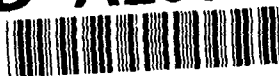


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**THE AIR FORCE  
AND U.S. NATIONAL SECURITY:  
GLOBAL REACH—GLOBAL POWER**



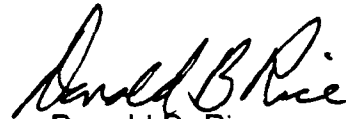
**A WHITE PAPER**

**June 1990**

## FOREWORD

Extraordinary international developments over the last few years have created the potential for a significantly different security environment as we approach the beginning of the 21st century. These changes demand fresh thinking about the role of military forces. That thinking has begun under the guidance of the Secretary of Defense.

While there is much that is uncertain about the future, we are firmly convinced that the United States will continue to need first class land, sea, and air forces to protect its vital interests. Within that context, each Service will face tough and legitimate questions on appropriate capabilities to meet changing national needs. The following provides an overview of evolving Air Force thinking and planning in response to that challenge.



Donald B. Rice  
Secretary of the Air Force

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## THE AIR FORCE and U.S. NATIONAL SECURITY: GLOBAL REACH—GLOBAL POWER

Since the close of World War II, the national security focus of the United States and much of the free world has been dominated by the threat posed by the Soviet Union—the only nation with the capability to threaten U.S. national survival. A number of dynamic and rapidly changing factors—from the extraordinary developments in the Soviet Union and Eastern Europe to the spread of sophisticated military capabilities—are creating the potential for a significantly different world environment in the 21st century. This paper provides a perspective on how the unique characteristics of the Air Force—speed, range, flexibility, precision, and lethality—can contribute to underwriting U.S. national security needs in the evolving world order. It also challenges Air Force members, and others in the defense establishment to think about how we as a Nation can best address the role of military forces for the future. And finally, the concepts outlined here, which guided the development of our most recent program and budget recommendations, provide a framework to conduct future Air Force planning.

Changes in Europe and the Soviet Union do not promise a tranquil world nor an end to threats to American interests around the globe. The world of the 1990s and beyond is likely to be characterized by a combination of political instability, serious economic dislocation, and widespread military power. While the Soviets appear to be shifting focus toward long-standing internal economic, political, and societal problems, they will retain and in some cases significantly improve their formidable military strength. Soviet policy declarations reflect changes in Soviet intentions, but the ultimate direction of Soviet change is far from clear.

We also face security challenges in other, even less predictable circumstances. The United States has important security interests around the world: promoting freedom and democracy; sustaining a healthy and growing U.S. economy (which requires protecting key strategic resources and lines of communication); nurturing defense commitments and security relationships; and reducing the flow of illegal drugs. By one count the developing world since World War II has endured, on average, more than 25 civil and international conflicts each year. Many developing nations around the world possess formidable arsenals of growing sophistication: Syria fields more main battle tanks than any European NATO nation save the Federal Republic of Germany; Iraq maintains a larger tank force than any European NATO state; the North Koreans possess more artillery pieces and multiple rocket launchers than any NATO nation including the United States. The continued spread of sophisticated weapons—nuclear and chemical weapons, ballistic missiles, advanced tactical aircraft, modern tanks, and cruise missiles—pose a wide variety of potential threats to U.S. security.

The combination of continued and emerging threats to national security interests, proliferation of sophisticated weapons, and reduced numbers of overseas U.S. forces in an unstable world presents new

challenges for U.S. military forces. The likelihood that U.S. military forces will be called upon to defend U.S. interests in a lethal environment is high, but the time and place are difficult to predict.

## U.S. NATIONAL SECURITY STRATEGY

In the face of this uncertainty, the fundamental U.S. national security objective remains the preservation of the United States as a free and independent nation, with its people, values, and institutions secure. That basic objective, and our other national security objectives, are supported by interrelated political, economic, and defense strategies. As the President has recently reiterated, the foundation of our defense strategy is deterrence—deterrence based on a mix of nuclear and conventional forces, strong allies, forward defense, and power projection capabilities.

As the *National Security Strategy of the United States* (March 1990) lays out, deterring nuclear attack will remain the first priority. That document also makes clear that, as the leader of the world's democracies, we have an inescapable role to play in ensuring the stability of the international balance. While we will continue to have important commitments and interests around the world, those in the following areas will drive the requirement for our forces:

- Europe will continue to be an area of vital interest. We will have a continuing commitment to the European security framework—though at reduced force levels.
- As the Pacific continues to grow in importance, our security interests in that vast area will become more diverse and less tightly focused on the traditional threat.
- In the Persian Gulf, our objectives will remain to support friendly states and prevent a hostile power—any hostile power, not necessarily the Soviet Union—from gaining control over the region's oil supplies and lines of communication.
- Superpower commitments. To maintain influence over the vital determinants of its national well-being in this uncertain world, the United States will remain a key player—in this hemisphere and elsewhere on the global scene.

As long as the Soviet focus remains on internal matters and regional conflicts and tensions remain localized, the risk of global war between the superpowers will remain low. This state of affairs results from a successful national security strategy and supporting military posture over the past forty years. As General Colin Powell, the Chairman of the Joint Chiefs of Staff observed, "We must remember how we got to this historic turning point in history—our systemic strength and the strength of our allies has gotten us here. And a crucial dimension of that strength is our well-trained, proud, and ready military force." To maintain this state of affairs, U.S. forces will protect U.S. security interests by providing the

correct balance of military capabilities—forces capable of maintaining deterrence and protecting our national interests. As we search for that correct balance we can neither adopt the unrealistic assumption that *nothing* has changed, nor the historically naive presumption that *everything* has changed.

Maintaining stable nuclear deterrence vis a vis the Soviet Union will depend on arms control policies that enhance the stability of the strategic balance and a modernized mix of nuclear systems that hold critical Soviet assets at risk. At the same time, the threat posed by emerging nuclear weapons proliferation in other nations will pose new challenges.

Conventional capabilities will remain essential to deter and contain local conflicts that could threaten U.S. interests and allies. Addressing these threats by long term occupation of the offending country, or continuous presence in every potential location, is highly unlikely. Instead, our probable response will be to stop or contain the offending behavior and isolate the threat. An ability to maintain constant awareness in potential adversaries that they are always within our reach broadens the spectrum of deterrence. Given this and the unpredictability of the future, our force planning calls for an increased emphasis on force projection capabilities—even more flexible, rapidly responding, precise, lethal forces with global reach.

### **Quality Forces**

To support the strategy, we will continue to stress high quality modern forces (although with reduced force size). Quality people are critical to high quality forces. History shows that the human dimension, the dimension of ready, well trained forces, has been vital to success on the battlefield. People programs must remain at the top of our priority list.

Along with quality people, United States forces have long depended on the force multiplier effects and competitive advantages of advanced technology to provide the maximum warfighting potential from smaller forces. Aerospace technologies form the cutting edge of innovation. For example, in the late 1970s through the 1980s, the United States invested heavily in stealth technologies. We are now starting to reap the benefits of high payoff investments in a truly revolutionary set of technologies. Investment in these advanced technologies will provide United States forces decisive capabilities against potentially well-equipped foes at minimum cost in casualties—increasingly important in an era in which we believe the American people will have low tolerance for prolonged combat operations or mounting casualties. Prudent R&D investment will also help avoid strategic surprise as the Soviets and others continue to pursue modernized forces.

Aerospace R&D developments strengthen more than our military muscle. They also strengthen economic elements of our national power. The United States has become an aerospace nation. It leads the world in terms of cutting edge aerospace technology in both the military and

commercial sectors. The fact is that the military and economic elements of national power are united in the Air Force. Changes that affect aerospace forces will significantly affect the muscle of our economic power.

## THE U.S. AIR FORCE & THE EVOLVING SECURITY ENVIRONMENT

The dynamics of the future will require us to carefully craft complementary forces. That process has begun under the leadership and direction of the Secretary of Defense. Each Service provides unique capabilities to meet national security challenges. The Air Force is fully committed to orchestrating its forces and operations with those of the other Services. At the same time, air, naval, and land forces are fundamentally and necessarily different. Maximizing the contributions of each will result from exploiting individual Service strengths where each fits best in contributing to future security objectives.

Understanding the inherent attributes of the Air Force and aerospace power and how both contribute to achieving national objectives is critical. Over the last 40 years our attention has focused most intensely on the potential requirements of a major conflict in Europe. Because of this focus, the characteristics and capabilities of the Air Force to meet the demands at other levels of security interest may be less well understood. Air Force characteristics, capabilities, and forces contribute across the spectrum of conflict (see Figure 1).

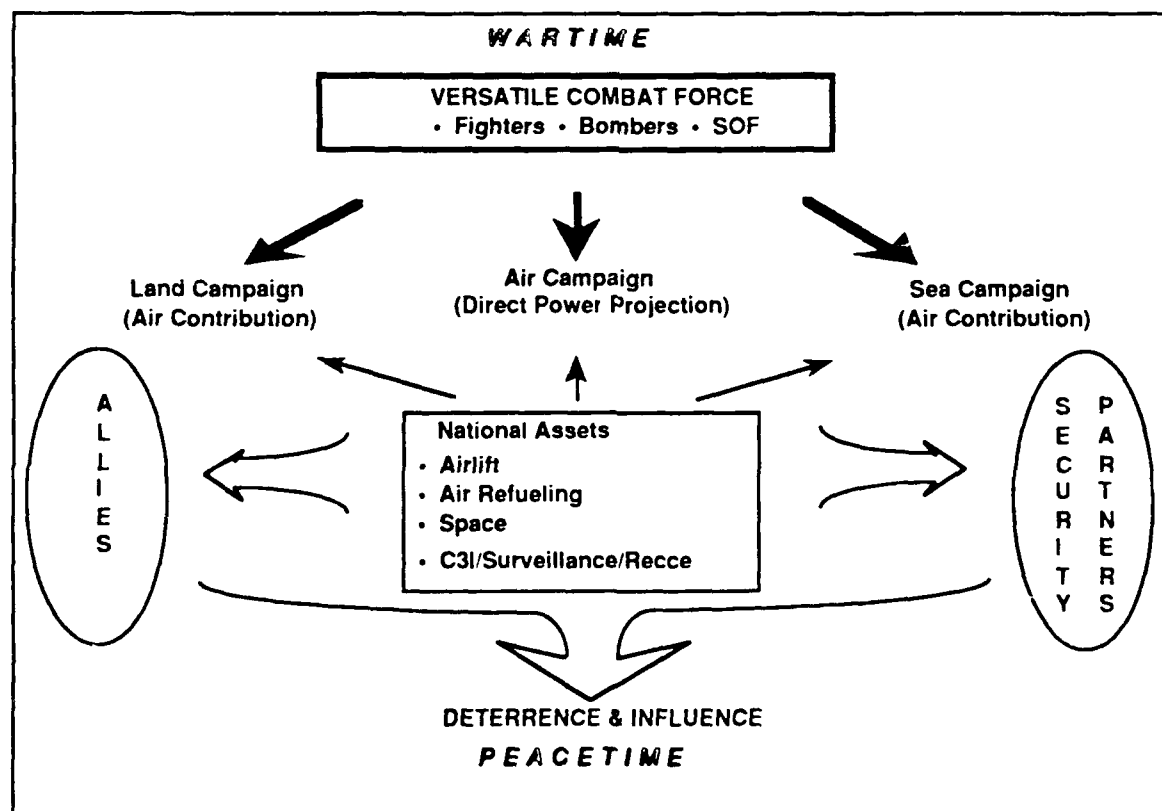


Figure 1—Spectrum of Air Force Operations

In a wartime situation with forces actively engaged in combat, the Air Force provides versatile lethal force. To meet the needs of the joint force commander, we conduct independent, parallel, and supporting operations in conjunction with other Service components. Air Force capabilities also act in conjunction with engaged allied forces, help security partners, and deter conflict during peacetime.

The strengths of the Air Force rest upon its inherent characteristics of speed, range, flexibility, precision, and lethality—characteristics which are directly relevant to the national interest in the future. The following objectives, their associated forces, and Air Force attributes provide a planning framework to support our Nation's defense strategy:

- *SUSTAIN DETERRENCE* — Nuclear Forces
- *PROVIDE VERSATILE COMBAT FORCE* — Theater Operations & Power Projection
- *SUPPLY RAPID GLOBAL MOBILITY* — Airlift and Tankers
- *CONTROL THE HIGH GROUND* — Space & C3I Systems
- *BUILD U.S. INFLUENCE* — Strengthening Security Partners and Relationships

### **SUSTAIN DETERRENCE — Nuclear Forces**

The Strategic Arms Reduction Talks (START) treaty will set the limits on the nuclear force structures of both signatories and form the framework within which our forces contribute to global security and stability. The Soviets are vigorously pursuing strategic modernization programs while posturing their forces for compliance with likely treaty restrictions. In the face of Soviet forces with the continuing capability to threaten our existence, we must provide forces to sustain high-confidence nuclear deterrence. We will develop and deploy forces that will best meet our nuclear deterrent needs today and hold the greatest promise for meeting uncertain future threats.

The triad concept will remain fundamental. The triad has provided an effective deterrent for three decades and its success has led to a broad national consensus that we should continue to maintain a balanced triad composed of modernized, effective individual legs. Each leg of the triad possesses unique and complementary characteristics which synergistically provide a retaliatory capability that no adversary could hope to successfully overcome.

START will result in balanced and reduced offensive forces, but the mission of deterrence will endure. The fundamental goal of the United



States in shaping the nuclear balance is to increase stability—to reduce incentives for either side to launch an attack. Accordingly, we are modernizing the bomber force, the most stabilizing element of the triad, and are reducing warhead densities for fixed base missiles. Emphasis on developing a credible and capable strategic defense will also continue.

Regionally, even with reduced conventional force levels and changes in Eastern Europe, the U.S. will need modern theater nuclear forces as an important deterrent aspect of the Atlantic Alliance's agreed strategy of flexible response. Air-launched capabilities provide a credible option to sustain extended deterrence and flexible response wherever regional nuclear threats might arise.

### **PROVIDE VERSATILE COMBAT FORCE**

In contrast to fairly stable nuclear deterrent objectives, more fundamental changes are likely to occur in the conventional arena. There will remain areas in the world with the potential demand for large scale protracted operations. However, theater and conventional forces will also need to be structured to respond quickly to threats from individual, widely dispersed states working their own agendas. In those more frequently occurring scenarios, use of military forces will be primarily in sharp, powerful, short duration operations. U.S. forces must be able to provide a rapid, tailored response with a capability to intervene against a well-equipped foe, hit hard, and terminate quickly. The implication for U.S. forces is a requirement for fast, agile, modernized conventional capabilities.

Political changes in Eastern Europe have reduced the threat of a short-warning Warsaw Pact attack and force reductions resulting from successful CFE negotiations should reduce it further. The probability of a major war in Europe in the near to mid-term appears lower than at any time in the post war era—but the instability resulting from political and economic retrenchment presents new challenges, ranging from questions of alliance cohesion to issues of traditional ethnic and nationalistic difficulties. It is important that the U.S. remain engaged in the European security framework. Forces that have been held in check by the discipline of the bi-polar confrontation may be released. The difficult economic problems in the Soviet Union and Eastern Europe and the likelihood of a widening have/have-not gap are, in themselves, destabilizing. Further, far too many uncertainties are present to predict the demise of the Soviet Union as a significant military threat, directly or indirectly.

In developing our future force structure, it is vital that we retain the capability to respond to the many possible paths of future Soviet direction or emergence of other major threats. Reserve components are particularly useful in this regard, especially as increased warning time may allow us to maintain some reserve forces at a more economical operational tempo. Not only are they a force in reserve against a global threat, they can be a reinforcing wave in the event of a major regional conflict. But the reserve concept is not a panacea. Our global responsibilities require capabilities

independent of the need for mobilization and the political baggage sometimes inherent in that process. Active forces of the highest quality will be essential to respond quickly with precision and effectiveness.

## **THEATER OPERATIONS & POWER PROJECTION**

The ability to concentrate force in a responsive manner over great distances—to change the military and/or political conditions necessitating the response—is a key attribute of the Air Force. The Air Force's speed, range, and flexibility enable us to rapidly apply combat power against vital elements of an enemy's structure. Speed limits exposure to threats and significantly reduces the time needed to accomplish a mission. Range provides the ability to operate in any direction over great distances, unimpeded by surface features such as mountains and oceans. Flexibility provides the ability to perform a variety of actions, produce a wide range of effects and influences, and to adapt to changing circumstances and environments. This ability to rapidly project power, as well as readily adapt to changing circumstances and environments, will be increasingly important in the future.

### **Joint/Combined Operations with Ground Forces**

Joint/Combined operations with U.S./Allied ground forces will remain a fundamental need. Air forces share with ground forces spatial control of contested areas and the airspace above them. The main objectives of joint surface-air operations are to neutralize or destroy enemy capability to resist, to limit his freedom of action and to disrupt his scheme of operations while at the same time enhancing our capabilities and shaping the battle to friendly force advantage. Theater air forces, as a first priority, accomplish those functions which afford the greatest opportunity for conclusive results in achieving the theater mission.

The Air Force conducts a wide variety of tasks to support the theater commander in accomplishing these objectives. One of the first considerations of a theater commander is control of the air. Control of the air (Air Superiority) protects surface forces and provides freedom of action for surface forces and air forces. Since the advent of modern airpower, no major conflict has been won without control of the air. Air attack over the battlefield (Close Air Support and Battlefield Air Interdiction) provides direct and indirect air support of ground forces against enemy forces. By delaying, destroying, and disrupting enemy follow-on forces and materiel (Interdiction), we achieve a leveraged effect upon the enemy, and ensure a favorable friendly-to-enemy ground force ratio at the point of contact.

Because of the flexibility and striking power of air forces, the tasks they perform have a profound influence on the outcome of theater operations. Airpower's speed, range, and lethality allows rapid shifting of effects, concentrating firepower wherever the joint force commander needs it—from the close battle, across the length and breadth of the theater, to its deepest reaches. As clearly demonstrated by American forces in multiple

engagements over many years, and by the Israelis in more recent experience, tactical airpower can prove decisive and have strategic impact.

Similarly, the flexibility to shift effects is also provided by theater airlift through the rapid delivery, reinforcement, and resupply of forces at the most needed locations. This ability to deliver forward enhances deterrence, or speeds the entry of forces into battle.

The U.S. Air Force may also assist allied ground forces engaged along with, or independent of, U.S. ground forces. Korea could be an example of aiding allied forces with only limited U.S. ground forces. In a similar vein, the effect of Air Force presence in assisting allied ground forces was demonstrated in the Philippines (December 1989). USAF F-4s assisted in preventing the overthrow of the Aquino government. They did so by providing a deterring presence, thereby maintaining strategic U.S. interests without firing a shot.

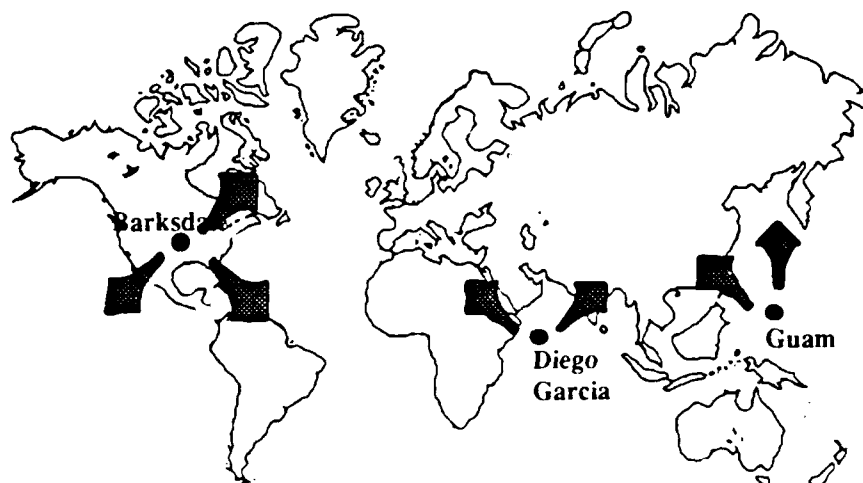
### **Presence and Direct Application of Force**

While complementary forces of all the Services will be essential—the Air Force offers, in most cases, the quickest, longest range, leading edge force available to the President. Conventional airpower offers exceptional flexibility across the spectrum of conflict as an instrument of national resolve. The Air Force can deter, deliver a tailored response, or punch hard when required—over great distances—with quick response. We can provide a presence, or put ordnance on a target worldwide in a matter of hours. These power projection capabilities of the Air Force will become even more vital for protecting U.S. national security interests in the future.

Long range bombers armed with conventional weapons can rapidly reach any location on the globe (see Figure 2). In 1983's BRIGHT STAR exercise, B-52s launching from bases in the U.S. precisely delivered conventional ordnance to a target range in Egypt, then returned nonstop to their bases. Bombers can autonomously deliver massive ordnance payloads with high precision and low risk of loss. Six B-2s, operating from the United States with the support of six tankers, could conduct an operation like the 1986 Libya raid—which utilized two carrier battle groups, an Air Force F-111 squadron, and numerous supporting assets. Only a few highly survivable aircraft would be placed at risk. The 1986 operation involved 119 aircraft and 20 ships. And long range bombers could execute such operations without reliance on forward bases or overflight rights.

The bomber's long range means that the United States can project power and enhance presence in a very short time—and often at lower cost relative to other options—regardless of conflict location. In the Persian Gulf area or deep in other theaters, long range bombers can threaten or hit targets in the crucial first hours or early days of a conflict. They may be the only assets capable of doing so.

**WITH ONE REFUELING AND A LARGE CONVENTIONAL PAYLOAD, LAND-BASED BOMBERS CAN COVER THE ENTIRE GLOBE FROM AS FEW AS THREE SECURE BASES**



*"It obviously would give us significant conventional capability...the ability to reach from a handful of bases virtually anywhere on the globe."*

**Richard B. Cheney**

*"...Immense value as an in-theater force multiplier."*

**CINCPAC**

Figure 2—The Global Reach of Long Range Bombers

Our ready and flexible tactical air forces can also be tailored to provide a quick and appropriate response to support U.S. national policy. On a day-to-day basis, our forward-based forces provide a presence lending stability to regions of vital interest. These modern fighter forces can respond anywhere in the world on short notice. With an emphasis on lean and deployable forces, tactical air forces can move forward with very little baggage compared with the massive, persistent firepower they deliver. An F-15E squadron can both provide presence and deliver over 400,000 pounds of ordnance per day—do it rapidly, and concentrate it or deliver it across a wide area.

Typically, land-based fighter forces require forward basing to sustain power projection options. But when the interests of allies are threatened, basing will normally be made available—and our fighter forces can deploy within hours. When American soldiers were attacked by ax-wielding North Koreans in 1976, 54 fighters were deployed from the U.S. and were all in place, on the other side of the world—ready to fight—in less than 24 hours. In August 1983, an F-15 fighter force package deployed to Africa, again in less than 24 hours, in response to the unsettled political situation in that region. The quality of our fighter aircraft, weapons, and aircrews, as well as the staying power of these forces, will be key in filling power projection needs in the future.

Not only does the Air Force directly apply combat power rapidly, it enables other forces to respond rapidly as well. As illustrated by Operation

JUST CAUSE (Panama, 1989), speed of response can be critical. The major contribution of the Air Force to this operation was *responsive* employment of combat air forces and *rapid* movement of air and ground forces to project power and defend national security interests. When the Secretary of Defense and the JCS were directed to act by the President, they deemed a quick response imperative. Within 48 hours of receipt of the execute order, *ordnance was on target and troops were over the drop zone*. The responsiveness and speed of movement directly contributed to the success of the operation and greatly reduced U.S. casualties.

### **Complementary Air Force and Naval Operations**

The future holds significant opportunity for complementary Air Force and naval operations that capitalize on the unique characteristics of both. Air forces share with naval forces control of access. Air Force quick response capabilities can provide immediate presence to areas of concern anywhere in the world, while carriers steam to provide more enduring presence, if required. Conversely, the capabilities of air defense vessels can be used to supplement defenses in littoral zones, freeing up land-based air assets to conduct other critical missions.

Similarly, land-based air can be used in conjunction with naval forces to meet land attack demands. For example, a squadron of B-52s can double a carrier task force's offensive punch while taking advantage of the battle group's defense and suppression assets. The EL DORADO CANYON raid (Libya, 1986) is an excellent example of air and sea forces operating in complementary fashion to meet the needs of the contingency situation.

Land-based air provides critical and unique capabilities in the maritime environment. The last three CINCPACs have strongly supported the need for long range conventional strike and counter-air assets to operate in conjunction with fleet operations. One recently described B-52s as of "immense value as an in-theater force multiplier ...." B-52s possess a mine delivery capability unmatched by any other system. Those same aircraft provide a quick response anti-ship capability (8 Harpoons on each aircraft moving at 450 Knots), and a valuable surveillance capability. For example, two B-52s can surveil 448,000 square miles of ocean on a standard maritime patrol sortie—an area the size of the South China Sea.

While naval forces will maintain a predominant interest in sea control, land-based air has significant potential to contribute—as history shows. During WWII, air attacks accounted for the single largest cause of warships sunk, and land-based air accounted for 61 percent of those. In the future we can best achieve specific military and political objectives by capitalizing upon the advantages of both land-based air and naval forces.

### **Special Operations/Low-Intensity Conflict**

Within the special operations/low-intensity conflict (SO/LIC) arena the Air Force is committed to supporting special operations and maintaining necessary SOF assets. As an example, the Air Force will be

capitalizing on the potential capability of the A/OA-10 to support SO/LIC operations—in addition to the specialized special operations aircraft we are currently acquiring. Beyond specialized SOF assets, conventional Air Force capabilities are essential to SO/LIC missions. For example, surveillance, air cover, air refueling, airlift, and precision attack were all involved in supporting special operations during JUST CAUSE.

In the low-intensity conflict arena, counter-narcotics operations will become increasingly important. The Air Force is committed and postured to employ surveillance assets and other capabilities to help stem the flow of narcotics threatening the fabric of our society. Our airlift, surveillance, intercept, interdiction, and firepower assets enable surface special operations forces to operate while uniquely contributing to the anti-drug effort.

### **SUPPLY RAPID GLOBAL MOBILITY — AIRLIFT AND TANKERS**

As forward forces decline but global interests remain, airlift will be even more in demand. Increased instability and uncertainty will heighten the importance of the ability to respond quickly. While increased warning time for Europe will allow for a reduction in European-based forces, it does not obviate the need for airlift. Increased warning time for a European war may allow us to use more sealift to return forces to Europe. But given the magnitude of force withdrawals under consideration (in several areas, not just Europe) and the scope of the uncertainty we face in unpredictable areas around the world, airlift and sealift cannot be viewed as competitive—they are complementary.

In the more likely contingency scenarios, airlift provides vital speed and flexibility. When an operation needs to be carried out quickly, airlift will be the key player. Unfortunately, discussions on airlift often focus on warning time, blurring other key issues. In reality, warning time is as unpredictable as the range of possible contingencies—but the need to concentrate force at the critical point at the critical time is a constant. Even increased warning time does not necessarily produce a corresponding increase in reaction time. The warning time for JUST CAUSE was measured in months; the reaction time in hours. And when that decision to act is made, the ability to cope with surge requirements up front makes the critical difference between success and failure. Our airlift's ability to meet peak demand was vital to the joint force commander's ability to act decisively in Panama.

While the JUST CAUSE experience is instructive, it is not typical of the demand. For that operation, we had a highly developed infrastructure in theater with over half the forces in place. Deploying forces traveled lightly—even for light forces. The objective area was very close. Next time, the challenge may be tougher, but the requirement for timeliness may be even more critical. The 1973 Arab-Israeli War provides an example of the importance of timeliness, particularly for our more uncertain future world. Sealift was important—it delivered 74% of the total resupply of Israel—but the combat phase was over before the first ship arrived. The key

contribution to Israeli success was airlift's ability to deliver essential assets (things like TOW and Maverick anti-tank missiles, artillery ammunition, and major aircraft components and spare parts) when they were critical to combat.

Faced with the potential of reduced overseas bases for all U.S. forces, the concept of global reach becomes increasingly important and highlights aerial tankers as a critical asset in meeting future needs. Air Force tankers refuel Air Force, Navy, Marine and many allied aircraft, leveraging all Service capabilities on land, sea, and in the air.

Aerial refueling increases the range, on station times, and ordnance capabilities of receiving aircraft—true force multiplication. As an example, land-based Air Force tankers flew almost 300 sorties during Operation ERNEST WILL (Persian Gulf, 1987-1989) refueling naval air over the Straits of Hormuz. These sorties allowed the fleet to operate in waters suitable to reduce exposure to potential threats. The increased emphasis on rapid response and global reach will only enhance the value of our tanker force. Tankers were also force multipliers in JUST CAUSE. Airlift aircraft could deliver their loads and clear the ramp for the next aircraft more rapidly because they could refuel after takeoff.

### **CONTROL THE HIGH GROUND — Space & C<sup>3</sup>I Systems**

The advance of technology has lifted man above the surface where he fought for millennia, to the air, which has progressively become the dominant medium over the last 75 years, and increasingly, into space—the high ground of the future.

Rapid technological advances provide the means to exploit the military advantages inherent in space-based systems: global coverage, relatively low vulnerability, and autonomous operations. Smaller force levels and access to fewer forward bases will increase dependence on the force multiplying capabilities of space systems. Space-based communications assets provide for global, secure, and reliable command and control of forces. Space-based navigation aids will enhance global deployments of air, land, and sea forces, as well as provide pinpoint weapons system accuracies. Space-based surveillance systems will provide unprecedented warning and threat assessments to battle commanders, regardless of the location of conflict. Finally, space systems will help monitor the world situation to avoid surprise and ensure compliance with arms control agreements. Collectively, these capabilities add up to global knowledge and situational awareness.

Space systems will also remain immune to all but the most sophisticated threats. Currently, only the Soviet Union has a capability to threaten U.S. satellites, but even their capabilities must contend with increasingly effective U.S. survivability measures added to many of our satellites, command links, and ground support elements. The result is that space systems will continue to be dependable, survivable and effective, especially as the threat of a direct U.S.-Soviet confrontation declines.

Additionally, space systems are operationally highly autonomous. Periodic communication between the satellites and CONUS-based controllers maintain satellite constellations in a fully mission ready state. Advanced technology and manufacturing have produced satellites that are long-lived and reliable. The combination of high reliability, endurability, survivability, and autonomy make space systems a cost-effective choice for providing critical warfighting capabilities.

With the positives previously listed on our space systems, we also have deficiencies we must work to correct. Clearly we need increased launch capacity to ensure unimpeded access to space. We need to develop anti-satellite capabilities to ensure that we can deny an adversary unimpeded use of his space systems against our forces. And finally, to ensure we fully realize the value added by controlling the high ground, we must build a space-based wide area surveillance system. Such a system will pay great dividends as we try to contain the diversifying global threats.

Historically, the Air Force has been the principal provider of space systems for the Defense Department, and the Air Force remains uniquely postured for that role. The Air Force has the infrastructure, approximately 90% of DoD's space experienced personnel, and the budget commitment (approximately 80% of the DoD space budget) required to provide space-based support of global military operations.

Airbreathing Air Force assets complement our space systems in keeping tabs on the rapidly evolving world scene and providing key warfighting capabilities. AWACS today and JSTARS in future are rapidly deployable assets that can serve as the "eyes and ears" of the joint force commander. Related airborne command posts and airborne relays play a critical role by providing the capability to rapidly establish key elements of theater command and control systems—thus meeting the battle commander's most urgent needs in rapidly evolving scenarios.

### **BUILDING U.S. INFLUENCE — Strengthening Security Partners and Relationships**

Security assistance provides the capability to enhance security conditions, strengthen security partners, and project U.S. influence to build democracies, with limited or no use of U.S. forces. The Air Force is well postured to contribute toward these national objectives. Security assistance allows us to influence events and protect national interests in areas where more visible means of intervention are not viable. Our efforts assisting the Colombian Air Force with counter-narcotics operations are an example. In particular, relatively modern Air Force aircraft, which we will be retiring in light of our own force reductions, will be in heavy demand. These aircraft are sought after security assistance items. They provide advanced capability to the recipient and influence to the United States.

Air Force training and logistics aid are politically acceptable in many situations where other forms of influence are not welcome. At the same time, complementary force planning with security partners offers potential



to maximize coalition capability. And the Air Force's capacity to increase training of allied and friendly air forces offers opportunity to strengthen relationships. It's only partially in jest that USAF trained pilots—who range from Prince Bandar (Saudi Arabian Ambassador to the United States) to line German fighter pilots—call themselves "half Texan." The increased training of allies would also provide a cost-effective way for us to maintain a higher training base for surge, if necessary.

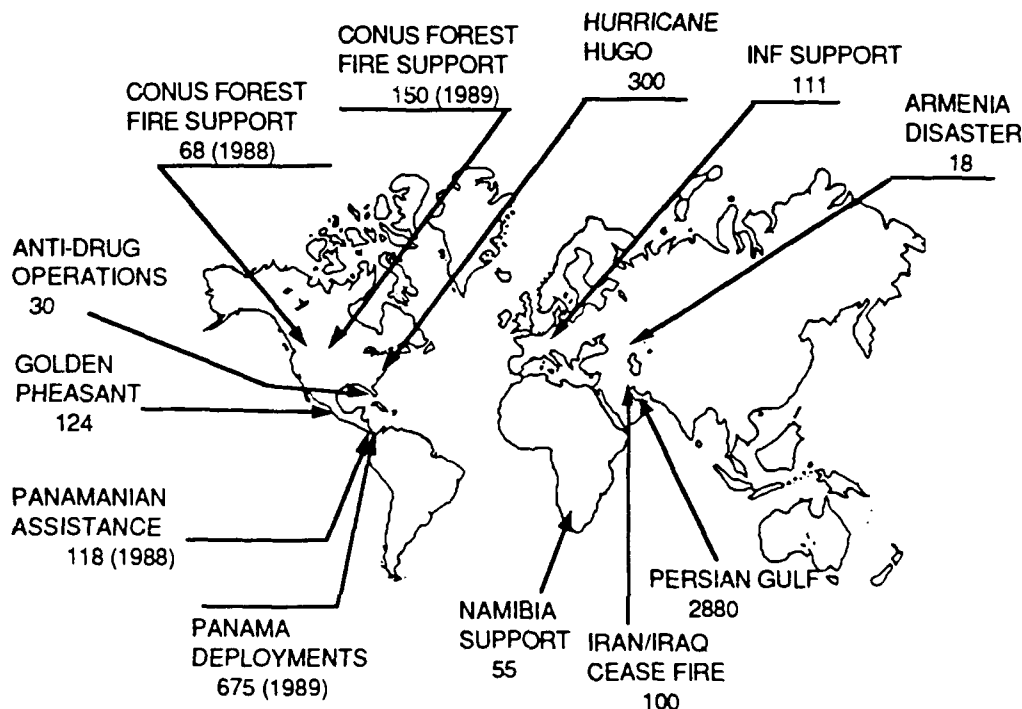


Figure 3—Contingency and Humanitarian Airlift Examples —1987-89  
(C-141 Load Equivalents)

Air movement provides a capability greater than just moving troops and cargo would imply. It provides a tool for building trust and confidence and spreading goodwill around the world. It gives the U.S. a unique ability to achieve many strategic objectives. The Berlin Airlift of 1948 is a classic example, as is the Israeli resupply in 1973. Less well known is the example of Algeria in 1980. On October 10, 1980, two Algerian earthquakes killed thousands. Within about 36 hours, the Air Force began delivering 340 tons of disaster relief supplies. This action, carried out for humanitarian purposes, strengthened international bonds. Later that fall, it was Algeria that led mediation efforts which resulted in the January release of U.S. hostages in Iran. As shown in Figure 3, these kinds of lower visibility contingencies and disaster relief efforts are frequent. These actions strengthen allies, provide humanitarian assistance, and allow the United States to influence events important to our national security and the security of the free world.

Long-range surveillance aircraft, such as AWACS, also provide the means to accomplish national objectives in situations where a large

presence is inappropriate, or not possible. Packages of surveillance assets are able to deter adversaries by letting them know we are watching their every move. Recent examples of AWACS deployments (Saudi Arabia, Egypt, Chad) show that non-lethal deterrence can be effective and can provide dramatic increases in allies' capabilities. JSTARS will increase that capability by allowing us to monitor and direct ground as well as air operations in addition to its primary contribution of allowing us to concentrate firepower responsively.

In the 1980s alone, the Air Force was called upon no less than 150 separate times to serve at the Nation's behest. In this decade, the Air Force has conducted contingency air operations in 26 different nations and over the world's oceans. Further, we have supported humanitarian, disaster relief or rescue operations over 60 times in 49 different nations in those same years. Perhaps more important than numbers, however, is force effectiveness. A Brookings Institute Study—*Force Without War*—concluded that since the end of World War II, land-based aircraft have been more effective in achieving positive outcomes than any other forces. In the future, the capabilities of our aerospace forces will become even more vital to U.S. national security as the need for rapid response and long reach increases.

## CONCLUSIONS

In light of the changing global security environment, the Air Force focus is on evolving U.S. national security needs—not simply on fiscal constraints, though they too are real. Defense requirements cannot be viewed independent of our economic base.

The United States has become the world's foremost aerospace power. The Air Force is inextricably intertwined with the aerospace industry—one of the largest and most profitable in our economy, and the largest single source of U.S. trade surpluses. This combination of Air Force capabilities with the pre-eminence of our aerospace industry constitutes our aerospace power.

The Air Force is building a force with agile and responsive capabilities tailored for the world we see unfolding before us. We will continue developing these capabilities—planning the “pieces” of our Air Force to complement each other, complement the capabilities of the Army, Navy, and Marines, and create optimum power to underwrite our national security strategy.

Air Force unique capabilities must be exploited, along with those of the other Services, to address the exigencies of evolving national security policy. We see a window of opportunity to become even more useful to the Nation. With the Air Force's range and rapid reaction, we are prepared to meet the challenges of the future...to provide **Global Reach—Global Power**.