



CSAF VECTOR 2011



A year ago I presented a vision for our Air Force. That same vision remains: I see our Air Force rising, strong and capable—an Air Force consistently and reliably delivering *Global Vigilance, Reach, and Power* for America—in what is likely to be a very challenging future. We made a lot of progress last year, but there is still much to accomplish. This Vector provides an update of where we have been and where we still need to go as the world's greatest Air Force.

THE STRATEGIC ENVIRONMENT

Each day, the strategic challenges of the future come into sharper focus. The interplay of three major trends—violent extremism, shifting regional balances of power, and the proliferation of advanced technologies—will characterize the future security environment.

Violent Extremism. We are all familiar with the first challenge. Even as we keep the pressure on the Taliban and al Qaeda, we are likely to remain engaged in an episodic, global struggle against violent extremism. As Americans, we achieved a significant milestone earlier this year when we held the leader of al Qaeda to account. When other militant ideologues dare to follow in bin Laden's footsteps, I am confident that we will exhibit the same toughness, perseverance, and cool professionalism that have become our trademark. As President Obama put it, "We have put al Qaeda on a path to defeat, and we will not relent until the job is done." Getting that job done, however, may require a more globally diffused, partner-centered approach than in the past.

Regional Balances of Power. Second, rising regional powers will exert a more notable effect on tomorrow's security environment. U.S. grand strategy depends on consistent, credible military commitments to allies, partners, and friends across the world to provide stability—the essential precondition for sustained prosperity. For that reason, our elected leaders place a premium on global power projection forces that reduce the risk of armed conflict, uphold American values, and bolster our pivotal role in the international system. Since its inception, the Air Force has been at the vanguard of this effort. That role will be reinforced by the decision to pursue a new, stealthy long-range strike bomber; development of the KC-46A tanker; expanded initiatives to train, advise, and assist our allies; bolstering access to forward airfields and facilities; and fielding the F-35 strike fighter. But without a trained and ready force, these capabilities will be of little use. For this reason, in the coming year I want us to actively guard against becoming a hollow force, even as budget pressures intensify, by renewing our focus on unit readiness.

Proliferation of Advanced Technology. Finally, the proliferation of advanced technology demands that we modernize key elements of our force. The valor and dedication of American Airmen like you is essential. But increasingly, our nation's military strength is underwritten by an enduring technological edge that flows from our unmatched ability to research, develop, operate, and sustain the world's premier military equipment. We must retain this asymmetric advantage! Rivals have demonstrated their desire to give new life to old weapons using modern technology, even as they pursue newer, more capable systems. Our investment in high caliber people and technology must continue to outpace our rivals if we hope to sustain access to the commons, deter armed conflict, and prevail in war.

Understanding these three trends helps us plan for the future, but they provide no crystal ball. We know the future will be marked by dangerous and untimely surprises. Fortunately, the Air Force's unique flexibility and versatility have for over 60 years helped sustain America's role as a champion for human dignity, global security, and economic prosperity. And we will surely play a vital role in the years ahead, as illustrated by two recent crises in which Airmen excelled.

Providing Assistance to Japan. On March 11, a 9.0-magnitude earthquake rattled our long-time ally, Japan, followed by a massive, destructive tsunami. Airmen responded within minutes, refocusing space-based assets and transmitting detailed imagery of devastated areas to Japanese relief officials. Soon, RQ-4, U-2, and WC-135 platforms were overhead, facilitating additional damage assessment while monitoring the spread of toxic materials. Air Force personnel delivered fire trucks, water pumps, and chemicals to response teams near the failed nuclear reactors. They transported fuel and fuel bladders to isolated airfields like Yamagata, and were instrumental in reopening the devastated Sendai airport. By April 2, Airmen had organized and executed the evacuation of almost 7,500 American citizens while simultaneously delivering over 60 percent of all U.S. relief supplies—close to five million pounds of life-saving goods.

Enforcing the No-Fly Zone over Libya. As we poured relief efforts into Japan, our Air Force responded to a very different kind of crisis on the other side of the globe. On March 19, in concert with European and Arab allies, Airmen from across the Total Force began enforcing the U.N. mandate to take all necessary measures to protect civilians in strife-torn Libya. That first night, coalition airpower decimated the Libyan regime's ability to launch air attacks against its own population and stopped the armored columns advancing on Benghazi. By the end of March, our Air Force contributed over 65 percent of coalition sorties, providing more than 99 percent of all operational airlift, filling over 70 percent of the coalition's air-refueling requirements, and supplying 50 percent of the reconnaissance and 40 percent of the strike sorties. The subsequent transition from U.S. to NATO command validated the Alliance air forces' decades-long effort to cultivate strong personal ties and genuine interoperability. Today, we remain engaged in NATO-led operations, providing critical planning, coordination, intelligence, and specialized systems to ensure continued support of the U.N. mandate.

I could not be more proud of you! We were able to respond to these two crises even though the vast majority of our forces remain committed to demanding operations in Afghanistan and Iraq, at home, and elsewhere around the world. Each of you plays a critical role on the Air Force team, and you should take pride in what our uniform represents—the trusted ability to plan, synchronize, and execute air, space, and cyber operations across the globe. Our task is to ensure this proud legacy continues well beyond your and my time in uniform. But it will not be easy.

UPDATING THE VECTOR

In the coming years, our Nation and our Air Force will face a budget environment unlike anything we have encountered in decades. As elected officials consider what to do about the growing federal debt, pressure will mount to reduce defense spending. Former Secretary of Defense Gates put it this way: “The defense budget, however large it may be, is not the cause of this country's fiscal woes. However, as matter of simple arithmetic and political reality, the Department of Defense must be at least part of the solution.” The Air Force will play a role in the solution, but not by retrenching or continuing business as usual on a reduced scale. My pledge for the coming year is to strengthen unit readiness and avoid a creeping hollow force that provides only the illusion of *Global Vigilance, Reach, and Power*. Yet, even as we operate aging

systems, many Air Force capabilities require modernization to help us shape and respond to a very challenging future. We must make difficult choices to balance near-term operational readiness with longer term needs, and fit all of that into a more affordable package.

A Commitment to Airmen

The first step in achieving this balance is to reaffirm our commitment to the Air Force mission and to you, our Airmen. Developing and caring for Airmen and their families has been one of my, Secretary Donley's, and Chief Roy's top priorities since the day we entered office. Your dedication to mission performance—and each other—are the fundamental building blocks of unit morale. Getting the job done right for the American people must remain our daily inspiration.

I remain committed to recruiting and retaining the best-qualified Airmen and sustaining the quality of service for them and their families. We must ensure Airmen and families have access to a quality environment in which to live, first-class support services, and valued career development opportunities. We take pride in having a diverse, highly trained and educated force, and will continue to devote the necessary time and resources to develop Airmen who are prepared, individually and collectively, to solve the challenges of the future.

The Air Force's Unique Contributions to National Security

Additionally, Airmen must understand, appreciate, and articulate the Air Force's contributions to national security. While we conduct many missions, there are four unique Air Force contributions that define us—gaining control of air, space, and cyberspace; holding targets at risk around the world; providing responsive intelligence, surveillance, and reconnaissance (ISR); and rapidly transporting people and equipment across the globe. We carry out each of these unique, advanced capabilities through an unmatched global command and control network. Collectively, they not only distinguish our Air Force as the preeminent air and space power, they also bolster the United States' reputation as the world's most responsive and capable strategic actor. We provide our civilian leaders with a wide range of strategic options for rapid power projection with minimum vulnerability and maximum precision—the kind of “targeted” force our Commander-in-Chief advocated in a recent speech. The nature of the rapidly changing security environment demands that we focus on sustaining these enduring contributions:

Establish control in air, space, and cyberspace. Before we can exploit air and space, we must exercise a level of control within these domains. Without air and space control, our ability to conduct military operations would be severely limited, our joint teammates subjected to unacceptable risk, and our strategic choices constrained. It remains the vital precondition for the vast majority of U.S. military operations, often exerting its own operational and strategic effects. Additionally, cyber operations play an increasingly important role in domain control, making it critical that Airmen master cross-domain operational art.

Hold any target at risk. The Air Force possesses unique abilities to achieve precise lethal and non-lethal effects that shape the strategic behavior of others, often at long range and in heavily opposed environments. This requires specially trained people, high caliber systems, and meticulous planning and coordination. Our unparalleled conventional precision strike capability, paired with our revitalized stewardship of two legs of the nuclear triad, ensures that we will continue to play a critical role in strategic deterrence, crisis response, and global stability.

Provide responsive intelligence, surveillance, and reconnaissance. The Air Force's unique air, space, and cyber ISR capabilities provide America an unparalleled decision-making advantage.

The Air Force depends increasingly on ISR to plan and execute operations, but we are not the only consumers. National leaders, Joint teammates, and coalition partners depend on our timely delivery of persistent surveillance, responsive reconnaissance, and comprehensive intelligence.

Rapidly move people and cargo anywhere in the world. Modern military operations rely on Air Force mobility to transport people, fuel, and equipment quickly and precisely around the world. The people and systems providing rapid global mobility underpin U.S. crisis response, long-range strike, joint combat support, humanitarian relief, and global logistics. Our distinctive Air Force capability for intercontinental and intra-theater airlift remains a bedrock of U.S. power projection and has proven indispensable in maintaining strong international ties.

Provide command and control to conduct operations rapidly, effectively, and efficiently. Underpinning and embedded in each of these unique contributions is command and control. Airmen are the world's recognized experts in executing effective, high-volume command and control of air, space, and cyber operations. Our capability spans all levels of operations across the globe and enables the responsive tasking and execution of geographically and operationally diverse missions at the direction of military commanders and civilian leaders.

CHARTING OUR FLIGHT PATH

Over the past several years, our Service has been guided by five priorities Secretary Donley and I articulated when we took office. These priorities ensure we remain agile, innovative, and properly postured to respond to the security demands of today and tomorrow. While we still need to pursue the remaining initiatives from last year's Vector, it is time to update our flight path for the next year and beyond. I expect to see sustained progress in all of these areas.

Continue to strengthen the Air Force nuclear enterprise.

Last year:

- We stood up Air Force Global Strike Command and it assumed full command of our intercontinental ballistic missile and nuclear-capable bomber forces. We then exercised the command in its first Global Strike Challenge, further honing our nuclear forces' capabilities and expertise.
- We completed a rigorous review of our nuclear career fields and developed a strategy to manage, grow, and retain nuclear expertise. This included instituting new authorities to manage nuclear personnel; increasing the number of graduates from nuclear weapons courses and nuclear engineering programs; integrating Total Force manpower into bomber aircrew training; and consolidating CONUS nuclear weapon maintenance.
- The Air Force Nuclear Weapons Center reached full operational capability, providing improved accountability of nuclear weapon components, boosting Weapons Storage Area throughput, improving reliability and availability of nuclear support equipment, initiating the refurbishment of Mk 21 reentry vehicle fuze assemblies, and continuing critical life extension efforts for the B61 gravity bomb.
- We instituted a comprehensive modernization strategy to ensure our bombers, current and future air-launched cruise missiles, Minuteman III intercontinental ballistic missiles, and associated nuclear weapons as well as their unique support equipment, will remain capable and reliable for years to come.

In the coming year, we must focus on:

- Ensuring Air Force efforts to strengthen our nuclear enterprise remain a top institutional priority. We will continue to work with other key agencies to sustain critical Life Extension Programs and guarantee a safe, secure, and effective nuclear capability.
- Supporting implementation of the New Strategic Arms Reduction Treaty protocols and obligations by developing force planning, programming, logistics, engineering, and environmental options for civilian decision-makers.
- Revitalizing thinking within the Air Force about crisis stability and 21st century deterrence dynamics. In particular, we must develop a better understanding of how non-nuclear capabilities, including missile defense, complement our nuclear deterrent.
- Evaluating nuclear command, control, and communications requirements, and modernizing lagging infrastructure to ensure credible, reliable, and survivable nuclear command and control.

Partner with the Joint and Coalition team to win today's fights.

Last year:

- More than 40 percent of our Airmen were deployed, forward-stationed, or performed in-place missions in direct support of combatant commander requirements. The Air Force has more than 30,000 Airmen and 400 aircraft deployed to the U.S. Central Command AOR. In Afghanistan, Air Force officers commanded six Provincial Reconstruction Teams providing safety and stability for Afghan communities.
- We accelerated deployment of advanced ISR through increased airborne presence and new data exploitation. Fifty-seven continuously on-station remotely-piloted aircraft (RPA) and more than 6,000 intelligence exploiters supported over 400 firefights this past year and provided more than 30,000 hours of full-motion video and 11,000 high-fidelity images every month to find, fix, and finish elusive adversaries.
- Our personnel recovery and aeromedical evacuation personnel continued to provide historically unprecedented care, moving critically wounded warriors to an operating room within minutes and then home within days—over 11,300 patients in 2011 alone.
- We expanded Joint Terminal Attack Controller support to 33 additional combat maneuver companies and delivered over 5,500 weapons while providing close air support for units directly engaged with insurgents. In land-locked Afghanistan, we airdropped nearly 60 million pounds of cargo, primarily to remote forward operating bases.
- Through a major satellite repositioning effort, we enhanced the world's GPS accuracy in geographically challenging areas like the mountainous terrain of Afghanistan. We also brought the new Wideband Global SATCOM-3 satellite into full operational capability, increasing US military wideband satellite communications capacity by 33 percent.
- We made solid progress rebuilding indigenous aviation in Iraq and Afghanistan. Our Air Advisors not only helped build flexible airpower for Iraq and Afghanistan, but also fostered broader improvements to their civil aviation infrastructure and air commerce.

In the coming year, we must focus on:

- Continuing to provide the air, space, and cyber control that combatant commanders have come to expect. Simultaneously, we will continue to defend our homeland while remaining fully prepared to protect American lives at home and abroad.

- Surging delivery of RPA combat air patrols to meet theater-level ISR demands and solidifying our plan for steady-state RPA operations over the long term. We will take delivery of the final five MC-12W Liberty aircraft, rounding out our fleet at 42 aircraft.
- Seeking broader, global access to bases. We will expand our ability to operate from diverse airfields across the world to provide effective power projection in the future.
- Growing the Guardian Angel and Battlefield Airmen forces, recapitalizing MC/HC-130s and HH-60s, acquiring CV-22s, and bolstering our AC-130 fleet.
- Cultivating new partnerships that enhance our friends' aviation enterprises and their ability to provide security. Our Air Advisor program is a positive step in that direction.

Develop and care for our Airmen and their families.

Last year:

- We initiated the Comprehensive Airman Fitness concept to foster a culture of physical, mental, social, and spiritual fitness and resilience for Airmen and their families; introduced resilience training immediately following first-term Airman training; and equipped supervisors with tools to recognize and rehabilitate at-risk Airmen.
- We opened a one-of-a-kind Deployment Transition Center at Ramstein AB and, since July 2010, provided over 1,800 Airmen and 100 Marines the resources they needed for successful reintegration upon their return home.
- As part of our commitment to eliminate sexual assault, we equipped over 119,500 Airmen with sexual assault bystander intervention strategies and conducted a comprehensive assessment of our Sexual Assault Prevention and Response Program.
- We graduated over 152,000 Airmen from Technical Training courses in 2010, and instituted Enlisted Development Teams to develop our senior enlisted force.
- We invested in key infrastructure to provide Airmen with safe, effective, and desirable living and working environments. We improved 3,784 dorm rooms, added or renovated 4,758 family housing units, and built 22 new child development centers.

In the coming year, we must focus on:

- Cultivating an inclusive environment that fosters diversity and promotes the development, care, and the well-being of all Airmen. We will continue to promote equal opportunity in the workplace, and we will sustain aggressive steps to eliminate sexual assault and reduce the number of suicides.
- Optimizing our Total Force to meet future security demands by stabilizing our Regular component end-strength at congressionally authorized levels; refining Air Force policies to smooth the transition of Air Force expertise into our Guard and Reserve forces; and defining the right civilian workforce composition.
- Sustaining our Political and Regional Affairs Strategist and foreign language programs to facilitate robust engagement with an ever-growing number of international partners.
- Enhancing care for wounded Airmen. We will pilot our new Video Service Delivery Program to augment our recovery care coordinators and Air Force wounded warrior consultants, using enhanced video and audio terminals to conduct assessments and deliver benefits to wounded Airmen and their families in remote locations.

Modernize our air, space, and cyber inventories, organizations, and training.

Last year:

- We validated our new undergraduate cyber training courses, established the enlisted cyber defense schoolhouse, and transitioned our communications professionals to the new 17D/1B4 cyber operations career fields. Additionally, our new component to U.S. Cyber Command, 24th Air Force, reached full operational capability.
- We completed our 11th year of successful space launches, placing into orbit the first Space-Based Infrared Geosynchronous System satellite for strategic missile warning; the first Space-Based Space Surveillance satellite for improved space situational awareness; and the first Advanced Extremely High Frequency protected communications satellite.
- Our new undergraduate RPA training program graduated its first 70 RPA pilots and 422 sensor operators, and we established the 18X/11U AFSCs as a separate RPA career path.
- We conducted ground-breaking aerospace research, including initial flight testing of the X-51A scramjet, the transition of low collateral damage, composite-cased munitions, and the advancement of the Adaptive Versatile Engine Technologies program to provide next-generation, highly efficient aircraft propulsion.
- We accelerated F-35 Joint Strike Fighter testing at Edwards AFB, and prepared facilities at Eglin Air Force Base for eventual DoD-wide F-35 flight and maintenance training.
- We recorded the safest year in aviation history for the second consecutive year, achieving decreases in flight mishap rates in almost every category, clearly illustrating our institutional commitment to preserving our equipment and people.

In the coming year, we must focus on:

- Establishing the new long-range strike bomber as our premier acquisition initiative and continuing to build our future fighter force with the F-35A, while moving forward with the development of the KC-46A tanker and capabilities that support power-projection and provide protected space communications.
- Developing concepts and capabilities to address the proliferation of advanced anti-access and area-denial (A2/AD) strategies. We will institute and improve upon the Air Force–Navy Air-Sea Battle Concept and its vision for more integrated power projection, and will redouble our efforts in electronic warfare, ensuring that we stay ahead of fierce competition in an area so essential to air and space control.
- Preparing our forces for increasingly contested operations, to include bolstering the resiliency of critical physical and virtual infrastructure at strategically vital locations through a combination of dispersal, hardening, warning, and active defense programs.
- Replenishing our stockpile of critical conventional munitions and investing in new precision munitions, including air superiority and ground-attack weapons.
- Sustaining steady avionics and weapons modernization for the F-22 and pursuing targeted modifications that will ensure the continued viability of our 4th generation fighter force.
- Providing Airmen with the most realistic, relevant training for operations in challenging contested and degraded air, space and cyberspace environments.
- Continuing cyber mission assurance operations and consolidating Air Force networks to build a passively resilient architecture that will better support future airpower operations.
- Researching new autonomous and semi-autonomous capabilities to assist in the processing, exploitation, and distribution of ISR data. We will continue to improve our

Air Force Distributed Common Ground System to provide Joint ISR insight, and where possible, shared situational awareness for our international partners.

- Leading the Department of Defense effort to create a Joint Aerial Layer Network to integrate, extend, and augment our space and surface networks in permissive, contested, and denied environments.

Recapture acquisition excellence.

Last year:


- We concluded a successful, full, and fair competition for our next air refueling aircraft, resulting in the protest-free source selection of the KC-46A.
- We collaborated with the Navy's Strategic Systems Program Office to share the development and production costs of common nuclear system components, including fuzes, firing set mechanisms, and rocket motors.
- We instituted a Rapid Cyber Acquisition process to streamline acquisition and speed delivery of new, critical cyber capabilities.
- We teamed with the National Reconnaissance Office and NASA to save money, streamline production, and stabilize our space launch industrial base.

In the coming year, we must focus on:

- Detailed and consistent monitoring of the F-35 program in all its dimensions, focusing on minimizing operations and support costs.
- Working with Congress to refine our space system acquisition program in accordance with the Department of Defense's Efficient Space Procurement initiative to provide more affordable, robust, and resilient satellite capabilities.
- Holding the line on KC-46 requirements, maintaining cost and schedule performance.

CONCLUSION

We face a challenging future, but in every challenge there is opportunity...and it is ours for the taking. We must move ahead, continually sustaining and renewing the Air Force's unique, asymmetric, and vital contributions to national security. Guided by a common vector and the coming year's emphasis on unit readiness, we will continue to train and educate our people while we execute today's missions and work hard to develop the next generation of capabilities that will shape the future security environment. By doing so, the Nation will continue to enjoy the Air Force's global partnerships and access, and proven expeditionary capability to deploy and sustain forces wherever and whenever needed. Paired with the complementary capabilities of our Joint and coalition partners, we will ensure our Air Force remains poised to preserve peace and to provide *Global Vigilance, Reach, and Power* for today's fights and for generations to come.


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