deliver equipment and supplies to the International Space Station, suffered a Ku-band antenna failure. 21st Space Operations Squadron operators used the Air Force Satellite Control Network to receive data from the shuttle and relay it to the National Aeronautics and Space Administration mission controllers, conducting 201 support events for the mission.
May 2, 2001	Air Vice Marshal Mohammed Mahfoudh Al-Ardhi, Commander, Royal Air Force of Oman, visited the base for an orientation tour and to learn about satellite systems operated by the 50th Space Wing.
October 1, 2002	Air Force Space Command ordered the activation of the 50th Logistics Group, re-designating it 50th Maintenance Group and reassigning the 50th Space Communications Squadron and 850th Space Communications Squadron (redesignated from 50th and 850th Communications Squadrons) to the organization. Concurrently, the command inactivated the 50th Communications Group. The new group included a Program Management Office that held responsibility for a variety of functions, including contracting and logistics.

October 1, 2002	Air Force Space Command ordered the redesignation of the 50th Support Group as 50th Mission Support Group.
November 2002	Crews of the 3d Space Operations Squadron relocated Defense Satellite Communications System flight B14 to a new position in a North Atlantic Treaty Organization (NATO)-owned slot in preparation for Operation IRAQI FREEDOM.
December 8-9, 2002	A major typhoon struck Guam and the Guam Tracking Station (Detachment 5, 22d Space Operations Squadron). The site sustained damage to radomes, facilities, vehicles, and loss of commercial power, though the unit reported no injuries to assigned personnel.
December 31, 2002	Operating Location-AE, 22d Space Operations Squadron, Oakhangar, United Kingdom, reported a record setting 27,993 satellite supports for the year.
March 20, 2003	United States forces launched Operation IRAQI FREEDOM. In the first 20 days of combat, crews of the 50th Operations Group flew hundreds of satellite missions, completed thousands of satellite contacts, responded to satellite anomalies, and helped put additional satellites on orbit.
March 21, 2003	The 2nd Space Operations Squadron opened the Global Positioning System Operations Center at Schriever AFB.
April 8, 2003	The last Milstar satellite was launched into a 22,500-mile geosynchronous orbit. Once on orbit, Flight 6 completed the Milstar constellation.
June 1, 2003	Headquarters, Air Force Space Command ordered the activation of the 50th Communications Group to replace the 50th Maintenance Group, inactivated on this date. The 50th Communications Group absorbed the 50th and 850th Space Communications Squadrons. The command also ordered the activation and redesignation of the 50th Supply Squadron as the 50th Logistics Readiness Flight and assigned it to the 50th Mission Support Group
August 29, 2003	The last Defense Satellite Communications System satellite, B6, launched from Space Launch Complex 37 at Cape Canaveral Air Force Station, Florida, aboard a Boeing Delta IV launch vehicle.
October 1, 2003	Headquarters, Air Force Space Command ordered the activation of the 50th Comptroller Squadron and renamed it the 50th Comptroller Flight. The command also activated components of the 21st Medical Group at Schriever, giving the installation full service dental and medical clinics.

December 19, 2003	The crews of the Air Force Satellite Control Network (AFSCN) set a one-day contact record, logging 514 satellite supports.
December 29, 2003	Air Force Space Command declared initial operational capability for Milstar.
December 31, 2003	22d Space Operations Squadron crews set a monthly satellite contact record at 14,710 supports. Additional records set during the year included site contact records at Diego Garcia (REEF) with 15,858; Vandenberg (COOK) with 19,226; Guam (GUAM) with 20,586; and Telemetry and Commanding Station Oakhanger (LION) with 27,966.
March 10, 2004	Air Force Space Command redesignated the 50th Communications Group as the 50th Network Operations Group and transferred the 21st, 22d, and 23d Space Operations Squadrons from the 50th Operations Group to the 50th Network Operations Group.
March 20, 2004	A Boeing Delta II rocket carried Global Positioning System satellite IIR-11, the 50th GPS satellite, into orbit from Space Launch Complex (SLC) 17B at Cape Canaveral AFS, Florida. The Block II-R satellite was named in honor of Dr. Ivan Getting, considered one of the "fathers of GPS."
July 1, 2004	Headquarters, Air Force Space Command ordered the redesignation of the 50th Comptroller Flight to 50th Comptroller Squadron, reversing an action taken in September 2003, when the command ordered the activation of the squadron.
August 27, 2004	The 50th Space Wing dedicated its new administration facility, Building 210, in honor of Lieutenant General Roger DeKok. General DeKok had served as the last commander of the 2nd Space Wing and commanded the 50th Space Wing upon its activation in 1992.
September 3, 2004	1st Lieutenant Jen Phifer, satellite vehicle operator, and Airman First Class Jose Bernal, satellite system operator, conducted the last support of the North Atlantic Treaty Organization IV communications satellite, marking the 3d Space Operations Squadron's end to "hot back-up" support of NATO IV and Skynet systems. "Hawk is out for the final time," commanded Lieutenant Colonel Keith Hinson, 3d Space Operations Squadron commander.
April 4, 2005	Colonel John E. Hyten assumed command of the 50th Space Wing from Colonel Suzanne M. Vautrinot.
September 8, 2005	The Base Realignment and Closure Commission submitted to the President its completed recommendations, which included the closure of Onizuka Air Force Station and the transfer of its remaining Air Force Satellite Control Network mission to Vandenberg AFB.

September 19, 2005	Sergey Revnivykh and Ekaterina Andruschak, operators with Russia's GLONASS satellite navigation system visited Schriever AFB and 2d Space Operations Squadron. The two, part of an international group that visited 2d SOPS to discuss the future of GPS and its potential for integration with other navigation systems, were the first visitors from Russia's GLONASS program.
November 4, 2005	The 21st Space Operations Squadron put Satellite Operations Center (SOC) 52 in "cold" status. The SOC had been the primary Air Force center supporting U.S. space shuttle activities until 2004.
December 2005	The 50th Space Communications Squadron's "Standard Desktop," under development since about October 2003 was selected for testing and implementation as the AF Standard Desktop personal computer configuration. The standard desktop configuration prevented the installation of unapproved software, and provided increased network security, while improving the ability of network managers to respond to vulnerabilities.
January 24, 2006	Air Force Space Command ordered the inactivation of the 850th Space Communications Squadron, completing an organizational change that merged the functions of the 850th and 50th Space Communications Squadrons.
February 7, 2006	The 50th Space Wing hosted Schriever's annual National Prayer Breakfast. The Air Force Chief of Chaplains, Chaplain (Major General) Charles C. Baldwin was the guest speaker.
April 28, 2006	Crews of the 22nd Space Operations Squadron provided Air Force Satellite Control Network support for the National Aeronautics and Space Administration (NASA) launch of CloudSat and CALIPSO aboard a Delta II rocket from Vandenberg AFB, California.
May 15, 2006	Colonel James C. Hutto, Jr. assumed temporary command of the 50th Space Wing while Colonel John E. Hyten deployed to Southwest Asia. Colonel Hyten resumed command of the wing following his return on 23 October 2006.
July 8-14, 2006	Federal and Oahu Island firefighters battled a 1,000-acre brush fire burning near the AFSCN's Hawaii Tracking Station. The blaze caused no loss of life or damage to site facilities.
August 31, 2006	The 2d Space Warning Squadron assumed command and control responsibility for the Defense Support Program constellation. The 1st Space Operations Squadron had flown the constellation since 1992.
September 20-21, 2006	Air Force Satellite Control Network crews set a 24-hour contact record, logging 80 sorties in 24 hours.

October 1, 2006	Renovations began on facilities to support the Space-Based Surveillance System (SBSS) satellite operations center.
October 1, 2006	For the first time since the station opened in 1989, the Colorado Tracking Station at Schriever AFB went off the air at 0600Z. Crew personnel sent the shutdown command to the site's processor at 0555Z. The shutdown reflected Pike's new operating hours of 0700-1500 daily due to significant reductions in funding for the wing's Operational Space Services and Support contract.
October 26, 2006	A major winter storm dropped more than one foot of snow on Schriever and the surrounding area, causing the base to close for the first time in recent years. The base remained closed on October 27th as highway crews from El Paso County, the state, and the base worked to clear roads.
October 29, 2006	The 1st Space Operations Squadron opened the Multi-Mission Satellite Operations Center (MMSOC).
November 25, 2006	Members of the 4th Space Operations Squadron deployed their Ground Mobile system aboard a C-17 aircraft. This marked the first deployment of the ground mobile system aboard a C-17 aircraft. The cargo bay of the C-17 provided less than one inch of clearance from the top of the system's tractor-trailer.
January 30, 2007	The new Antedo antenna at New Boston AFS designated NHS-A, was declared 100 percent operational and the Operations and Maintenance Responsibility Transfer document was signed.
February – March 2007	The 22d Space Operations Squadron relocated its crew force for 30 days to conduct operations from Onizuka Air Force Station while their Schriever Air Force Base operations center underwent a major remodel and reconfiguration.
March 14, 2007	The wing decommissioned and disposed of SVN 15, the last of the original Block II operational GPS satellites.
May 22, 2007	Colonel Teresa A.H. Djuric, formerly vice commander of the 30th Space Wing, Vandenberg Air Force Base, assumed command of the 50th Space Wing from Colonel John E. Hyten.
May 23, 2007	Civil engineers, in cooperation with local and state officials, conducted a prescribed burn on 50 acres at New Boston AFS.
July 2007	The 1st Space Operations Squadron, in cooperation with Space Test and Engineering Contract personnel, implemented an operations plan to transition the Midcourse Space Experiment (MSX) mission to satellite operations center 96.

September 2007	The 2d Space Operations Squadron began configuration management activity associated with the deployment of the Architecture Evolution Program (AEP) and the Launch, Anomaly, and Disposal Operations (LADO) software configuration. The AEP/LADO configuration allowed 2 SOPS to take on all GPS related activities, managing and supporting the constellation and each vehicle from launch to disposal.
October 2007	The 2d Space Operations Squadron transitioned from its legacy operational control system (OCS) to the new LADO system.
October 10, 2007	At 8:22 p.m. Eastern Standard Time, an Atlas V booster carried the first Wideband Global SATCOM satellite into orbit from Cape Canaveral Air Force Station, Florida.
December 14, 2007	The Air Force Satellite Control Network Link Protection System installation was completed. The ALPS gave the network crew commander and 22 SOPS leaders the ability to analyze electro-magnetic interference (EMI) at remote antennas.
December 20-24, 2007	1st Space Operations Squadron crews conducted their final GPS launch supports. Crews used the command and control system to shadow the 2 SOPS LADO system for SVN IIR-18(M) for critical deployment and early orbit activities. 1st Space Operations Squadron crews made no supports during the mission.
December 28, 2007	1 SOPS crews completed the year by ending their use of the command and control system. On this date, crews completed their final support using the legacy system and permanently powered it down at 1752Z.
March 15, 2008	The 2d Space Operations Squadron crews supported the launch of GPS SVN 48 and orbited the spacecraft, parking it in slot A6 of the GPS constellation.
April 11, 2008	The 3rd Space Operations Squadron accepted operational turnover of the first Wideband Global SATCOM vehicle, WGS-1, from its Boeing contractors. The satellite launched aboard an Atlas V booster on 10 October 2007. Contractors positioned the vehicle in its proper orbit and conducted tests and evaluations prior to handing the vehicle over to 3 SOPS crews.
June 12, 2008	Colonel Cary C. Chun assumed command of the 50th Space Wing from Colonel Teresa A.H. Djuric. Colonel Djuric, selected for promotion to brigadier general, moved to Maxwell AFB Alabama as commander of the Jeanne M. Holm Center for Officer Accessions and Citizen Development.
June 20, 2008	Air Force Space Command ordered the redesignation of the 50th Mission Support Squadron, naming it the 50th Force Support Squadron. This redesignation implemented an Air- Force mandated mission support and services functional merger.

July 16, 2008	Crews of the 1st Space Operations Squadron initiated the disposal of the Midcourse Space Experiment satellite.
September 30, 2008	The 3d Space Operations Squadron assumed mission planning and AFSCN scheduling responsibilities for the British SKYNET 4 constellation. SKYNET was the United Kingdom's equivalent of the Defense Satellite Communication System (DSCS), providing the British government with military and diplomatic communications.
November 25, 2008	The 4th Space Operations Squadron opened its new Protected Satellite Operations Center. The ribbon-cutting ceremony included the unveiling of a memorial to America's combat forces outside the PSOC door. Squadron personnel, place a hand on the memorial as they pass to remember those combat forces Milstar directly supports.
December 4, 2008	The 23d Space Operations Squadron at New Boston AFS, New Hampshire received the state's 2008 Land Ethics for Tomorrow Award for their efforts to clear the installation's unexploded ordnance. A subcontractor working remediation efforts at the station submitted the base for the award.
March 15-28, 2009	21st Space Operations Squadron crews supported shuttle Discovery on mission STS-119.
March 24, 2009	Global Positioning System (GPS) IIR-20, equipped with the new L5 civil signal for safety of life, launched from Cape Canaveral AFS, Florida.
April 3, 2009	Launch of Wideband Global SATCOM (WGS) Flight 2 (WGS- 2). The 3 SOPS would receive satellite control from Space and Missile Systems Center in August 2009.
July 31, 2009	Contractors completed construction of the 45,000 square foot Building 24, new home to the Space Innovation and Development Center. Cost of the facility was $20.3 million.
August 20, 2009	Colonel Wayne R. Monteith assumed command of the 50th Space Wing from Brigadier General Cary C. Chun.
October 27, 2009	Date marked the beneficial occupancy of the Ellison Onizuka Satellite Operations Facility at Vandenberg AFB. The new facility would become the home of the 21 SOPS in mid-2010.
December 5, 2009	Launch of WGS-3. Satellite control of WGS-3 would not be turned over to the 3 SOPS before the end of the year.

December 8, 2009	Air Force Space Command awarded the 50th Space Wing the Air Force Outstanding Unit Award (AFOUA) for service from 1 October 2007 through 30 September 2009. This marked the wing's first AFOUA since 2003.
June 12, 2010	The 1st Space Operations Squadron assumed satellite control authority for TacSat-3.
July 28, 2010	A ceremony at Onizuka AFS marked the transfer of the 21 SOPS and its mission to Vandenberg AFB.
July 29, 2010	Air Force Space Command ordered the inactivation of Operating Location A (OL- A) of the 21st Space Operations Squadron and the activation of Detachment 4, 21st Space Operations Squadron as a result of the squadron's move to Vandenberg Air Force Base, California.
October 1, 2010	The 50th Network Operations Group implemented an organizational realignment that assigned Air Force Satellite Control Network tracking stations to the 21st and 23rd Space Operations Squadron based on geographic location.
December 2, 2010	The termination of SUN East and West was signaled by the removal of the two Defense Information Systems Agency terminals at Onizuka AFS.
January 31, 2011	1 SOPS assumed satellite control authority of IRON 5377 from the Missile Defense Space Experimentation Center. During connectivity and verification testing, which began about 10 January 2011, the MDSEC and 1 SOPS shared joint satellite control authority.
February 23, 2011	14th Air Force (Air Forces Strategic) assumed satellite control authority for the first Space-Based Space Surveillance (SBSS) satellite and immediately transferred that authority to the 50th Space Wing.
May 14, 2011	The 50th Space Wing received the General Robert T. Herres Award for the most outstanding wing with a space mission.
June 15, 2011	The 2d Space Operations Squadron's crews completed implementation of the "Enhanced 24" GPS constellation configuration.
August 5, 2011	Colonel James P. Ross assumed command of the 50th Space Wing from Colonel Wayne R. Monteith. Colonel Ross previously served as Vice Commander, 45th Space Wing at Patrick AFB, Florida. Colonel Monteith moved to a new assignment at the Pentagon.
August 12, 2011	Crews of the 3d Space Operations Squadron terminated operations of DCSC Flight B9 after 18 years of service.
August 19, 2011	The 2 SOPS accepted satellite control authority for the second GPS IIF satellite, designated SVN-63.

September 15, 2011	Onizuka Air Force Station officials formally transferred the installation to the Air Force Real Property Agency for transition to the City of Sunnyvale.
September 16, 2011	The 1st Space Operations Squadron assumed satellite control authority for the first operationally responsive space (ORS) satellite.
September 22, 2011	The 2 SOPS received the Chief of Staff Team Excellence Award for fiscal year 2011 for their GPS operations.
September 30, 2011	Detachment 4, 21st Space Operations Squadron was inactivated. The detachment activated to oversee Onizuka closure activity following the relocation of the 21st Space Operations Squadron to Vandenberg AFB.
November 23, 2011	The 23d Space Operations Squadron at New Boston Air Force Station earned the AFSPC General Thomas D. White Environmental Restoration Award for 2011.
January 2012	Construction activity began to support the Integrated Operations Environment (IOE).
January 3, 2012	General William L. Shelton, Commander, Air Force Space Command, declared initial and final operational capability for the Operationally Responsive Space – 1 (ORS-1) satellite. The AFSPC commander also
February 15, 2012	1st Space Operations Squadron crews ceased operations with the Tactical Satellite (TacSat) – 3 platform. The satellite had exceeded mission expectancy by 20 months. On 1 May 2012, the vehicle de-orbited and burned up in Earth's atmosphere
March 12, 2012	The Space and Missile Systems Center (SMC) Military Satellite Communications (MILSATCOM) director transferred satellite control authority for the Advanced Extremely High Frequency (AEHF)-1 spacecraft to the 14th Air Force (Air Forces Strategic) for operational turnover to the 4th Space Operations Squadron. The transfer culminated an 18-month process to position the satellite following anomalies in the first days after the satellite's August 14, 2010 launch.
July 9, 2012	Crews conducted the final operational support via the Colorado Tracking Station (CTS), call sign PIKE. PIKE was decommissioned as an active AFSCN asset as a cost-saving measure.
October 2012	1st Space Operations Squadron engineers developed new processes for Delta V maneuvers that would save an estimated 22 percent of fuel and extend mission life for specific systems.
February 22, 2013	The 50th Space Wing held a ribbon-cutting ceremony to open the Integrated Operations Environment satellite operations center.

April 1, 2013	Concurrent with the inactivation of the Space Innovation and Development Center, Headquarters, Air Force Space Command reassigned the 3d Space Experimentation Squadron to the 50th
May 21, 2013	Captain Colin Merrin, 2 SOPS GPS Mission Commander, was forced to end his attempt to summit Mount Everest only 2,000 feet short of his target. Captain Merrin was climbing as a member of the USAF Seven Summits Team, which sought to plant the U.S. and Air Force flags on the highest peaks on the seven continents.
July 11, 2013	Colonel William J. Liquori, Jr. assumed command of the 50th Space Wing from Colonel James P. Ross.
November 26, 2013	Global Positioning System satellite SVN-23 achieved 23 years on orbit.
February 4-11, 2014	3d Space Operations Squadron crews participated in events leading to combatant command acceptance of the Wideband Global SATCOM Flight 6 (WGS-6).
April 3, 2014	The Air Force launched Defense Meteorological Satellite Program Flight 19 from Vandenberg AFB, California.
June 16-21, 2014	3d Space Operations Squadron crews positioned Defense Satellite Communications System Flight B-12 in super-synchronous orbit preparatory to final disposal of the vehicle.
June 2014	3d Space Operations Squadron crews received the Ricard C. Henry Award for the Best Space Operations Squadron for calendar year 2013.
July 28, 2014	Air Force Space Command launched two Geosynchronous Space Situational Awareness Program (GSSAP) satellites.
March 31, 2015	The 50th Space Communications Squadron's Defense Switched Network global operator function closed.
April 1, 2015	Air Force Space Command transferred some communications functions from the 614th Air and Space Communications Squadron to the 4th Space Operations Squadron.
April 21, 2015	Admiral Cecil D. Haney, Commander, United States Strategic Command, presented the 50th Space Wing with the Omaha Trophy for Global Operations for calendar year 2014. The wing also received the General Robert T. Herres Award as the most outstanding wing with a space mission.
May 29, 2015	Colonel Deanna M. Burt assumed command of the 50th Space Wing from Colonel William J. Liquori, Jr.

September 29, 2015	The 1st Space Operations Squadron accepted satellite control authority for the first two GSSAP satellite following declaration of initial operational capability.
October 1, 2015	Under the Space Training Transformation initiative, the 50th Space Wing formally assumed from Air Education and Training Command responsibility for mission qualification training for the wing's space systems.
Fall 2015	The 50th Space Wing implemented Air Force Space Command's Space Mission Force construct, reorganizing satellite crew structure and operations to emphasize "fighting" the system in a contested environment.
February 5, 2016	The Air Force successfully launched the twelfth and last Global Positioning System (GPS) IIF satellite into orbit atop an Atlas V rocket from Cape Canaveral, Florida.
June 29, 2017	Air Force Space Command released a White Paper on the new Space Mission Force Concept.
July 11-29, 2016	The 50th Space Wing participated in Red Flag 16-3, with Colonel Deanna Burt, 50 SW Commander as the Air Expeditionary Wing Commander. This was the first-ever Red Flag led by a space domain officer.
August 19, 2016	Air Force Space Command launched Geosynchronous Space Situational Awareness Program (GSSAP) Space Vehicle Number (SVN) 3 and 4 into near geosynchronous orbit for operation by the 50 SW.
October 1, 2016	The 50 SW entered the first Space Mission Force operational rotation of forces.
October 17, 2016	Headquarters, AFSPC approved the award of Global War on Terrorism Service Streamers to the 50 SW and its subordinate units for Operations IRAQI FREEDOM, NEW DAWN, INHERENT RESOLVE, NOBLE EAGLE and ENDURING FREEDOM.
December 7, 2016	The Air Force launched Wideband Global Satellite Space Vehicle Number 8, soon after 3d Space Operations Squadron began launch and early orbit operations for 50 SW operation.
February 27, 2017	Lockheed Martin, the Air Force contractor successfully completed factory functional qualification testing first GPS III satellite, and the system was placed into pre-launch storage. This was a part of the future for GPS as operated by the 50 SW.
March 19, 2017	The Air Force launched Wideband Global Satellite Space Vehicle Number 9, soon after 3d Space Operations Squadron began launch and early orbit operations for 50 SW operation.
April 14, 2017	The 50th Space Communication Squadron began the first broadcast of the Global Broadcast Service information capability from Al Udeid, Air Base.

April 17, 2017	HQ AFSPC announced the 50 SW received the Air Force Outstanding Unit Award for the period of 1 January 2015 – 31 December 2016.
April 17-21, 2017	The 50 SW participated in the first AFSPC "Space Flag" exercise, Space Flag 17-1.
May 7, 2017	Operational Test Vehicle Mission 4 ended, when the X-37B landed at Kennedy Space Center's Shuttle Landing Facility after a 718-day mission (longest to date) in space, which was support by the 3d Space Experimentation Squadron.
June 13, 2017	The 3d Space Operations Squadron inactivated and the 4th Space Operations Squadron assumed operational responsibility for all Air Force Communications Satellites.
June 30, 2017	Colonel Jennifer L. Grant assumed command of the 50th Space Wing from Colonel Deanna M. Burt.
July 11, 2017	The 50th Space Communications Squadron terminated the use of Ultra-High Frequency Follow satellites for transmission of the Global Broadcast Service.
July 12, 2017	Headquarters, Air Force Space Command accepted the upgraded Hawaii Tracking Station B, this was the first of the upgraded hybrid modified antenna for the Air Force Satellite Control Network, extending the life of the tracking station's antenna capability.
August 26, 2017	The Air Force launched Operationally Responsive Space Five from Cape Canaveral. The 1st Space Operations Squadron supported the launched and would eventually control this satellite.
September 7, 2017	The 45th Space Wing launched the X-37B on Orbital Test Vehicle Mission 5, the 3d Space Experimentation Squadron then flew the X-37B on its mission profile.
September 22, 2017	Colonel Jennifer L. Grant the Wing Commander explained the Wing's new Mission Statement, Vision and Priorities to Wing and Base personnel in an all-call meeting.
November 15, 2017	The 3d Space Experimentation Squadron executed the final fuel burn off aboard the ANGELS satellite and turned off all the satellites systems after a number of end of life experiment.
December 13, 2017	The 50th Space Communications Squadron migrated the base's electronic mail system to Cloud Hosted Enterprise Services.
January 8, 2018	The National Space Defense Center at Schriever AFB, Colorado transitioned its operations to 24 hours, seven days a week mission requirements to protect and defend critical national space assets.

February 2018	The 50 SW executed a Continuity of Operations Exercise to relocated operations and command functions to alternate locations in the wing. The exercise tested transferring missions and evaluating mission impact. According to Colonel Grant, 50 SW Commander, the event had "zero mission impact" as the transfer involved more than 1,000 operations circuits, six operating locations and 18 installation stakeholders.
March 16, 2018	The 1st Space Operations Squadron accepted satellite control authority of the Operational Responsive Space-5 satellite.
April 14, 2018	The Air Force Research Laboratory launched the Evolved Expendable Launch Vehicle Secondary Payload Adapter Augmented
June 1, 2018	The 50th Force Support Squadron opened the Schriever AFB Event Center, the repurposed Schriever AFB Visitor Center, which acts a
October 17, 2018	The Air Force's Advanced Extremely High Frequency-4 satellite launched from the Kennedy Space Center's Launch Complex 41 atop
December 23, 2018	The first Global Positioning System III satellite successfully launched into orbit from Space Launch Complex 40 at Cape Canaveral Air
February 24, – March 5, 2019	Headquarters, Air Force Space Command conducted a Unit Effectiveness Inspection of the 50 SW. The 50 SW received an
February 28, 2019	Kaena Point Tracking Station, Hawaii celebrated 60th Anniversary of satellite operations.
March 13-14, 2019	Schriever AFB closed for a two-day period as a bombogenesis or bomb cyclone struck eastern Colorado closing all highways and roads
March 15, 2019	The Air Force launched Wideband Global System Satellite Number 10 from Space Launch Complex 37 at Cape Canaveral AFS, Florida.
April 6, 2019	The 2d Space Operations Squadron supported the actions for the GPS Week Rollover, as the GPS calendar restarted.
May 3, 2019	The 4 SOPS accepted satellite control authority from the Space and Missile Systems Center and 14th Air Force for the Advanced
June 26, 2019	Colonel James E. Smith assumed command of the 50 SW.
July 29, 2019	The 2d Space Operations Squadron began on orbit operations of GPS IIIA Space Vehicle Number 01.
August 8, 2019	The Air Force launched Advanced Extreme High Frequency satellite Number 5 atop an Atlas rocket from Cape Canaveral AFS, Florida.
August 12-16, 2019	The 50 SW participated in Exercise SPACE FLAG 19-3. This was the first Coalition SPACE FLAG involving military leaders from the United States, Australia, Canada and Great Britain.

August 22, 2019	A GPS III Magellan (SVN-2) satellite lifted off into orbit from Cape Canaveral AFS, Florida.
August 29, 2019	United States Space Command activated in White House ceremony.
September 25, 2019	The 4th Space Operations Squadron gained Satellite Control Authority of the Enhanced Polar System communications satellites.
October 1, 2019	Combined Force Space Component Command (CFSCC) activated at Vandenberg AFB, California. The CFSCC planned and executed space operations through four distinct operations center to plan, task, monitor and asses space operations in support of the theater and USSPACECOM. The CFSCC directed many of the space tasking impacting 50 SW operations.
October 18, 2019	The Cyber Defense Correlation Cell for Space (CDCC-S) activated at Schriever AFB, Colorado. The CDCC-S detected and responded to cyber threats against Air Force Space Command weapon systems.
October 21, 2019	USSPACECOM activated the Joint Task Force-Space Defense (JTF-SD) at Schriever AFB, Colorado. The mission was to execute protect and defend mission for space superiority operations of US and Allied space assets. The JTF-SD operated at the National Space Defense Center (NSDC) at Schriever AFB.
October 22, 2019	Detachment 1, 50 OG gained SCA of the GOES-13 weather satellite.
October 27, 2019	The X-37B landed at Kennedy Space Shuttle Landing Facility, Florida after a record-breaking 780-day mission in orbit.
December 20, 2019	President Donald J. Trump signed the National Defense Authorization Act for Fiscal Year 2020. Under that act, the Department of Defense established the United States Space Force (USSF) as a separate military branch. Air Force Space Command ceased space operations and inactivated, and the USSF assumed operational control of the space units previously commanded by AFSPC. Even with these changes, overall, the 50 SW mission continued, operating the largest fleet of DoD satellites and supporting the warfighters around the world with positioning, navigation and timing, space situational awareness and secure satellite communications.
January 6, 2020	Space Operations Command Provisional (SpOC) accepted Advanced Extremely High Frequency Satellite (AEHF) Number 4 from the Space and Missile Systems Center and transferred the satellite to 4 SOPS for operations.
January 10, 2020	Colonel James E. Smith, Commander, 50th Space Wing held an All Call to explain the US Space Force and its impact on the personnel (military and civilian) assigned to Schriever AFB.
January 13, 2020	United States Space Force operationally accepted GPS III SV 01 and transferred to 2 SOPS.

February 3, 2020	SMC's fifth AEHF communications satellite successfully transferred to SpOC and in turn to 4 SOPS.
February 11, 2020	Detachment 1, 50th Operations Group completed the decommissioning actions for the Defense Meteorological Support Program Flight 14.
February 12, 2020	The 1st Space Operations Squadron completed the Geosynchronous Space Situational Awareness Program 1.5 Ground System Upgrade and conducted an operational acceptance review.
March 9, 2020	Colonel James E. Smith, the 50 SW Commander declared Health Protection Condition A for Schriever AFB.
March 16, 2020	Colonel Smith, 50 SW Commander declared Health Protection Condition (HPCON) B for Schriever AFB. The Wing Commander also implemented Schriever AFB COVID-19 Phase 1 Mitigation and Operations Preservation Plan.
March 23, 2020	SMC transferred the second GPS III SV02 to SpOC. GPS III SV02, dubbed "Magellan" in honor of Ferdinand Magellan then transferred to 2 SOPS for operational use.
March 23, 2020	Colonel Smith, 50 SW Commander upgraded the HPCON to "Charlie."
March 26, 2020	The United States Space Force launched AEHF 6 from Space Launch Complex 41 at Cape Canaveral AFS, Florida.
March 27, 2020	SMC and the 50 SW achieved a major GPS milestone with the Contingency Operations system (COps) receiving U.S. Space Force's Operational Acceptance.
March 30, 2020	The 2nd Space Operations Squadron accepted control of GPS III SVN 75 at Schriever AFB. The new generation of satellites provided a three times more accurate signal and eight times more accurate anti-jam capability, increasing support for both civilian and military users around the world.
April 5, 2020	By order of the Secretary of Defense, "Effective immediately, to the extent practical, all individuals on DoD property, installations, and facilities will wear cloth face coverings when they cannot maintain six feet of social distance in public areas or work centers.
May 4, 2020	Colonel Smith, 50 SW/CC authorized actions under the Covid-19 Phase 2a to include installation entry procedures changes, as well as changes to area cleaning, social distancing and wearing facemasks on duty.
May 17, 2020	The US Space Force successfully launched the X-37B Orbital Test Vehicle from Cape Canaveral AFS, Florida. This was the seventh OTV mission and would be a part of the 3 SES mission for the coming months.

June 15, 2020	Colonel Smith directed implementation of HPCON B and Phase 2B actions on Schriever AB, whereby many restrictions on base access, and installation facilities and services changed.
June 19, 2020	United States Space Force activated the 750th Operations Group (750 OG), 750th Operations Support Squadron, 3d Space Operations Squadron, and realigned 1 SOPS and 3 SES under the 750 OG as part of the new orbital warfare mission assigned to the 50 SW.
June 30, 2020	The US Space Force launched GPS III Space Vehicle 03 from SLC-40 at Cape Canaveral AFS, FL. Just after launch, the GPS III SV03 separated from the rocket booster to move into an operational orbit.
July 15, 2020	A major thunderstorm struck Schriever AFB and caused millions of dollars of damage to base housing and vehicles.
July 20, 2020	Secretary of the Air Force, Ms. Barbara Barrett signed the memos authorizing the organizational changes to restructure the operational units within the United States Space Force. The memos established Field Commands, the Space Deltas and identified the transfer and inactivation actions of many of the units at that time within USSF.
July 22, 2020	The USSF received its new emblem and motto, "Semper Supra," "Always Above."
July 23, 2020	2 SOPS gained satellite control authority for GPS III, SVN 02.
July 24, 2020	United States Space Force inactivated the 50th Space Wing, 50th Comptroller Squadron, 50th Operations Group, 50th Network Operations Group and 750th Space Group. HQ USSF also activated Space Delta (SD) 6, 8 and 9 to command and manage the units and the weapon systems previously operated by the group. Some units transferred from one organization to a part of the SD structure. Many command staff functions transferred to the Peterson-Schriever Garrison (P-S GAR) staff at Peterson AFB. The support functions such as contracting, security forces, civil engineering, logistics, and force support remained under the 50th Mission Support Group, which remained active. Colonel James E. Smith became the Garrison Commander.
July 30. 2020	The 50th Comptroller Squadron held a ceremony to commemorate their inactivation, which was official on 24 July 2020.
August 2020	The Schriever Deltas participated in two major exercises, Exercise Space Security Challenge 2020 and SPACE FLAG 20-3.
August 11, 2020	Colonel James Smith, the P-S GAR Commander issued Public Health Directive #1 covering actions and prevention measure to mitigate COVID-19.
September 1, 2020	The first group of 2,400 Airmen transferred to U.S. Space Force many of which were part of the Space Deltas activated earlier in the summer.

October 21, 2020	Space Operations Command activated at Peterson AFB and became the new USSF chain of command for units at the Peterson-Schriever Garrison.
November 5, 2020	Colonel James Smith, the P-S GAR Commander issued Public Health Directive #2 covering new actions and prevention measure to mitigate COVID-19.
November 30, 2020	Colonel James Smith, the P-S GAR Commander issued Public Health Directive #3 covering actions and prevention measure to mitigate COVID-19. On the eve of the first major holiday period.
December 1, 2020	The GPS-III satellite Space Vehicle 77 became operational adding the fourth next generation satellite to the constellation
January 5, 2021	The 21st Medical Group inoculated the first Schriever personnel with the COVID-19 vaccine, the individuals who received it were primarily first responder such as medical personnel, fire fighters, and security police.
January 21, 2021	Colonel James Smith, the Garrison Commander signed into effective Public Health Directive #4 mandating masks on all garrison installations.
March 25, 2021	Colonel James Smith, the Peterson-Schriever Garrison Commander signed the order officially assigning the Mission Support Group Commanders as dual hatted position, whereby the MSG Commanders were also Garrison Vice Commanders.
June 16, 2021	The USSF renamed Kaena Point Air Force Station, Kaena Point Space Force Station (SFS), as the first Space Operations Command to transition to USSF.
June 18, 2021	The USSF launched GPS-IIIA Space Vehicle 05 (SV05), the fifth of the new generation of navigation satellites into order. On 29 June 2021, 2 SOPS accepted satellite control authority for SV05 and it became an operational part of the GPS constellation.
June 28, 2021	Colonel Zachary S. Warakomski assumed command of the Peterson-Schriever Garrison.
July 12, 2021	The USSF renamed New Boston AFS as New Boston SFS.
July 28, 2021	The USSF renamed Peterson AFB to Peterson Space Force Base (SFB), Schriever AFB to Schriever SFB and Cheyenne Mountain AFS to Cheyenne Mountain SFS.
August 21-30, 2021	Members of 4 SOPS supported the efforts to aid Afghan refugees at Ramstein AB, Germany during Operation ALLIED REFUGE.
September 3, 2021	The Department of the Air Force announced mandatory COVID-19 vaccination of all active duty personnel.

September 15, 2021	The USSF and units from Schriever SFB supported the launch of Inspiration 4, the first commercial launch to send private citizens into space.
September 17, 2021	The members of 2 SOPS officially opened their new space training emulator for GPS operations crews on Schriever SFB.
September 30, 2021	The Space Sentinel, the Schriever installation newspaper since 2007 published its last edition, after that date, the garrison had a combine paper.
October 1, 2021	The U.S. Office of Personnel Management announced the mandate for COVID-19 vaccinations for all government civilian personnel. On that same date, Air Force Materiel Command became the servicing Major Command for all Air Force military and civilian personnel assigned to the USSF.
December 9, 2021	The 21 MDG held a COVID-19 Booster Shot clinic for all garrison personnel, military and civilian.

THE AIR FORCE TAKES THE HIGH GROUND OF SPACE

In a 1946, the Rand Corporation report cited the many effects that could be delivered from space to include communications, weather data, reconnaissance and intelligence. By 1956, the Air Force established the Western Development Division with the responsibility of developing the United States first space systems and ballistic missiles. While ballistic missiles were the priority, work began on Weapon System 117L operational military satellite capabilities. In October 1957, the Union of Soviet Socialist Republics place the first satellite in Earth orbit; this was Sputnik I. By 1959, under then Major General Bernard A. Schriever, pushed ahead three major military satellite programs. These included, the Discoverer also called Corona, a reconnaissance system; the Military Defense Alarm System (MIDAS), an attack warning system; and the Satellite and Missile Observation System (SAMOS), another reconnaissance satellite system. On 18 December 1958, the Air Force launched Project Signal Communication Orbiting Relay Equipment or SCORE, a communications relay satellite into orbit atop an Atlas rocket.

By February 28, 1959, the Air Force launched the first Discoverer satellite on a Thor/Agena booster, though a failure, it marked the beginning of Air Force satellite operations. On April 6, 1959, the Air Force activated the 6594th Test Wing, at the Lockheed facility at Palo Alto, California (CA), thus the Air Force Satellite Control Network was born. At the time of its activation, the 6594th and the Air Force had three satellite control stations, Edwards Air Force Base (AFB), CA; and Chiniak and Annette Islands, Alaska (AK). By the end of 1959, the Air Force added satellite facilities at Vandenberg AFB, CA; Kaena Point, Hawaii; and New Boston Air Force Station (AFS), New Hampshire. In March 1960, the 6594th moved to Sunnyvale AFS, CA and by June 1960 opened the Air Force Satellite Control Center (AFSC). By 1961, Sunnyvale was the main node of the AFSCC, with tracking stations at Vandenberg, Kaena Point, New Boston, Annette Island, with newly established operations at Fort Greely and Kodiak Island, AK. In 1962, Mahe Station became operational in the Seychelle Islands of the Indian Ocean and Thule Air Base, Greenland. On August 23, 1962, the Air Force launched the first Defense Meteorological Satellite Program satellite into orbit. In 1965, AFCC became the Air Force Satellite Control Facility and Guam Tracking Station; the first mobile station became operational. On June 16, 1966, the Air Force launched the first Defense Satellite Communication System (DSCS) satellite, with the last initial DSCS satellite launch on June 13, 1968.

On November 6, 1970, the Air Force launches the first Defense Support Program ballistic missile warning satellite to replace MIDAS (warning) and VELA (nuclear detonation). Between 1971 and 1982, the Air Force launched 15 more DSCS satellites into orbit. On February 22, 1978, the Air Force launched the first Global Positioning System satellite NAVSTAR-1, completing the first ten in orbit by October 9, 1985. With the addition of so many satellites to the Air Force inventory, the Department of Defense saw the need for the construction of an additional satellite control facility. The space around the Sunnyvale area was limited and vulnerable to earthquakes; thus a program began in 1979 to evaluated sites around the U.S. to build what would become the Consolidated Space Operations Center or CSOC along with the development of an Air Force space shuttle control facility. The Air Force and DoD had an initial list of 13 possible sites, which eventually was narrowed to two and then one. Eventually, the Air Force saw the advantages to building the new satellite control operations facility near Colorado Springs, Colorado. Colorado Springs provided proximity to Cheyenne Mountain AFS and the Space Defense Operations Center and the growing space industry along Colorado's Front Range area. Since the advent of the CSOC, the Air Force used space on many fronts, in many conflicts and protected the nation from many threats. In December 2019, the Department of Defense established the United States Space Force to oversee all space operations for the nation.

BRIEF HISTORY OF FALCON/SCHRIEVER AFB/SFB

The history of Schriever Space Force Base (SFB) began in September 1979 when officials approved plans for the development of an installation to provide a back-up control node for support of existing and planned satellite constellations, and to house an operations support center for NASA's space shuttle. Plans called for a merger of Air Force space operations at a Consolidated Space Operations Center (CSOC) and a Shuttle Operations Center (SOPC). Following negotiations with the State of Colorado, the state granted the federal government deed to approximately 640 acres of land. On May 17, 1983, contractors broke ground on what would become Falcon Air Force Station (AFS), named for the unincorporated town north of the installation. For two years, contractors worked to complete sufficient facilities to open the base, including headquarters, operations buildings, support facilities, and infrastructure. On July 8, 1985 the 2d Space Wing (2 SW) activated in a ceremony at Falcon AFS, although the installation was not complete there was enough to allow the new wing to occupy the facilities. A ribbon cutting ceremony on September 26, 1985 symbolized the activation of Falcon AFS. Construction costs totaled $91,450,000, less than two-thirds the amount appropriated. Over the next decades, Falcon continued growing to meet mission requirements, necessitating increases in land area for operations, support, and administrative facilities, and a buffer zone for security. In November 1993, the Air Staff proposed a land exchange with Colorado to obtain the desired properties. By February 1996, negotiations on land transfers with the State of Colorado, combined with purchases of privately owned parcels, resulted in the acquisition of nearly 4,000 acres. This provided the base room to expand and provided an adequate buffer against encroachment. Leaps in space-related technologies added importance to Falcon's CSOC and brought new missions and organizations to the station. Depicting this growth, Air Force Space Command renamed the installation Falcon Air Force Base on June 13, 1988. In September 1990, the Joint National Test Facility (later the Joint National Integration Center) opened at Falcon, and a few years later, Air Force Space Command activated the Space Warfare Center (later the Space Innovation & Development Center). These new organizations necessitated additions to the base's infrastructure. Changing strategic priorities in the early 1990s led to a reduction of U.S military organizations and personnel in Europe. To maintain the history of distinguished units, the Air Force chose to inactivate the 2d Space Wing and activate the 50th Tactical Fighter Wing, renamed 50th Space Wing to assume responsibility for the satellite control and network operations missions at Falcon. The 50th activated at Falcon Air Force Base (AFB) on January 30, 1992 and absorbed the personnel, equipment, facilities, and functions of the inactivated 2 SW.

As the new millennium neared, the installation continued to grow. In 1998, the Air Force renamed Falcon AFB in honor of General Bernard A. Schriever, the man known as the Father of the Air Force Space and Missile Programs. On June 5, 1998, the wing held a renaming ceremony in honor of General Schriever and marked the first instance of an Air Force installation named in honor of a living person. Also in 1998, construction began on new facilities to house missions and support operations transferred from Onizuka Air Force Station, a result of the 1995 Defense Base Closure and Realignment Commission initiatives passed into law by Congress. By mid-way through the first decade of the 21st century, Schriever AFB hosted nearly 70 major and minor facilities and employed over 6,200 people. The base's continuing growth and importance prompted wing and command officials to begin preliminary planning to bring several hundred housing units and associated community support activities to the base. Base housing opened in the fall of 2010 with 242 units for officer and enlisted personnel. In 2019, the United States Space Force (USSF) activated. In July 2020, the 50th Space Wing inactivated after nearly three decades at Schriever and overall management of the installation became a part of the newly activated Peterson-Schriever Garrison. The operations units previously assigned to the wing became independent Space Delta under Space Operations Command. On 28 July 2021, USSF renamed Schriever as a Space Force Base.

MASTER OF SKY TO MASTER OF SPACE

Activated originally as the 50th Pursuit Group at Selfridge Field, Michigan on January 15, 1941, over the next nearly eighty years, the 50th took on many missions in many places to protect the United States of American from many enemies on many front across the globe. Following its activation, the 50th made several station moves until it settled at Orlando Army Air Field, Florida in 1942. The mission was to conduct fighter pilot training to fulfill manpower and test combat aircraft needed by units in Europe. The 50th trained pilots in both single and twin-engine aircraft. In May 1942, the Army Air Force renamed the unit, the 50th Fighter Group. The 50th continued training pilots until the spring of 1944 when it settling into one type of aircraft, the Republic P-47 "Thunderbolt," and the mission of close air support for the ground troops fighting in Europe. In April 1944, the 50th arrived and set up operations at Advanced Landing Ground 51 near Lymington, England and within two weeks of their arrival began fighter sweeps over France targeting rail yards, vehicles and enemy troops. The early raids laid the groundwork for the invasion of France. On D-Day, June 6th, 1944, the 50th took part in supporting the beach landings in Normandy, France. Within weeks of the invasion, the 50th moved to the continent to fly their missions. Over the next year, the 50th operated from makeshift airfields in harsh conditions supporting General George S. Patton's, 3d Army's march to liberate Europe from the Nazi tyranny. The 50th flew some of the first fighter attack on enemy forces surrounding American forces in the city of Bastogne, Belgium. The 50th flew missions supporting the troops invading Nazi Germany. Following the defeat of Germany in May 1945, the 50th along with many other units demobilized. In 16 months of combat operations over Europe, the 50th participated in many of the famous European battles of World War II, destroyed countless railroad tracks, yards and rolling stock, as well as countless enemy vehicles and troop positions and scored 51 aerial victories (one-Ace). In August 1945, the 50th moved to La Junta Army Air Field, Colorado where its planes and most of its personnel left the service and returned to their lives before the war.

50 FG P-47D in Europe

After the end of World War II, a new danger appeared as a threat to the United States, communism. In 1948, Union of Soviet Socialist Republics tried to force friendly powers in Europe out of Berlin forcing the U.S. and its allies to accomplish the Berlin Airlift to bring food and supplies to the city. Another threat loomed on the horizon of America, the possibility of attacks by Soviet bombers. These threats required the U.S. to build a formidable air defense perimeter along our coastlines. To meet the air defense needs, the newly created United States Air Force activated many Air Force Reserve and Air National Guard fighter units for the defense perimeter. On June 1, 1949, the Air Force Reserve activated the 50th Fighter-Interceptor Wing (FIW) at Otis Air Force Base (AFB), Massachusetts. With its activation, the 50 FIW received the lineage and honors of the 50th Fighter Group. The 50 FIW was an associate unit of active duty 33d Fighter Interceptor Wing and flew their aircraft first flying the North American F-51, and then transitioning to jets, such as the Republic F-84 and later the North American F-86 "Sabre." On June 1, 1951, the Air Force ordered the 50th to active service, but the next day, June 2, 1951 inactivated as the aircraft and support equipment was redistributed to units in direct combat with communist forces in the Korea.

Though direct combat occurred in Korea, the creation of the Warsaw Pact of communist puppet governments in Eastern Europe threatened the democratic countries in Western Europe. To stem this threat, the United States and most of these western European nations created the North Atlantic Treaty Organization and the U.S. increased in Army and Air Force presence in Europe. The U.S. Air Force activated many new fighter and bomber units in Western Europe; one of these was the 50th. On January 1, 1953, the Air Force activated the 50th Fighter-Bomber Wing (FBW) at Clovis AFB, New Mexico. The 50 FBW initially trained on the F-51 and transitioned to the Lockheed T-33 jet trainer and eventually to the F-86F "Sabre" jet fighter. After completing training at Clovis, the 50 FBW moved to Hahn Air Base (AB), Germany. The mission was to counter Soviet expansion into Western Europe and except for a three years period at Toul-Rosieres AB, France spent nearly four decades at Hahn AB in Germany, flying newer fighter-bomber aircraft in Europe. In 1956, the 50th renamed the 50th Tactical Fighter Wing (TFW) transitioned to the F-86H, a heavier fighter-bomber. In 1958, the 50 TFW transitioned to the North American F-100. During the 1950-70's, the wing had other aircraft and weapon systems like the Lockheed F-104, Convair F-106 and the Douglas "Matador" missile for periods of high threats by the communists. In 1966, the 50 TFW transitioned to the McDonnell-Douglas F-4 "Phantom." In 1968-1970, the wing had the Convair F-102 as a fighter interceptor at the base to protect the aircraft assets. In 1982, the 50 TFW transitioned to the General Dynamics F-16 "Fighting Falcon." By the end of the 1980's, the Warsaw Pact and the Soviet hold of Eastern Europe waned as many anti-communist groups sprung up in Poland, Hungary and eventually East Germany. In 1989, the Berlin Wall fell, the great symbol of communist aggression in Europe and many Eastern European countries embraces democracy and freedom for the first time since World War II.

50th Fighter-Bomber Wing team to the Air Force Fighter Weapons Meet at Nellis AFB, Nevada included (L to R) Capt Coleman L. Baker, Lt Col Charles E. "Chuck" Yeager, Col Fred J. Ascani, Maj James A Gasser, and Capt Robert H. Pasqualicchio (USAF Photo)

A 50 TFW F-4E lands at Hahn Air Base, Germany.

Though the threats in Europe diminished threats to freedom threatened other parts of the globe to include the Middle East. In August 1990, Iraq invaded the small country of Kuwait to gain a hold of its oil resources and move to control a major portion on the oil market much of the world needed. Soon after the invasion, the U.S. sent forces to Saudi Arabia to stem Iraqi aggression in the region. Many units from the U.S. force in Europe both Army and Air Force moved to the Middle East.

In early January 1991, the 50 TFW sent the 10th Tactical Fighter Squadron (TFS) to the Middle East on the eve of Operation DESERT STORM to liberate Kuwait from Iraqi forces. During the fighting that lasted from 16 January to 1 March 1991, the 10 TFS flew close air support like the WWII Thunderbolts, but after Iraqi forces launched some tactical ballistic missile called "Scuds" against Saudi Arabia and Israel, the mission became hunting the Scud missiles and launchers. After DESERT STORM ended, the 50 TFW personnel and aircraft returned to Hahn, but changes were coming as the threat in Europe from communism was less and the U.S. did not need as many units there. On 30 September 1991, the 50th Tactical Fighter Wing inactivated at Hahn Air Base, Germany.

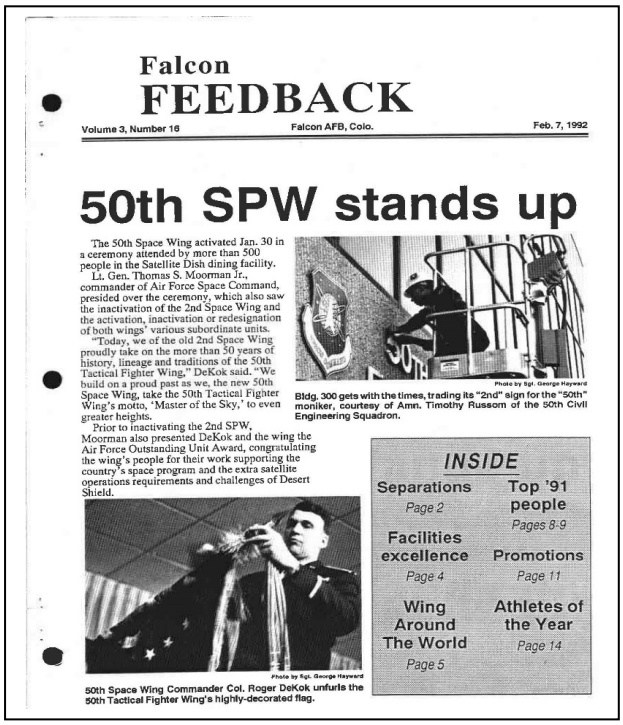
A 10 TFS aircraft returns to base after a DESERT STORM mission. (USAF Photo)

Wing Commander Colonel George W. Norwood cases the wing's flag during its inactivation ceremony August 26, 1991. (USAF Photo)

The final months at Hahn AB were hectic ones indeed. There was much work to be done. Aircraft had to be prepared to fly out to their new units. Logistics folks had to prepare aircraft parts and spares kits, as well as other equipment, for redistribution to other United States Air Forces Europe units or for transportation to units that would receive the wing's F-16s. Assignments for the wing's remaining personnel had to be accomplished. Despite the emotions that came with closing the unit and the base, the men and women of the 50th Tactical Fighter Wing set about their tasks and inactivated the unit as scheduled.

NEW LIFE FOR THE 50TH TACTICAL FIGHTER WING AS A SPACE WING

Air Force officials soon reversed their decision to inactivate the 50th. On January 30, 1992, Air Force Space Command (AFSPC) activated the 50th Tactical Fighter Wing as the 50th Space Wing, at Falcon Air Force Base (AFB), east of Colorado Springs, Colorado. The command also activated the 50th Operations Group, the redesignated World War II and early Cold War-era 50th Fighter Group, and assigned it to the 50th Space Wing. AFSPC also activated the 50th Maintenance and Supply Group and the 50th Combat Support Group under new names, creating a wing that very closely resembled that of the 1950s. Air Force Chief of Staff, General Merrill A. McPeak, implemented this return to the wing-group-squadron structure throughout the Air Force to clarify command relationships and realign administrative duties to the proper organizational level. Colonel Roger DeKok, who commanded the 2d Space Wing, assumed command of the 50th upon its activation.



Falcon
FEEDBACK

Volume 3, Number 16 — Falcon AFB, Colo. — Feb. 7, 1992

50th SPW stands up

The 50th Space Wing activated Jan. 30 in a ceremony attended by more than 500 people in the Satellite Dish dining facility.

Lt. Gen. Thomas S. Moorman Jr., commander of Air Force Space Command, presided over the ceremony, which also saw the inactivation of the 2nd Space Wing and the activation, inactivation or redesignation of both wings' various subordinate units.

"Today, we of the old 2nd Space Wing proudly take on the more than 50 years of history, lineage and traditions of the 50th Tactical Fighter Wing," DeKok said. "We build on a proud past as we, the new 50th Space Wing, take the 50th Tactical Fighter Wing's motto, 'Master of the Sky,' to even greater heights.

Prior to inactivating the 2nd SPW, Moorman also presented DeKok and the wing the Air Force Outstanding Unit Award, congratulating the wing's people for their work supporting the country's space program and the extra satellite operations requirements and challenges of Desert Shield.

Photo by Sgt. George Hayward

Bldg. 300 gets with the times, trading its "2nd" sign for the "50th" moniker, courtesy of Amn. Timothy Russom of the 50th Civil Engineering Squadron.

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Photo by Sgt. George Hayward

50th Space Wing Commander Col. Roger DeKok unfurls the 50th Tactical Fighter Wing's highly-decorated flag.

Squadrons assigned to the wing concurrent with its activation included a mixture of the Wing's past units and those previously assigned to the 2d Space Wing, which the 50th replaced at Falcon AFB. The command activated the 50th Mission Support, Civil Engineering, Security Police, Communications, Airdrome, Air Service, Depot Repair, and Depot Supply Squadrons with new designations. Transferred from the 2d Space Wing were the 1st, 2d, 3d, and 5th Satellite Control Squadrons, renamed Space Operations Squadrons. Headquarters, 2d Satellite Tracking Group became Headquarters, 750th Space Group, and transferred to the 50th Space Wing. The 50th Space Wing also assumed responsibility for a number of detachments operating around the world. Within months of its activation, the wing completed its reorganization under the objective wing structure ordered by General McPeak to clarify lines of command and to streamline organizations. The objective organizational structure replaced former deputy commander staff elements with line organization groups to which squadrons were assigned. Much of the preliminary groundwork for this return to the "wing-group-squadron" structure had already been completed concurrent with the wing's activation. As such, the primary operational and support groups had been identified, activated, and assigned commanders. Still, many functions and squadrons, especially in the support areas, relied on Peterson AFB organizations, about 10 miles west of Falcon. As the wing matured over the first year of activity, its commanders determined that the units at Falcon AFB could be served better by wing-owned agencies. The 50th Space Wing soon gained its own Military Personnel Flight and Morale, Welfare, and Recreation Office, decreasing its reliance on Peterson AFB's 21st Space Wing.

Organizational changes continued throughout the first four years of the wing's tenure as AFSPC and its subordinate units matured. This evolutionary process, and additional Air Force-wide restructuring and redefining of roles and responsibilities, led to unit activations, inactivations, and re-designations. So too, did the expanding role of the 50th Space Wing in satellite control. Changes such as these, a regular part of the wing's past for nearly 40 years, continued as the 50th Space Wing found itself reporting to a new headquarters on July 1, 1993. AFSPC's expansion the command's mission and organizational standardization led to the activation of the Fourteenth Air Force at Vandenberg AFB, California on that date. The command's space launch, surveillance, warning, and

control wings were reassigned to the numbered air force following its activation. The addition of the Milstar communications satellites to the Department of Defense's space systems resulted in the activation of the 50th Operations Group's 4th Space Operations Squadron on April 30, 1992.

No longer did the wing's crews strap into ejector seats, hit the afterburners, and launch into the wild blue yonder. The 50th Space Wing's crews "flew" satellites in the deep black of space, again assuming a leading role in the application of advancing technology. The leap into space was a natural progression for the unit that had been at the forefront in fielding and operating technologically advanced fighters in United States Air Forces Europe. As the 50th Space Wing, the organization assumed command and control responsibilities for several existing satellite constellations that provided a variety of critical information to the Air Force, Department of Defense, and other users. Additionally, the 50th assumed responsibility for the Air Force Satellite Control Network (AFSCN), which enabled satellite controllers to "fly" satellites under their command. Crews of the wing's space operations squadrons, clad in Air Force blue flight suits, monitored satellites during launch operations, "flew" the satellites to their proper orbits, operated the craft while in orbit, and fixed those satellite anomalies repairable from ground control stations as they occurred. Controlling the satellites included such tasks as conducting telemetry, tracking, and commanding functions, monitoring the health of the vehicles, and performing station- keeping and other required maneuvers. Crews of the wing's 50th Operations Group and 750th Space Group conducted these operations.

Immediately after its activation, the wing entered an arena well known to those who had served previously with the unit—that of excellence. In February 1992, the 3d Space Operations Squadron received Air Force Space Command's Space Support Trophy for its "superior achievement, outstanding mission performance, and professionalism." As it had in its many years at Hahn Air Base, the 50th continued to achieve levels to which other units could aspire. In April 1992, crews of the Colorado Tracking Station broke an existing Air Force record when they logged their 439th day of satellite support operations without a personnel error. By September 30, 1992, the day their streak ended, the station had logged more than 15,000 satellite supports without a personnel error. This achievement led to the station's second consecutive Operational Excellence Award.

By year's end, the wing had demonstrated that its lack of aircraft did not limit its contribution to contingency operations. In fact, its satellite control mission virtually guaranteed the wing's involvement at some point. In November 1992, crews of the 3d Space Operations Squadron flew a Navy Fleet Satellite Communications (FLTSAT) craft from an orbit above the Pacific Ocean to one above the Atlantic. The flight, covering 162 degrees of longitude was the longest in the squadron's history. Then, on December 4, 1992, crews of the 3d Space Operations Squadron realigned a Defense Satellite Communications System craft from its European coverage area to provide needed communications for United Nations peacekeeping operations in Somalia under Operation RESTORE HOPE. The unit activated a second antenna of the same satellite to compensate for some of the lost capability in Europe. These activities, and those of the wing's other units, led to the wing's receipt of the Herres Award recognizing the US Space Command wing that made most effective use of its assigned resources. Despite defense reductions of the early 1990s, the 50th Space Wing continued to demonstrate its capabilities and its commitment to public service. After wild fires ravaged large areas around Oakland, California, the wing's 750th Communications Squadron deployed 37 of its Onizuka-based personnel to support relief efforts.

From its activation as a space operations organization, the wing's responsibilities expanded as new satellite systems entered service, became operational, and transferred to any one of the wing's space operations squadrons for command and control. By 1994, the 50th Space Wing managed the 24-satellite Global Positioning System. The Global Positioning System constellation provided military and many other government agencies, as well as private and commercial users, with highly

accurate positioning, navigation, and timing (PNT). The wing also assumed control of early warning satellites in the Defense Support Program and the meteorological satellites comprising the Defense Meteorological Satellite Program. Crews of the 50th Space Wing's 4th Space Operations Squadron accepted command authority for the Military Strategic and Tactical Relay communications system on November 1, 1994. Other squadrons ensured access to space for other military and government agencies through their management and operation of the Air Force Satellite Control Network.

DELIVERING COMBAT EFFECTS FROM SPACE

As commanders arrived and departed their description of the operational mission varied to represent their unique perspective and focus. However, the 50th Space Wing's primary function, since its activation on January 30, 1992, was to command satellites to deliver decisive global effects. These effects came from the families of satellites and communications systems operated by the satellite operations crews. Through these advanced systems, the 50 SW provided positioning, navigation and timing (PNT), military satellite communications (MILSATCOM), space situational awareness (SSA), and intelligence, surveillance, and reconnaissance (ISR) effects to combatant commanders. The communications systems operated by the wing provided other users with satellite command and control capabilities via the Air Force Satellite Control Network and provided worldwide continuous, one-way high-speed information flow over military and commercial satellites to quickly disseminate information products to deployed and in-garrison forces via the Global Broadcast Service (GBS).

A Delta II rocket launches from Cape Canaveral AFS carrying a GPS Block IIR satellite 23 Jun 2004. (Photo by Carleton Bailie)

In June 1997, the 50th Space Wing began realignment actions under the Base Realignment and Closure Commission recommendations approved by Congress and the President in 1995. These actions called for a reduction in military presence at Onizuka Air Station, Sunnyvale, California; Fairchild AFB, Washington; and Offutt AFB, Nebraska. The first actions included realigning the remote tracking stations to the 22d Space Operations Squadron. Soon after the wing inactivated the 750th Operations Support Squadron and 750th Logistics Support Squadron. In the fall of 1997, the Air Force redesignated the 50th Logistics Group as 50th Communications Group to reflect better the functions and mission accomplished by its personnel. In the spring of 1998, Air Force Space Command and the wing broke ground on the new satellite control facilities at Falcon (later renamed Schriever) to house the satellite control activities transferred from Onizuka Air Station, California.

Additional realignment actions during the year including closing the Defense Meteorological Satellite Program (DMSP) space operations center (SOC) at Fairchild AFB. After the unit closed, the Air Force shipped the equipment to Suitland Maryland, where the National Oceanic and Atmospheric Administration (NOAA) planned to establish their SOC for controlling the DMSP satellites. Under a presidential directive, the Air Force would relinquish control of the satellites to NOAA by 1998. NOAA would then operate the satellites supported by an Air Force Reserve squadron stationed at Falcon AFB. As measures taken at Fairchild concluded, the 50th Space Wing worked towards the closure of the DMSP SOC at Offutt AFB. Through late 1997 and early 1998, the wing worked towards the transfer of the DMSP mission to NOAA and the activation of the reserve unit at Falcon. When the 50th Space Wing ceased operations at Offutt in June 1998, the equipment transferred to

Schriever AFB (formerly Falcon) where the 8th Space Operations Squadron, activated in the Air Force Reserve in September 1997, began installation of the equipment to operate as NOAA's back-up operations center for DMSP. In September 1998, the unit began its first operations at Schriever AFB. However, on October 1, 1998, the Air Force Reserve activated the 6th Space Operations Squadron to conduct that mission and inactivated the 8th.

In the fall of 1998, the wing retired one satellite system and gained responsibilities for another. On October 21, 1998, the 5th Space Operations Squadron placed the last Defense Satellite Communications Satellite II into a super synchronous orbit. The DSCS II satellite had exceeded its life expectancy and were replaced with a newer communication satellite system. No longer a part of the wing's inventory, the 50 SW transferred DSCS II was a commercial satellite research firm for study. In December 1998, the wing supported the Midcourse Space Experiment satellite. In November 1998, the wing stood as the vanguard organization in the forefront of space defense when it became the primary Air Force Space Command organization monitoring the Leonids meteor shower. This galactic phenomenon, during which the Earth passed through the debris field of the comet Temple-Tuttle, occurred every 32 years. During the five-day event, the wing collected and disseminated data on the number of particles affecting DoD, civil, and commercial orbital areas.

The new millennium brought with it new challenges and new threats. Continuing activity resulting from the 1995 Defense Base Closure and Realignment Commission report resulted in the inactivation of the 750th Space Group and the 5th Space Operations Squadron at Onizuka Air Force Station in 1999 and 2000, respectively. The inactivation of other agencies and units at Onizuka AFS left the 21st Space Operations Squadron as the installation's host and the 21 SOPS commander assumed installation commander responsibilities. On September 11, 2001, the terrorist organization Al Qaeda launched an attack against the United States. Using hijacked commercial airliners as missiles, Al Qaeda operatives flew three aircraft into the World Trade Center and the Pentagon. A fourth hijacked airliner crashed in a field in Pennsylvania after passengers challenged hijackers and attempted to regain control of the aircraft.

In response to the attacks, which killed 2,976 people, the United States initiated Operation ENDURING FREEDOM on October 7, 2001, supported by British forces and the anti-Taliban Afghanistan Northern Alliance. On that date, U.S. forces attacked Al Qaeda and Taliban forces in Afghanistan, quickly driving the terrorists and their militant supporters from power. The 50th supported, and continued to support, United States, British, and by 2006 NATO operations in Afghanistan with satellite communications, GPS enhancements, and deployed personnel. By 2005, the 50th averaged 80 persons per month deployed to forward operating bases supporting the Global War on Terrorismand Operation IRAQI FREEDOM.

Afghanistan was not the only front in the war against terrorism. Operation ENDURING FREEDOM included operations in the Philippines supporting the Philippine government in its actions against the terrorist organizations Abu Sayeff and Jemaah Islamiyah, and other terrorist organizations in the Horn of Africa. Iraq, meanwhile, saw the United States' operations against the Taliban and Al Qaeda as an opportunity to take advantage of the situation. Saddam Hussein's military forces continued to engage U.S. air patrols over the northern and southern Iraqi no-fly zones established at the end of DESERT STORM. His government failed to comply fully with 16 United Nations resolutions calling for full disclosure of his weapons of mass destruction (nuclear, chemical, and biological) programs as well as international inspections of all facilities

.On March 20, 2003, United States forces initiated Operation IRAQI FREEDOM by leading a coalition of British, Polish, and other countries' military units to remove Hussein from power and arrest him. As they had in 1991, coalition forces moved swiftly to defeat Iraqi forces and Republican Guard units, capturing Baghdad on April 9, 2003. Again, the 50th Space Wing played a key role. Crews of the 2d Space Operations Squadron developed new techniques for enhancing Global Positioning System accuracy over the Iraqi theater of operations and flew over 1,000 satellite sorties between 20 March and 10 April 2003. Satellite crews of the 3d and 4th Space Operations Squadrons maximized satellite communications coverage of the theater. The 1st Space Operations Squadron set a record, placing a GPS satellite in orbit and completing all early on-orbit checkout activities in only 11 days, while also flying 100 Defense Support Program satellite sorties and 300 GPS sorties in the first 20 days of combat. The 3d Space Operations Squadron's Defense Satellite Communications System Block III satellites provided 80 percent of in-theater bandwidth. Meanwhile, the 4th Space Operations Squadron dedicated 85 percent of Milstar communications capability to the war effort, flying 14,000 sorties in the first 20 days of operations.

The crews of the 50th Operations Group's 21st, 22d, and 23d Space Operations Squadrons supported all of the wing's satellite command and control activities through the Air Force Satellite Control Network scheduling nodes managed by the 22d Space Operations Squadron. Personnel at the wing's remote tracking stations, including 21st and 23d Space Operations Squadrons and their detachments, logged over 12,312 satellite contacts while also assisting with other satellite operations and three satellite launches. The 50 SW also underwent organizational changes in the first years of the new century. To correct inefficiencies and realign organizations along mission lines, Air Force Space Command ordered the redesignation the 50th Communications Group, which replaced the 50th Maintenance Group in June 2003, as the 50th Network Operations Group in March 2004 and reassigned the 21st, 22d, and 23d Space Operations Squadrons to that organization. Functions of the 850th Space Communications Squadron merged with those of the 50th Space Communications Squadron and the 850th inactivated in January 2006.

The 50th Space Wing ended 2005 preparing to implement actions directed by the 2005 Defense Base Closure and Realignment Commission. The commission's recommendations called for the transfer of some mission functions of the 21st Space Operations Squadron to 50th Space Wing units at Vandenberg AFB, California, and the closure of Onizuka Air Force Station. The mission transfer would occur over the next several years, following the construction of needed facilities at Vandenberg AFB. Onizuka Air Force Station was closed on September 15, 2011. The importance of Schriever Air Force Base, and its host 50th Space Wing to United States military and national space operations continued in the first decade of the new century. While progress continued on implementing the closure of Onizuka AFS Station and realigning its mission activity, the wing and Air Force Space Command determined to relocate the 21st Space Operations Squadron to Vandenberg to fulfill those functions. Construction began on a new satellite control facility to be named on honor of Colonel Ellison S. Onizuka, and was completed and ready for operations by mid-2010.

Budgetary constraints and other factors had led the 2005 Base Realignment and Closure Commission to identify Onizuka AFS for realignment and closure by the end of fiscal year 2011. Following much planning and the construction of new facilities to support the squadron at Vandenberg AFB, California, in 2010 the 21st Space Operations Squadron, commanded by Lt. Colonel Robert J. Pavelko, relocated there. The squadron occupied the new Ellison Onizuka Space Operations Facility, so named to continue to honor Colonel Onizuka and to link the squadron to its previous home station. Detachment 4, 21st Space Operations Squadron activated to oversee base closure activates at Onizuka AFB and inactivated upon completion of those actions in September 2011.

Col Theresa Djuric (third from left), 50 SW commander, and others, including representatives of Tierra Vista Communities, break ground on base housing, May 16, 2008 (USAF Photo)

At Schriever AFB, the 50th broke ground on 242 privatized housing units on May 16, 2008, 25 years after the ceremonial ground-breaking marking the beginning of construction of the base. Scheduled for completion by the fall of 2010, the new housing area boasted high-quality homes and a community center offering many recreational services. In July 2010 the last home in privatized housing on Schriever AFB was completed three months ahead of schedule. By the close of 2010 the housing contractor reported an occupancy rate of 98.35 percent. The development included 132 four-bedroom homes and 110 three-bedroom homes. Also in 2008, contractors launched the first of the Wideband Global SATCOM (WGS) spacecraft. Following months of training and rehearsals, crews of the 3d Space Operations Squadron shadowed contractor crews, observing and learning operations associated with the newest wideband satellites. The 3 SOPS assumed satellite control authority (SCA) of the spacecraft in early 2009. Meanwhile, the 50th Operations Group continued development of the Multi-Mission Satellite Operations Center, while crews of the 4th Space Operations Squadron began rehearsals and training for the planned launch of the Advanced Extremely High Frequency (AEHF) satellite.

Meanwhile, other wing units gained additional tasks. The 1st Space Operations Squadron began tracking, telemetry, and commanding for the Tactical Satellite (TacSat)-3. The TacSat-3 was an experimental satellite that provided real-time imagery, information from sea-based buoys to U.S. combat forces and sought to validate "plug- and-play" avionics capability. The squadron's crews also prepared to operate the Space-Based Space Surveillance (SBSS) system after contractors turned operations over to the Air Force. The SBSS provided improved space situational awareness by improving the detection and tracking capabilities of the space surveillance network. The 1st also accepted SCA of the first Operationally Responsive Space (ORS) satellite from the 14th Air Force.

Additional WGS satellites continued to expand the broadband communications constellations operated by the 3d SOPS, while the 4th Space Operations Squadron prepared to accept SCA for the first Advanced Extremely High Frequency (AEHF). Launched in August 2010, the first AEHF space vehicle suffered an anomaly during liquid apogee engine burn that resulted in a year-long effort to bring the satellite into its assigned geosynchronous orbit. Crews and contractors worked diligently to achieve operational status and had nearly completed all actions by the end of 2011. The wing also regained responsibility for the Defense Meteorological Satellite Program (DMSP) in 2010 and activated Detachment 1, 50th Operations Group at Suitland, Maryland, to manage the program.

The 4th Space Operations Squadron crews accepted satellite control authority for AEHF-1 on March 12, 2012 and by the end of the year had also accepted satellite control authority for AEHF-2. The 3d Space Operations Squadron also accepted a new satellite in 2012. The launch and successful orbit of WGS-4 resulted in the transfer of satellite control authority from the MILSATCOM Systems Directorate at the Space and Missile Systems Center to the unit on July 30, 2012. The 2d Space Operations Squadron assumed control of GPS satellite vehicle number (SVN) 65 on November 14, 2012, following its launch about six weeks earlier. Meanwhile, the 1st Space Operations Squadron performed end-of-life operations on the Tactical Satellite (TacSat)-3

spacecraft. In April 2012, that satellite deorbited and burned up in the earth's atmosphere. Within the AFSCN, the wing, on August 3, 2012, decommissioned the Colorado Tracking Station, which had been operating on reduced hours as a cost-saving measure since 2006. Rather than shutter the facility, the wing proposed positioning transportable assets at PIKE to serve the AFSCN as a test platform and to support surge operations.

The fiscal constraints that led to the reduction in operating hours at PIKE in 2006 and the decommissioning of the station six years later continued to challenge the wing's leadership team. The 2011 Budget Control Act set strict spending limits that when unmet by Congress mandated severe funding cuts under sequestration. These reductions in funding authority led to the implementation in fiscal year 2013 of furloughs for many civilian employees and other actions to reduce personnel and operational costs. Wing leaders, under 50 SW commander Colonel William J. Liquori, Jr., sought innovative methods of implementing the fiscal year 2013 reductions without jeopardizing mission effectiveness. Operations and support contracts were evaluated to identify efficiencies to reduce costs. Temporary duty travel, facilities maintenance, and administrative support spending were sharply curtailed. By the end of the fiscal year, the wing had successfully implemented its reduced funding authority without sacrificing mission effectiveness. Despite the reductions to the wing's spending authority, the organization contributed $908 million to the local economy in fiscal year 2013—nearly 17 percent of the total economic impact of the four military installations in the Colorado Springs area.

Fiscal constraints also led Air Force Space Command to implement organizational changes. On April 1, 2013, the command inactivated the Space Innovation and Development Center following 18 years of service. The subordinate units of the center were realigned to other wings and commands, with the 50th Space Wing gaining the 3d Space Experimentation Squadron as a unit of the 50th Operations Group.

As the wing's family of satellites continued to grow with launches of modernized Global Positioning System, Wideband Global SATCOM, and Advanced Extremely High Frequency satellites, the wing opened its Integrated Operations Environment (IOE) in February 2013 to consolidate military satellite communications systems. The wing's 3d and 4th Space Operations Squadrons moved into the newly modernized facility in the early months of 2013. The wing's operations in the IOE, however, were to be short-lived. By September 2015, wing space operations crews were moving from the IOE area to other operations center to accommodate the Joint Interagency Combined Space Operations Center (JICSpOC) bed down in the former IOE. The Department of Defense announced the creation of the center in the summer of 2015 and the 50th Space Wing, as Schriever's host organization work with its higher headquarters echelons to bring the center on line by October 2015.

The wing also completed, by 2013, renovations at the Alternate Master Control Station to support the GPS Next Generation Operational Control System (OCX) software and hardware in preparation for launch of the next generation of GPS spacecraft (GPS III). However, funding and technical issues continued to delay OCX and GPS III. Meanwhile, in an effort to maintain and improve system performance pending the initial deployment of the next generation Block III satellites, Air Force Space Command continued to launch a new Block IIF Global Positioning System satellite at a rate unseen in nearly two decades. The 2d Space Operations Squadron personnel, joined by teammates in the 19th Space Operations Squadron, conducted launch and early orbit operations bringing seven Block IIF satellites on line during 2014-2015.

Wing organizations and individuals continued to excel under the challenges presented, garnering numerous unit and personal awards. Named as the recipient of the Omaha Trophy for Global Operations for 2010, the wing repeated that accomplishment for 2012, and in 2014. In 2013, the 50th Network Operations Group received the General McClelland Award for Information Dominance and eighteen wing personnel received individual awards in related categories. The wing responded to the Black Forest fire incident, providing firefighting crews and equipment to augment city, state, and other federal agencies to contain one of Colorado's costliest wild land fires. While the base fire department's teams battled the blaze, other individuals volunteered to support displaced families by providing clothing, food, shelter, and assisting with clean-up activities in the aftermath of the fire. The efforts of the wing and other Schriever AFB units and personnel duplicated those of 2012 Waldo Canyon fire incident.

Mr. John Whisler, member of the Strategic Command Consultation Committee, and Gen Robert C. Kehler (center), U.S. Strategic Command commander, present the 2010 Omaha Trophy for Global Operations to Col. Wayne R. Monteith, 50 SW commander. (USAF Photo)

The wing repeated these feats, earning the Omaha Trophy for Global Operations again for 2014 and also receiving the General Robert T. Herres Award for 2014. On October 17, 2016, the 50 SW received the Global War on Terrorism Service Streamer, by order of General John Hyten, the AFSPC Commander. The 50 SW and its subordinate units provided direct support and exceptional meritorious service during Operations IRAQI FREEDOM (19 March 2003 – 31 August 2010); NEW DAWN (l September 2010 – 31 December 2011); INHERENT RESOLVE (15 June 2014 – present) and NOBLE EAGLE and ENDURING FREEDOM (11 September 2001 - present). On April 17, 2017, the Wing received an Air Force Outstanding Unit Award.

General John E. Hyten's appointment to Commander, Air Force Space Command, brought with him a new vision on the conduct of space operations. As commander of the 50th Space Wing, General (then Colonel) Hyten's perspective of space operations emphasized the wing's delivery of combat effects from its space system. As the AFSPC Commander, General Hyten expanded this perspective to include cyber systems. These new areas of emphasis would have significant effects on the 50th Space Wing. The Space Mission Force construct for space operations squadrons and Space Training Transformation initiative sought to provide the emphasis on space as a contested environment and on the 'warfighting' of the command's space systems that General Hyten wanted. The 50th led AFSPC's field organizations in implementing these new programs.

The Space Mission Force construct altered crew force scheduling to approximate what would be experienced if deployed 'downrange' with an emphasis on 'fighting' the weapon system. Space Training Transformation gave the wing's greater flexibility in responding to changes and upgrades to the systems, as well as tactics, techniques and procedures developments. Cyber activities and defense of the wing's space and communications systems from cyber operations that could be perpetrated by unfriendly assets also took on added importance. The Air Force sought organizational innovations within its cyber and communications units, the 50th Space Communications Squadron was selected as a pathfinder unit in the development of the "Cyber Squadron of the Future." The launch of two new space situational awareness satellites in July 2014 presaged changes to the wing's operations, as well as Air Force Space Command's Geosynchronous Space Situational Awareness Program (GSSAP) satellites provided enhanced capabilities over the legacy systems.

Following more than one year of testing, space control authority for the first of the GSSAP satellites transferred to the 50th Space Wing and ultimately the 1st Space Operations Squadron on 29 September 2015.

In 2016 and 2017, the 50 SW accomplished many activities involving the Space Mission Force (SMF). The 50th Operations Group (50 OG) and the 50th Operations Support Squadron (50 OSS) pioneered General John Hyten's, then Air Force Space Command Commander's (AFSPC/CC) force posturing vision. The 50 SW drove many of the actions for the establishment and facility restructure for the Joint Interagency Combined Space Operations Center (JICSpOC, later called the National Space Defense Center [NSDC]), which meet the NSDC mission needs of the new DoD organization. In 2016, the 50 SW and its commander, Colonel Deanna Burt became the first Space Wing to lead a Red Flag exercise (16-3). This Red Flag's operations focused on joint non-kinetic integration. The 50 SW realigned the 50 OG into flexible crew force, i.e., SMF and Space Training Transformation goals. During this period, the 50 OG accomplished the first SMF rotations. The 50 OG postured SMF Unit Type Codes for United States Strategic Command (USSTRATCOM); which defined 331-person joint Satellite Operations Team to support the SMF. The Contested, Degraded, and Operationally limited focused and postured 50 SW to execute AFSPC/CC SMF vision. Overall, the 50 OSS spearheaded the SMF created the Wing's Advanced Training strategy. The 50 OSS assumed the qualification weapon system training from Air Education and Training Command. The 50 OSS created operations classes, built training schoolhouse, which included five new classrooms, enhanced simulations, while simultaneously, and executed the first Mission Qualification Courses. During these early training courses, the 50 OSS managed hundreds of students, identified and filled baseline manning, and designed the Mission Qualification Training courses, which ensured USSTRATCOM crew readiness. The 3d Space Operations Squadron (SOPS) and 4 SOPS successfully merged all military satellite communications operations under one squadron, 4 SOPS. The merger consolidated 428 military, civilian and contractor into one unit saving $2 million in annual operating costs and 38 personnel positions. The Military Satellite Communications (SATCOM) team enabled vital hurricane response operations, and supported the deployment of a SATCOM team which provided key communications to supply and rescue operations in Texas and Puerto Rico. The 3 SOPS and 4 SOPS provided Defense Satellite Communications System and Military Strategic, Tactical and Relay operations in support of POTUS NC3 mission. In 2017, the 50 SW participated in the first two Space Flag exercises. In September 2017, Colonel Jennifer Grant, the new 50th Space Wing Commander unveiled a new mission for the wing, as the wing focused it vision and focus on space and cyberspace. Under the new mission statement the 50 SW would "evolve space sand cyberspace warfighting superiority through integrated and innovative operations." The vision for the wing was to have "one team…mastering space and cyberspace operations...now and into the future." For the wing, Colonel Grant set three priorities – "1. Successfully and innovatively execute todays' operations, 2) Plan and posture for tomorrow's engagements and 3) Take care of our Airman and families always."

The 50th Network Operations Group (50 NOG) and its Space Operations Squadrons (21 SOPS, 22 SOPS and 23 SOPS) commanded the $6.2 billion Air Force Satellite Control Network (AFSCN) with 16 Ground Antennas, supporting 185 satellites and 19 space vehicle launches on average per year. In this period, the 50 NOG enabled 48 satellite launches worth $42B, and assured command and control (C2) at their satellite ground sites, which increased nation's space capabilities. The 50 NOG monitored all network communications path for seven Geographically Separated Units (GSUs). The 50 NOG evaluated antenna performance and validated a $160 million SMC program to modernized space access for future warfighters. In 2017, the first Hybrid RTS became operational at Kaena Point, Hawaii. The DoD and Air Force considered the 50 NOG, the USAF Defensive Cyber Operations pathfinder, as the organization developed processes and employed new tools securing the

AFSCN, such as the Mission Defense Team Tool Kit. During this period, the 50 NOG established baseline Cyber Defensive Operations Center, with 24/7 operations, and eradicated 13,000 cyber threats. This shielded 28,000 developers and users from enemy exploitation, which was the first time such operations took place in the Air Force. The 50 NOG and 50th Space Communications Squadron were DoD's premier Global Broadcast System lead. The 50 SCS managed the $2.l billion spaced-based network, crucial command, control, communications, computer and intelligence (C4I) support to nine Combatant Commands and five federal agencies. The 50 SCS established the first-ever GBS Continuity of Operations facility (COOP) and led 50 SW and 72d Air Base Wing (Tinker AFB, Oklahoma) efforts for 24/7 daily support in event of crisis, which executed AFSPC Vice Commander's vision for the system.

(U) The 50th Mission Support Group (50 MSG) was the focal point for the base infrastructure and personnel support. The 50 MSG steered the $32 million JICSpOC (later called the NSDC) project, which upgraded the JICSpOC heating, ventilation and air conditioning and electrical system well as a $1 million communications equipment upgrade. These efforts ensured the rapid establishment of Secretary of Defenses' new number one priority. The 50th Civil Engineering Squadron (50 CES) oversaw or executed the facility improvements. Besides the JICSpOC, the 50 CES spearheaded the Air Forces number one energy assurance project on Schriever AFB; a $22 million, two Cogeneration or combined heat and power gas turbines supporting the base's primary mission facilities. This project would save the Wing and Base approximately $1.7 million a year in energy costs. The plan involved the 21 mission partners and five mission area development plans. This effort saved $290,000 of the $l.3 billion program road-mapped to 2035. The 50 CES received the 2016 AFSPC Small Fire Department of the Year Award (Small Base Category). The 50 CES Fire Department's biggest response in 2017 was a 4,000 acres wildfire, the third largest in El Paso County, Colorado history.

In 2018, the 50 SW successfully accomplished the first Continuity of Operations exercise transferring mission activities to other locations from Schriever AFB. The 50 SW also supported the launch of the first GPS IIIA satellite, the new generation of GPS satellite had improved GPS signals and added anti-jamming capability to positioning, navigation and timing. The 4 SOPS supported Hurricane Florence relief by providing vital communications for 66 missions that ensured relief for two million people impacted by the storm. The JICSpOC renamed the National Defense Space Center began 24 hour, seven days a week operations.

UNITED STATES SPACE FORCE RISES

In 2019, some major operations included Space Mission Force development, Space Training, Defensive Cyber Operations, the launch of the Advanced Extremely High Frequency Number (AHEF) 5, Wideband Global System (WGS) 10 and the second Global Positioning System Block (GPS) III satellites. The 50th Space Wing also added new satellites to their weapons inventory such as AEHF-4, WGS-10 GPS III Space Vehicle Number 1 and the Enhanced Polar System communication satellite. The Air Force and the National Oceanographic and Atmospheric Administration (NOAA) also worked on the transfer of satellite control authority of the Geostationary Operational Environmental Satellite-13 (GOES-13) for weather observations for Air Force use. The 50 SW also supported the National Space Defense Center and Joint Force Space Component Command and their impact on the Wing's mission and base infrastructure. Headquarters, Air Force Space Command (AFSPC) assessed the 50 SW in a Unit Effectiveness Inspection that the wing received an "Effective" rating. The base also closed for a 48-hour period under one of the worst blizzards to hit the state of Colorado.

In early 2020, the USSF and the units at Schriever AFB and in the 50 SW worked on the plans for the reorganization and transition of activities to the new USSF construct. Under the construct, there would be space deltas accomplishing the mission activities and space base organizations later called garrison activities that focused on installation operations. On 24 July 2020, the 50th Space Wing inactivated and the space deltas and Peterson-Schriever Garrison stood up. At Schriever, the Space Delta (DEL) included Space Delta 6, which carried out satellite control network operations and defensive cyber operations; Space Delta 8, which accomplished military satellite communications and navigation warfare; and Space Delta 9, which undertook orbital warfare operations. DEL 9 activated in June 2020 as the 750th Operations Group and later redesignated as DEL 9 to stand up the orbital warfare capability of newly formed Space Operations Command. The main installation command stood at Peterson AFB to manage the entire Peterson-Schriever Garrison and the geographically separate units that spanned the globe. While these changes occurred to operational activities, a new issue engulfed not just the base, but also the world. In March 2020, the personnel assigned to Schriever AFB began dealing with the Corona Virus 2019 decease (Covid-19). Though the decease infected some personnel, operations continued and Schriever space operations crews continued to provide space effects to warfighters around the globe. Even with these issues related to the virus, operations crews gained satellite control authority of three new GPS-III satellites and three Advanced Extremely High Frequency communications satellites, while still meeting the demands for protected communications, space situational awareness, and PNT from existing weapon systems and the ground stations.

In 2021, as with many of the other changes related to the stand-up of Space Force, even the installation names changed. Starting in June 2021, the base and station names changes, as Kaena Point became a Space Force Station (the first SpOC base), then New Boston became a Space Force Station (July), followed by Peterson and Schriever as Space Force Bases and Cheyenne Mountain as a Space Force Station (at the end of July 2021.)

APPENDIX 1

BIOGRAPHY OF GENERAL BERNARD A. SCHRIEVER

Retired Aug. 31, 1966. Died June 20, 2005. Bernard Adolph Schriever, former commander of Air Force Systems Command, was born in Bremen, Germany, in 1910. The architect of the Air Force's ballistic missile and military space program, he came to America in 1917 when his parents emigrated from Germany. He became a naturalized citizen in 1923, and attended grade school and high school at San Antonio, Texas, and graduated from Texas A&M in 1931 with a Bachelor of Science degree. He received a commission in the Field Artillery but in July 1932 began flight training at Randolph Field (later Randolph Air Force Base), Texas and earned his wings and commission in the Air Corps in June 1933 at Kelly Field (later Kelly Air Force Base), Texas. He was assigned as a bomber pilot at March and Hamilton Fields, California, with promotion in June 1933 to first lieutenant. He returned to duty in October 1938 with the 7th Bomb Group at Hamilton and a year later became a test pilot at Wright Field (later Wright-Patterson Air Force Base), where he also attended the Air Corps Engineering School, graduating in July 1941. He then took an advanced course in aeronautical engineering at Stanford University, received promotion to captain in April 1942, and earned his master's degree in June as a newly promoted major. In July 1942, Schriever went to the Pacific for combat with the 19th Bomb Group, taking part in the Bismarck Archipelago, Leyte, Luzon, Papua, North Solomon, South Philippine and Ryukyu campaigns. In January 1943 he moved to the 5th Air Force Service Command in maintenance and engineering assignments, and as chief of staff, finally becoming commanding officer of advanced headquarters for the Far East Air Service Command which supported theater operations from bases in Hollandia, New Guinea, Leyte, Manila and Okinawa. He was promoted to lieutenant colonel in August 1943 and to colonel that December. After the war Schriever went to Headquarters, Army Air Forces as chief of scientific liaison in materiel for three and a half years. He graduated from the National War College in June 1950 and returned to Headquarters, Army Air Forces as assistant for evaluation, in development. In January 1951, he continued the same type of work with the title of assistant for development planning and was promoted to brigadier general in June 1953. Schriever began his long association with Air Research and Development Command (ARDC) - later Air Force Systems Command (AFSC) - in June 1954 as assistant to the commander. Over the next month, he headed a small group of officers who went to Los Angeles to organize and form what has become the Air Force's Ballistic and Systems Divisions. Under AFSC with the end product such ballistic missiles as Thor, Atlas, Titan and Minuteman, and many the aerospace systems which have been launched into orbit, including support for NASA in its Mercury man-in-space and other programs. Schriever received promotion to major general in December 1955. He left Los Angeles for Andrews Air Force Base, Md. in April 1959 as commander of ARDC, which became AFSC April 1, 1961, under a reorganization he initiated. He received promotion to lieutenant general on that date (April 25, 1959), and to general on July 1, 1961.

APPENDIX 2
BIOGRAPHY OF COLONEL ZACHARY S. WARAKOMSKI

BIOGRAPHY

UNITED STATES AIR FORCE

Col. Zachary S. Warakomski is the Commander, Peterson-Schriever Garrison, headquartered at Peterson Space Force Base, Colorado. As commander, he leads a 2,500 member team providing Base Operating Support to more than 18,400 military, Department of Defense civilians and contractor personnel serving at 22 operating locations worldwide. These personnel execute critical U.S. Space Force missile warning; space domain awareness; space control; position, navigation and timing; satellite communications; electronic warfare; intelligence, surveillance and reconnaissance; and cyberspace missions.

Col. Warakomski entered the U.S. Air Force as a graduate of the U.S. Air Force Academy in 1998. Prior to his current assignment, Col. Warakomski served as Commander, 375th Communications Group at Scott AFB, Illinois. He has served in a variety of operational and staff assignments at the squadron, group, wing, numbered Air Force, major command and combatant command levels. In addition, he has served in positions at Headquarters Air Force, the Office of the Secretary of Defense and on the Joint Staff as Special Assistant to the Chairman of the Joint Chiefs of Staff.

EDUCATION

1998 Bachelor of Science, Biology, U.S. Air Force Academy, Colorado Springs, Colo.
1999 Basic Communications Officer Training Course, Keesler Air Force Base, Miss.
2002 Squadron Officer School, Maxwell AFB, Ala.
2004 Master of Business Administration, University of Colorado, Colorado Springs
2007 Advanced Communications Officer Training Course, Keesler AFB, Miss.
2007 Air Command and Staff College, by correspondence
2010 Army Command and General Staff College, Fort Leavenworth, Kan.
2012 Air War College, by correspondence
2017 Master of National Security Strategy, National War College, Fort Leslie J. McNair, Washington, D.C.|

ASSIGNMENTS

1. May 1998–November 1998, Deputy Commander, Mission Systems Flight, 437th Communications Squadron, Charleston Air Force Base, S.C.
2. November 1998–February 1999, student, Basic Communications Officer Training Course, Keesler AFB, Miss.
3. February 1999–May 2000, Commander, Plans and Programs Flight, 437th Communications Squadron, Charleston AFB, S.C.
4. May 2000–May 2003, Chief, Systems Integration, Directorate of Operational Plans and Joint Matters, DCS, Air and Space Operations, Pentagon, Washington, D.C.
5. May 2003 – April 2005, Combat Infrastructure action officer, Networks Division, Directorate of Communications and Information, Headquarters Pacific Air Forces, Hickam AFB, Hawaii

6. April 2005–August 2006, Action Officer, Commander's Action Group, Headquarters PACAF, Hickam AFB, Hawaii
7. August 2006–August 2008, Assistant Director of Operations, 4th Space Operations Squadron, 50th Space Wing, Schriever AFB, Colo.
8. August 2008–February 2009, Chief Military Satellite Communications Systems, Capabilities Division, Directorate of Communications and Information, Headquarters Air Force Space Command, Peterson AFB, Colo.
9. February 2009–December 2009, Commander's Speechwriter, Commander's Action Group, Headquarters AFSPC, Peterson AFB, Colo.
10. January 2010–December 2010, Student, Army Command and General Staff College, Fort Leavenworth, Kan.
11. April 2011–June 2013, Commander, 56th Communications Squadron, Luke AFB, Ariz.
12. June 2013–July 2014, Executive Assistant to the Department of Defense Chief Information Officer, Office of the Secretary of Defense, Pentagon, Washington, D.C.
13. July 2014–January 2015, Action Officer, Cyberspace Division, Directorate for C4/Cyber, Joint Staff J6, Pentagon, Washington, D.C.
14. January 2015–July 2016, Special Assistant to the Chairman, Office of the Chairman of the Joint Chiefs of Staff, Pentagon, Washington, D.C.
15. July 2016 – June 2017, student, National War College, Fort Leslie J. McNair, Washington, D.C.
16. June 2017 – June 2018, Deputy Director, Cyberspace Plans and Strategy, 24th Air Force, Air Forces Cyber and Joint Force Headquarters-Cyber (Air Force), Joint Base San Antonio – Lackland, Texas
17. June 2018–May 2019, Director, Cyberspace Operations – Integrated Planning Element, U.S. Transportation Command, and U.S. Cyber Command Liaison Officer to U.S. Transportation Command, Scott AFB, Ill.
18. May 2019–June 2021, Commander, 375th Communications Group, Scott AFB, Ill.
19. June 2021–Present, Commander, Peterson-Schriever Garrison, Peterson SFB, Colo.

SUMMARY OF JOINT ASSIGNMENTS
1. June 2013–July 2014, Executive Assistant to the Department of Defense Chief Information Officer, Office of the Secretary of Defense, Pentagon, Washington, D.C.
2. July 2014–January 2015, Action Officer, Cyberspace Division, Directorate for C4/Cyber, Joint Staff J6, Pentagon, Washington, D.C.
3. January 2015–July 2016, Special Assistant to the Chairman, Office of the Chairman of the Joint Chiefs of Staff, Pentagon, Washington, D.C.

MAJOR AWARDS AND DECORATIONS
Legion of Merit
Defense Meritorious Service Medal with oak leaf cluster
Meritorious Service Medal with four oak leaf clusters
Air Force Commendation Medal with oak leaf cluster
Air Force Achievement Medal with oak leaf cluster

EFFECTIVE DATES OF PROMOTIONS
Second Lieutenant May 27, 1998
First Lieutenant May 27, 2000
Captain May 27, 2002
Major Dec 1, 2007
Lieutenant Colonel Oct 1, 2012
Colonel Jan 1, 2019

(*Current as of September 2021*)

APPENDIX 3

Lineage of the 50th Space Wing

Established: 50th Fighter Wing, May 16, 1949 Activated: June 1, 1949 (in the AF Reserve)

Redesignated: 50th Fighter-Interceptor Wing, March 1, 1950 Ordered Active Svc: June 1, 1951; Inactivated: June 2, 1951

Redesignated: 50th Fighter-Bomber Wing, November 15, 1952 Activated: January 1, 1953

Redesignated: 50th Tactical Fighter Wing, July 8, 1958 Inactivated: September 30, 1991

Redesignated: 50th Space Wing, January 1, 1992 Activated: January 30, 1992; Inactivated July 24, 2020

Assignments: 1st Air Force, June 1, 1949; Eastern Air Defense Force, September 1, 1950-June 1,1951 (attached to 33 FW, June 1, 1949-June 1, 1951); 9th Air Force, January 1, 1953; 12th Air Force, August 9, 1953; United States Air Forces in Europe, January 1, 1958; 17th Air Force, November 15, 1959- September 30, 1991; Space Command, January 30, 1992-June 30, 1993; 14th Air Force, July 1, 1993-Present

Stations: Otis AFB, MA, June 1, 1949-June 2, 1951; Clovis AFB, NM, January 1, 1953-

July 23, 1953; Hahn AB, West Germany, August 9, 1953 - July 16, 1956; Toul-Rosieres

AB, France, July 17, 1956-September 9, 1959; September 10, 1959-September 30, 1991; Falcon AFB (later Schriever AFB), CO, January 30, 1992-

Aircraft: 50 FG: BT-13, 1941-1942; P-35, 1941-1942; P-36, 1941-1942; P-40, 1941-1943; P-51 1942-1943; DB-7 (A-20), 1942-1943; P-70, 1942-1943; P-47, 1942-1945. 50 FW: T-6, 1949-1951; T-33, 1949-1951; F-51, 1949-1950, 1953; F-84, 1949-1950; F-86A, 1950-1951; F-86F, 1953-1956; F-86H 1956-1957; ET-33, 1955-1956; T-33, 1959-1966; F-100, 1957-1966; F-104, 1962; F-4D, 1966-1977; F-102, 1968-1970; F-106, 1975; F-4E, 1976-1981; F-16A/B 1981-1986; F-16C/D 1986-1991

Missiles: Matador, 1955-1955

Satellites and space systems: DMSP, 1992-1998; DSCS II, 1992-1998; DSCS III 1992- Present; DSP, 1992-2006; FLTSAT, 1992-1996; GPS, 1992-Present; Milstar 1994- Present; NATO III, IV/Skynet, 1992-2004; UHF F/O, 1992-1999; MSX, 2000-2008; WGS, 2008-; ORS-1, 2010-2017; TACSAT-3, 2010-2012; AEHF, 2012- ; Advanced Technology Risk Reduction (ATRR), 2011-; Space Based Space Surveillance (SBSS) 2010-; Geosynchronous Space Situational Awareness Program (GSSAP) – 2015-; Automated Navigation and Guidance Experiment for Local Space (ANGELS), 2016-2017; Air Force Satellite Control Network, 1993-; ORS-5, 2018-; Evolved Expendable Launch Vehicle Secondary Payload Adapter Augmented Geosynchronous Laboratory Experiment (EAGLE), 2018

APPENDIX 4

UNITS ASSIGNED

TACTICAL UNITS

50th Pursuit (later 50th Fighter, 50th Fighter-Interceptor; 50th Fighter-Bomber; 50th Operations) Group, 1 Jun 49-2 Jun 51; 1 Jan 53-8 Dec 57; 30 Jan 92-24 Jul 20
50th Communications (later Network Operations) Group, 1 Dec 97-1 Oct 02, 1 Jun 03-24 Jul 20
750th Operations Group, 19 Jun 20 -24 Jul 20
750th Space Group, 30 Jan 92-25 Jun 99
1000th Satellite Operations Group, 30 Jan 92-31 Jul 92
1st Space Operations Squadron, 30 Jan 92-
2nd Space Operations Squadron, 30 Jan 92-
3d Space Experimentation Squadron, 1 Apr 13-
3d Space Operations Squadron, 30 Jan 92-13 Jun 17
4th Space Operations Squadron, 30 Jan 92-
5th Space Operations Squadron, 22 Nov 93-13 Jun 00
6th Space Operations Squadron, 30 Jan 92-30 Sep 98
8th Tactical Fighter Squadron (attached), 8 Mar 73-2 Apr 73; 6 Sep 75-6 Oct 75
9th Tactical Fighter Squadron (attached), 11 Sep 71-7 Oct 71; 23 Sep 76-24 Oct 76
10th Fighter-Bomber (later Tactical Fighter) Squadron, 8 Dec 57-30 Sep 91 (detached 28 Dec 90 - 10 May 91)
21st Space Operations Squadron, 30 Jan 92-
22d Space Operations Squadron, 30 Jan 92-
23d Space Operations Squadron, 30 Jan 92-
68th Fighter-Interceptor Squadron (attached), 01 May 77-7 Jun 77
69th Pilotless Bomber Squadron, Light (later Tactical Missile Squadron) (attached), 14 Mar 55 - 15 Apr 56
81st Fighter-Bomber (later Tactical Fighter) Squadron, 8 Dec 57-15 Jul 71
313th Tactical Fighter Squadron, 15 Nov 76-1 Jul 91
355th Tactical Fighter Squadron (attached), 5 Sep 61-16 Nov 61
417th Fighter-Bomber (later Tactical Fighter) Squadron, 8 Dec 57-1 Jul 68, (attached) 1-15 Jul 68, 15 Jan 69-4 Apr 69, 11 Sep 70-10 Oct 70, 9 Sep 71-2 Oct 71, 5 Feb 73-8 Mar 73, 6 Mar 74-5 Apr 74, 3 Oct 75-5 Nov 75, 24 Aug 76-26 Sep 76
421st Tactical Fighter Squadron (attached) 5-25 Aug 77
428th Fighter-Bomber Squadron (attached), 1 Apr 75-ca 1 Oct 57
429th Fighter-Bomber Squadron (attached), 7 Oct 56-1 Apr 57
430th Fighter-Bomber Squadron (attached), 20 Apr 56-7 Oct 56
435th Tactical Fighter Squadron (attached), ca 24 Oct 62-11 Dec 62
457th Fighter-Bomber (later Tactical Fighter) Squadron (attached) 13 Aug 58-18 Feb 59
496th Fighter-Interceptor (later Tactical Fighter) Squadron, 1 Nov 68-15 May 91
509th Fighter-Bomber Squadron (attached) 15 Jan 58-24 Mar 58
614th Tactical Fighter Squadron (attached), 5 Sep 61-14 Nov 61
Det, 5th Fighter-Interceptor Squadron (attached), 4-25 Sep 75

SUPPORT UNITS

50th Air Base (later Combat Support, Support, Mission Support) Group, 1 Jun 49-2 Jun 51, 1 Jan 53-30 Sep 91, 30 Jan 92-
50th Maintenance and Supply (later Logistics, Maintenance) Group, 1 Jun 49-2 Jun 51, 1 Jan 53-8 Dec 57, 30 Jan 92-1 Dec 97, 1 Oct 02-1 Jun 03
50th Medical Group (later 50th Tactical Hospital), 1 Jan 53-1 Jul 86 (detached 1 Jul 71-1 Jul 86)
50th Security Police Group, 21 Oct 88-30 Sep 91
50th Air Police (later Security Police, Security Forces) Squadron, 1 Jan 53-30 Sep 91, 30 Jan 92-
50th Armament and Electronics Maintenance (later Avionics Maintenance, Component Repair) Squadron, 15 Nov 58-8 Apr 62, 1 Jul 64-30 Sep 91
50th Ammunition Supply Squadron, 8 Oct 72-15 May 86
50th Civil Engineering (later Civil Engineer) Squadron, 1 Jan 53-30 Sep 91, 30 Jan 92-
50th Communications (and Space Communications) Squadron, 1 May 91-30 Sep 91, 30 Jan 92-
50th Comptroller Squadron, 1 Jul 85-30 Sep 91, 1 Oct 03- 24 Jul 20
50th Contracting Squadron, 14 Aug 95-
50th Crew Training Squadron, 30 Jan 92-1 Oct 94
50th Field Maintenance (later Consolidated Aircraft Maintenance, Field Maintenance, Equipment Maintenance, Maintenance) Squadron, 8 Dec 57-30 Sep 91, 30 Jan 92-1 Dec 97
50th Flightline Maintenance Squadron, 1 Jul 64-25 Dec 65 (detached 1 Jul 64-1 Oct 65)
50th Logistics Support Squadron, 30 Jan 92-1 Dec 97
50th Munitions Maintenance Squadron (later Munitions Maintenance Squadron (Theater)), 8 Oct 72-8 Oct 78, 15 May 86-30 Sep 91
50th Operations Support Squadron, 30 Jan 92-
50th Organizational Maintenance (later Aircraft Generation) Squadron, 1 Jul 64-1 Jan 66, 1 Jan 72-30 Sep 91
50th Space Systems Squadron (later 850th Space Communications Squadron), 30 Jan 92-23 Jun 97, 1 Dec 97-30 Jan 06
50th Supply Squadron (later 50th Logistics Readiness Flight), 16 May 49-2 Jun 51; 1 Jan 53-30 Sep 91; 1 Jun 03-
50th Support (later Mission Support, then Force Support) Squadron, 1 Jun 89-30 Sep 91, 30 Jan 92-
50th Weather Squadron, 1 Oct 94-17 Mar 97
55th Space Weather Squadron, 6 Mar 97-1 Oct 99
350th Munitions Maintenance Squadron, 1 Jul 64-7 Oct 72
750th Logistics Support Squadron, 30 Jan 92-5 Nov 97
750th Medical Squadron, 1 Oct 94-28 May 99
750th Mission Support Squadron, 30 Jan 92-3 May 99
750th Operations Support Squadron, 30 Jan 92-23 Jun 97
2184th Communications Squadron, 1 Oct 90-1 May 91
7015th Explosive Ordnance Disposal Flight, 1 Oct 78-1 Nov 86 (detached 1 Oct 82-1 Nov 86)
7150th Comptroller Squadron, 15 Nov 83-1 Jul 85
7236th Ammunition Supply Squadron, 1 Oct 67-7 Oct 72
7352d USAF Hospital, 8 Aug 56-25 Sep 57
7362d Munitions Support Squadron, 15 Jul 76-1 Jan 86
7425th USAF Hospital, 1 May 54-9 Apr 56
7501st Munitions Support Squadron, 1 Apr 72-15 Nov 85
7502d Munitions Support Squadron, 1 Apr 72-15 Nov 85
7503d Munitions Support Squadron, 1 Apr 72-1 Oct 72
7504th Munitions Support Squadron, 1 Apr 72-1 Sep 72
USAF Hospital, Hahn (later 50th Tactical Fighter Wing Hospital), 1 Jul 71-30 Sep 91

APPENDIX 5

Falcon/Schriever Space Wing Commanders

2d Space Wing Commanders (July 8, 1985 Activated)

Colonel Richard Griffin	July 8, 1985 - July 7, 1986
Brigadier General Lester Weber	July 8, 1986 - December 11, 1988
Brigadier General Jimmey Morrell	December 12, 1992 – August 26, 1990
Brigadier General Roger G. DeKok	August 27 1990 - January 29, 1992

50th Space Wing (January 30, 1992 Activated)

Brigadier General Roger G. DeKok	January 30, 1992 - June 16, 1993
Colonel Gregory Giles	June 17, 1993 - November 3, 1994
Colonel Simon P. Worden	November 4, 1994 - March 21, 1996
Brigadier General Glen W. Moorhead III	March 22, 1996 - April 24, 1997
Colonel Elwood C. Tircuit	April 25, 1997- June 9, 1999
Colonel Richard E. Webber	June 9, 1999 – April 19, 2001
Colonel Larry D. James	April 20, 2001 – June 8, 2003
Colonel Michael D. Selva (Interim)	February 7, 2003 – ca. May 2003
Colonel Suzanne M. Vautrinot	June 9, 2003 – April 3, 2005
Colonel John E. Hyten	April 4, 2005 – 21 May 2007
Colonel James C. Hutto, Jr. (Interim)	May 15, 2006 – October 13, 2006
Colonel Teresa A.H. Djuric	May 22, 2007 – June 11, 2008
Colonel Cary C. Chun	June 12, 2008 – 19 August 2009
Colonel Wayne R. Monteith	August 20, 2009 – August 4, 2011
Colonel James P. Ross	August 5, 2011 –July 10, 2013
Colonel William J. Liquori, Jr.	July 11, 2013 –May 28, 2015
Colonel DeAnna M. Burt	May 29, 2015 –June 29, 2017
Colonel Jennifer L. Grant	June 30, 2017 – June 25, 2019
Colonel James E. Smith	June 26, 2019 –July 24, 2020

Peterson-Schriever Garrison (July 24, 2020 Activated)

Colonel James E. Smith	July 24, 2020 – June 27, 2021
Colonel Zachary S. Warakomski	June 28, 2021 - present

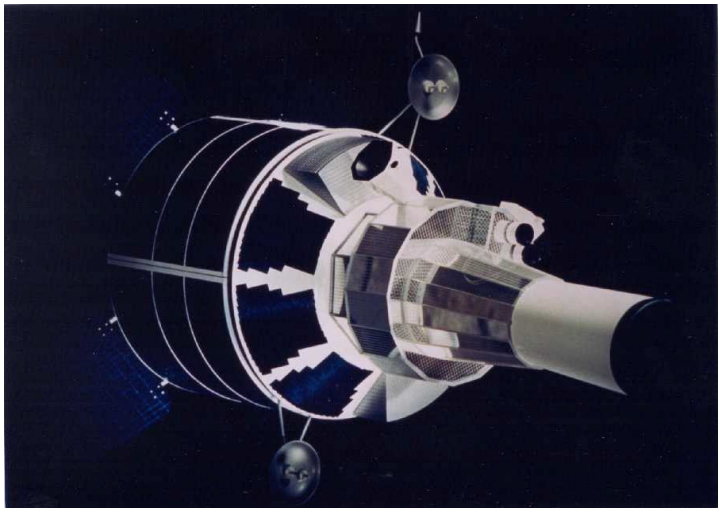
APPENDIX 6

50th Space Wing Awards and Decorations

Service Streamers (bestowed):	World War II American Theater; Global War on Terrorism
Campaign Streamers (bestowed):	Air Offensive, Europe, 1942-1944 Normandy 1944 Northern France, 1944 Rhineland, 1944-1945 Ardennes-Alsace, 1944-1945 Central Europe, 1945
Other Campaigns:	Defense of Saudi Arabia, 1990-1991 Liberation and Defense of Kuwait, 1990-1991
Decorations (bestowed):	Distinguished Unit Citation, Mar 13-20, 1945 Distinguished Unit Citation, April 25, 1945 Cited in the Order of the Day, Belgian Army, June 6 - September 30, 1944
AF Outstanding Unit Awards:	November 1, 1970-September 15, 1971 January 1, 1972-June 30, 1973 July 1, 1973-June 30, 1974 July 1, 1975-June 30, 1976 July 1, 1982-June 30, 1984 July 1, 1985-June 30, 1987 July 1, 1990-August 5, 1991 October 1, 1998-September 30, 2000 October 1, 2001-October 1, 2002 October 2, 2002-October 2, 2003 October 1, 2007–September 30, 2009 January 1, 2014-December 31, 2015 (50 MSG only) January 1, 2015-December 31, 2016
Omaha Trophy:	2010, 2012, 2014
General Thomas S. Moorman Award:	2008, 2011
General Robert T. Herres Award:	2008, 2011
General Richard C. Henry Award:	2008, 2013
General Harold M. McClelland Award:	2005, 2013

APPENDIX 7

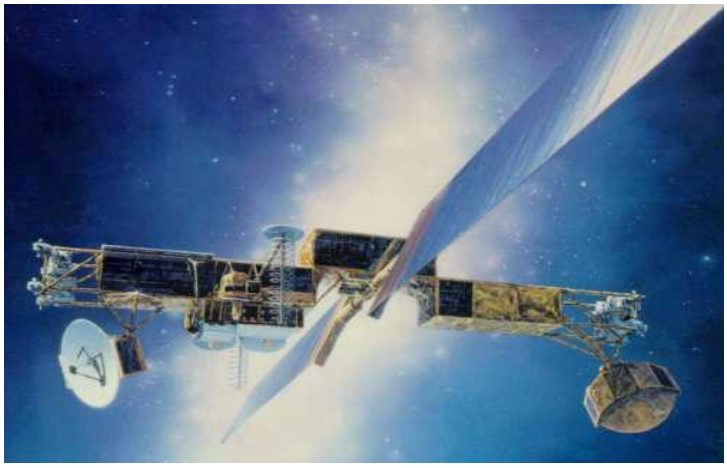
Navstar Global Positioning System (GPS), 1992 -



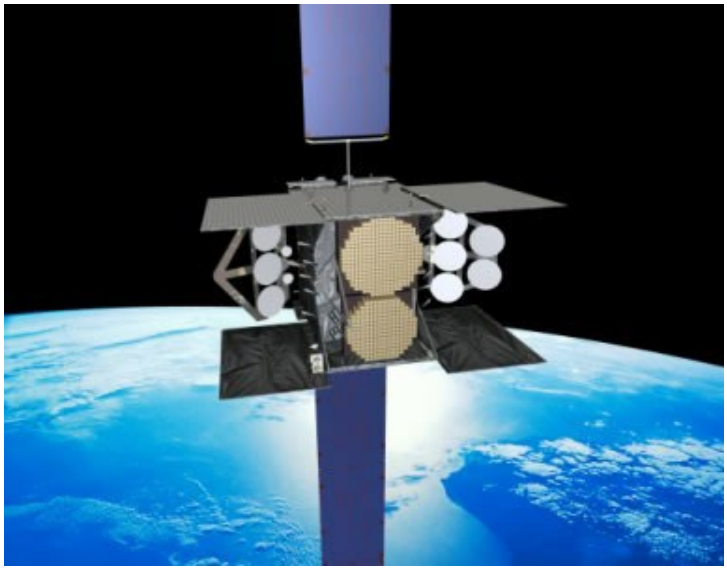
Defense Support Program (DSP), 1992 - 2006

Defense Meteorological Satellite Program (DMSP), 1992 – 1999; 2010 -

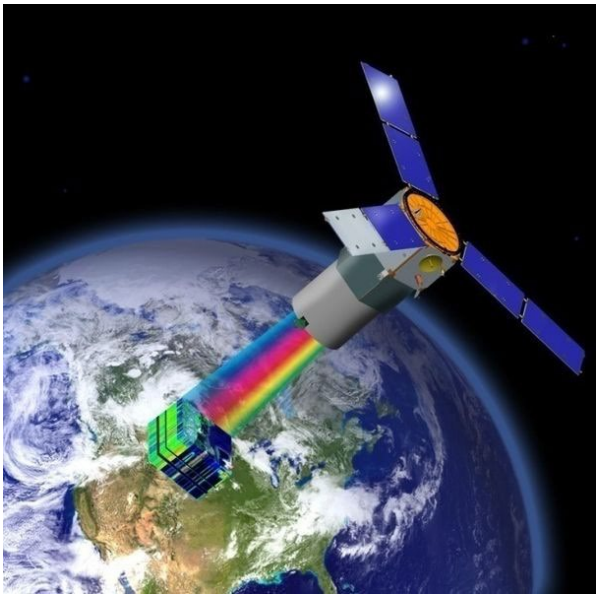
Defense Satellite Communications System (DSCS), 1992 -



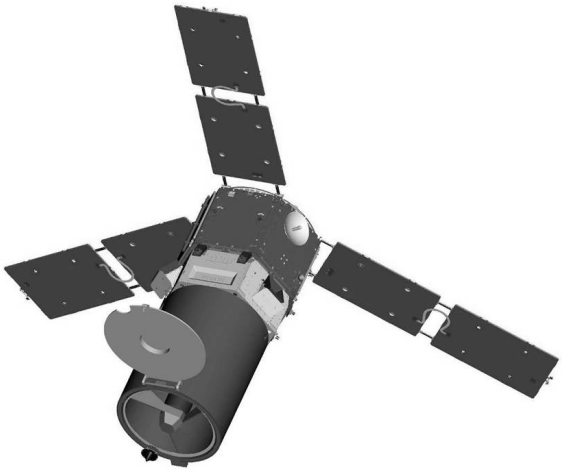
Milstar, 1994 -



Wideband Global SATCOM (WGS), 2008 -

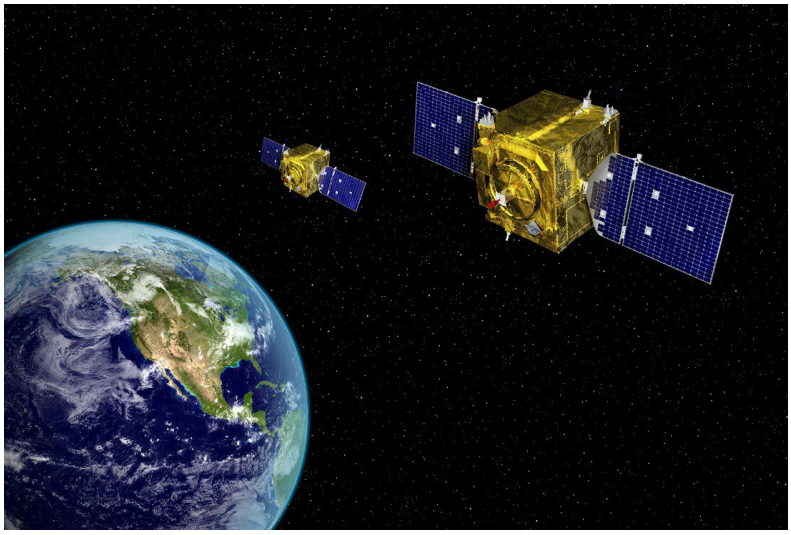


Tactical Satellite 3 (TACSAT-3), 2010 – 2012



Operationally Responsive Space – 1 (ORS-1), 2011-

Advanced Extremely High Frequency (AEHF), 2012 –



Geosynchronous Space Situational Awareness Program (GSSAP), 2015 -

Boeing X-37B Orbital Test Vehicle (OTV) 2013 -

Operationally Responsive Space-5 (ORS-5), 2018 -

APPENDIX 8

BRIEF HISTORY OF KAENA POINT, HAWAII

Kaena Point existed on the western most edge of the island of Oahu in Hawaii. The site stood on a 1,500-foot high ridge and covered over 150 acres. Kaena Point Satellite Tracking Station is approximately 40 miles from Honolulu Airport and Hickam Air Force Base, Hawaii (Honolulu, the capital city).

Satellite operations at Kaena Point began with the hiring of the first support personnel by Lockheed Missiles and Space Company (LMSC) in June 1958 and installation of the first facilities in the last half of that year by Philco personnel. The initial systems included a Tri-Helix acquisition antenna, TLM-18 telemetry receiver antenna, and VERLOT vehicle-commanding antenna. On 28 February 1959, the site became operations at the time using a TLM-18 high gain antenna with telemetry auto-tracker. Initially, technicians from LMSC operated the site and the equipment. These installed systems were part of a five-station network to support the Discoverer Program satellite launched on that day; the HF antennas provided radio communications with the Satellite Test Center in Sunnyvale, California.

On 1 April 1961, the Air Force and 6953d Instrumentation Squadron assumed responsibility of the site. On that date, Air Force and civilian technicians became integrated crewmembers. In 1961, the site consisted of over 50 military and over 60 civilians. The site supported early satellite operations for Discoverer, MIDAS, SAMOS and Advent (communication satellite). In the case of Advent, LMSC accomplished additional construction and equipment installation. In 1978, the TLM-18 antenna deactivated and takes down and in its place; installed a commercial uplink antenna for accomplishing weather satellite data relay. In 1990, the Air Force modified the B-side antenna to become the first Automated Remote Tracking Station (ARTS)-II operation in the Air Force Satellite Control Network. In 1992, the A-side antenna upgraded to an ARTS antenna.

On 1 October 1979, the Air Force redesignated 6593rd as Detachment 6, Air Force Satellite Control Facility of the 2d Space Tracking Group due to reduced military manning levels. On 1 October 1987, Kaena Point Satellite Tracking Station became Detachment 6, 2nd Satellite Tracking Group, 2nd Space Wing, Air Force Space Command. With the reorganization of the 50th Space Wing, Kaena Point became Detachment 6, 750th Space Group (750 SG), was activated on 31 January 1992. On 1 June 1997, Detachment 6 transferred to the 22d Space Operations Squadron (22 SOPS) of the 50th Operations Group, Falcon AFB and became Detachment 4, 22 SOPS. On 1 October 2010, Air Force Space Command reorganized 22 SOPS and Kaena Point became Detachment 3, 22 SOPS. On 12 July 2017, Headquarters, Air Force Space Command accepted the upgraded Hawaii Tracking Station-B; this was the first of the upgraded hybrid modified antenna for the Air Force Satellite Control Network. The hybrid modification extended the life of the tracking station's antenna capability. In over 60 years of operation, the site maintained 24 hour-seven days a week-365/366 days a year contact with satellites.

APPENDIX 9

BRIEF HISTORY OF NEW BOSTON AIR FORCE STATION

New Boston Air Force Station (AFS), also known as "BOSS," nestled in dense woodland and wetlands in the rolling hills of Hillsborough County surrounded by three New Hampshire towns--Mont Vernon, Amherst and New Boston. American Indians (Pawatucket and Penacook) originally inhabited the land that became New Boston Air Force Station. The total land area encompassed by the station is 2,826 acres of which 100 acres comprise the main operational area.

The station is one of eight worldwide Air Force Satellite Control Network stations with a mission to provide support to US Strategic Command (USSTRATCOM) by performing 24-hour, 365-days, satellite support operations to Department of Defense (DoD) and non-DoD space systems. This occurred by performing real-time uplink commands, downlink telemetry and data and tracking data for on orbit satellites in support of critical DoD programs and North Atlantic Treaty Organization allies.

New Boston AFS was established in 1942 as an aerial bombardment and gunnery range to support Grenier Field (now Manchester International Airport). In 1959, the Air Force acquired the range for satellite operations under the management of the 6594th Instrumentation Squadron under the Air Research and Development Command. Construction started with installation of the initial 60-foot antenna. On August 11, 1960, the station performed its first track for the DISCOVERER XIII, CORONA project and was certified operational on June 15, 1961. In 1972, a 46-foot antenna was added and in 1988 a third antenna, a 10-meter data link terminal, was activated. In 1993, the station's hardware and software were upgraded to the Automated Remote Tracking Station configuration. Current upgrades included a new 43-foot antenna and inflatable radome to replace the 60-foot antenna, which deactivated in 2004.

Over the years, the station underwent numerous changes in its owning organization. First assigned to the 6495th Test Wing, the station later fell under the command of the Air Force Satellite Control Facility. In 1987, Air Force Space Command assumed operational responsibility of the station and designated the operating unit as Detachment 2, 2d Satellite Tracking Group. Since November 1991, 23d Space Operations Squadron operated the station.

For over 50 years, New Boston AFS has dedicated itself to maintaining "PRIDE" in all it did and continued to do. This pride was demonstrated in the station's selection for New Hampshire's 2008 Land Ethics for Tomorrow Award for their efforts to clear the installation's unexploded ordnance. The remediation of unexploded ordinance at New Boston's Joe English Pond began in 2010. The remediation of the pond was a part of a larger project to identify and eliminate unexploded ordinance on the base. On July 12, 2010 pumps began to remove 13,000 to 15,000 gallons per minute (GPM). Pumping of the pond ceased when heavy rain fell in the area. Before work stopped on the pond, two 100-pound Mk4 Mod4 general-purpose bombs and a 2,000-pound AN-M66 drill bomb were found. Contactors removed over 300 pounds of munitions-related debris from a former small arms training range on the station and about eight tons of debris from 148 acres on the station throughout 2010. Remediation continued for the next several years as contractors continued to survey, evaluate, and clear areas of potential hazards.

APPENDIX 10

BRIEF HISTORY OF ONIZUKA AIR FORCE STATION

For nearly 50 years, Onizuka Air Force Station played a key role in satellite support for the Department of Defense, other national agencies, and civil space programs. The installation originally came into being in 1959 as the host of the 6594th Test Wing, where one of its first primary missions was operations of the CORONA spacecraft, the nation's first imagery satellite. During the subsequent years, the base became home of the Air Force Satellite Control Network, which provided the world's only global antenna network for command and control of military, intelligence, and civil spacecraft constellations.

Throughout Onizuka's service to the Department of Defense and other civilian space programs, its units have made and continue to make significant contributions that have benefited the public interest and the defense of the United States. The Onizuka AFS motto was "Gateway to the Stars" and having supported over 3.4 million sorties from its establishment in 1959 as an interim satellite control center, to its present day mission as an AFSCN Back-up Operations Control Node; it has truly exemplified that historic claim. During the installation's past five decades of space achievements, Onizuka AFS has supported a host of diverse military satellite and launch programs including NATO III SKYNET, Global Positioning System, Defense Support Program, Defense Meteorological Satellite Program, Defense Satellite Communications System, Delta II launch vehicles, and Inertial Upper Stage booster vehicle. It has played a vital role in the launch of numerous civil satellites, including the Geostationary Operational Environmental Satellite, the Polar Operational Environmental Satellite, Tracking and Data Relay Satellite System, as well as the Hubble Space and Chandra X-Ray Telescopes, and Ulysses, Galileo, and Magellan interplanetary exploration missions.

Onizuka AFS crews also supported every one of the Space Shuttle missions and logged more than 18,350 contacts. As the sole communications interface between NASA and the Air Force Satellite Control Network, Onizuka provided critical support to the STS-114 and STS-121 Return to Flight missions including 139 error-free on-orbit telemetry contacts. Additionally, when notified of a major change in the mission's communication plan, engineers and operators at Onizuka were able to restructure and reconfigure the shuttle's communications. Onizuka provided the support plan to ensure the Air Force Satellite Control Network could support the new requirement as well as be able to capture and route time-critical space shuttle main engine performance data to NASA engineers at the Marshal Space Flight Center for real-time analysis.

Onizuka AFS was a significant component of United States air and space power throughout its illustrious existence, and it played a direct role in making the United States the dominant air and space power in the world. The many contributions of its assigned organizations to the space industry were unsurpassed, and have been essential to the success of many aerospace programs. The lasting effects from these achievements would be felt for decades to come. A ceremony on July 28, 2010 marked the transfer of the 21st Space Operations Squadron, its AFSCN mission, and its personnel to Vandenberg AFB, California. The closure, a result of the decisions of the BRAC 2005 process, ended the site's nearly 50 years of service to the Air Force and the United States. On September 15, 2011, the station formally transferred to the control of the Air Force Real Property Agency for final disposition.

GLOSSARY OF TERMS AND ABBREVIATIONS

AEHF – Advanced Extremely High Frequency (satellite)
AEP – Architecture Evolution Program
AFB – air force base, later SFB – Space Force Base
AFS – air force station, later SFS – Space Force Station
ANGELS - Automated Navigation and Guidance Experiment for Local Space
AFSCN – Air Force Satellite Control Network
AFSPC – Air Force Space Command
ATRR – Advanced Technology Risk Reduction (satellite)
BOSS – call sign for the AFSCN station at New Boston AFS, New Hampshire
COOK – call sign for the AFSCN site at Vandenberg AFB, California
DMSP – Defense Meteorological Satellite Program DSCS
DSCS – Defense Satellite Communications System
DSP – Defense Support Program
FLTSAT – Fleet Satellite
GBS – Global Broadcast Service
GLONASS – Global Navigation Satellite System (Russian satellite-based radio navigation system)
GPS – Global Positioning System (satellite)\
GSSAP – Geosynchronous Space Situational Awareness Program
GUAM – call sign for the AFSCN site at Guam
HULA – call sign for the AFSCN site at Kaena Point, Hawaii
IOE – Integrated Operations Environment
JICSpOC – Joint Interagency Combined Space Operations Center
JTF-SD – Joint Task Force – Space Defense
LADO – Launch, Anomaly, and Disposal Operations (system)
LION – call sign for the USAF satellite facility at Oakhanger, United Kingdom
MILSATCOM – military satellite communications
MMSOC – Multi-Mission Satellite Operations Center
MSX – Mid-course Space Experiment
NASA – National Aeronautics and Space Administration
NSDC - National Space Defense Center
NATO – North Atlantic Treaty Organization
NSDC – National Space Defense Center
OCS – Operational Control System
ORS – Operationally Responsive Space (satellite)
PIKE – call sign for the Colorado Tracking Station
PNT – positioning, navigation, and timing
POGO – call sign for the AFSCN station at Thule AB, Greenland
POW – Prisoner of War
REEF – call sign for the AFSCN site at Diego Garcia, British Indian Ocean Territory
SAM – surface-to-air missile
SATCOM – satellite communications
SBSS – Space Based Space Surveillance (system)
SCA – satellite control authority
SCUD – a tactical ballistic missile series developed by the Soviet Union during the cold war
SLC – space launch complex
SMC – Space and Missile Systems Center
SOC – satellite operations center
SOPS – space operations squadron
SSA – space situational awareness
STS – space transportation system
SVN – satellite vehicle number
TacSat – Tactical Satellite
UFO - Ultra-High Frequency Follow-On (satellite)
UHF F/O – Ultra-High Frequency Follow-On (satellite) (also UFO)
USAF – United States Air Force
USAFE – United States Air Forces Europe
USSF – United States Space Force
WGS – Wideband Global SATCOM (satellite)

SCHRIEVER SPACE HISTORY