Nearing Coffin Corner: US Air Power on the Edge
By Mackenzie Eaglen and Douglas A. Birkey

Air power stands as a cornerstone of the Obama administration’s recent decision to prioritize defense efforts in the Asia-Pacific region. To make this strategy successful, the administration and Congress must ensure the nation has the necessary capabilities and capacity to secure national interests in an area defined by vast distances, limited basing options, and a pronounced threat to assured access. This means real investments—not budgeting sleights of hand that dilute America’s presence in other vital areas around the globe—and the ability to maintain strength across the national security portfolio. Though the United States currently dominates the skies, this will not continue if resources are spread too thin and are inadequate to meet potential threats. Despite the considerable costs, policymakers must invest in the necessary assets and capabilities to be prepared to effectively defend US interests in the Asia-Pacific region.

The administration’s decision to prioritize the Asia-Pacific region represents an important step forward in realigning military forces with America’s global interests. It follows the wisdom of the 2010 Quadrennial Defense Review Independent Panel, led by William J. Perry, Bill Clinton’s secretary of defense, and Stephen Hadley, George W. Bush’s national security adviser, which found:

The force structure in the Asia-Pacific area needs to be increased. In order to preserve U.S. interests, the United States will need to retain the ability to transit freely the areas of the Western Pacific for security and economic reasons. The United States must be fully present in the Asia-Pacific region to protect American lives and territory, ensure the free flow of commerce, maintain stability, and defend our allies in the region.1

However, the credible projection of effective and sustainable power requires more than rhetoric. It also requires investments in capabilities and capacity to protect America’s interests in the region.

Air power uniquely affords leaders the ability to wage mobile and adaptive campaigns that

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Key points in this Outlook:
- The Obama administration has declared the Asia-Pacific region to be a new priority for US defense efforts, and air power is a key part of this strategy.
- The United States now has fewer than one-third the number of bombers that it had during the Vietnam era, and existing B-2 long-range strike aircraft are nearly two decades old.
- Policymakers must stop hiding behind rhetoric and quickly make the necessary air power investments to equip the nation to face potential threats in the Asia-Pacific region, particularly from China’s rapidly advancing aerial capabilities.

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maximize economy of force relative to wars based on attrition and occupation. However, policymakers must not assume continued de facto US preeminence in the skies. Combat operations in the Asia-Pacific would require an ample inventory of aircraft with adequate range, speed, and stealth. This does not mean limited “silver bullet” fleets that try to perform nearly every mission with only a few select aircraft.

US leaders must continue to build and maintain alliances with nations that share common interests and will partner to realize mutual regional policy goals.

Air power presents many opportunities for cultivating these associations. Whether conducting training exercises, promoting regional stability through joint operations, or supporting disaster recovery and humanitarian relief efforts, American and allied airmen are uniquely situated to project smart, effective, and positive power. This requires putting work into building enduring relationships over time, not scrambling in a crisis to create them overnight.

Considering that air power can be deployed and sustained through minimal forward troop presence, such cooperative engagement has the advantage of focusing on desired regional effects without many of the liabilities associated with occupation by land forces. Also, given the scale and scope of the Asia-Pacific region, air power’s range and speed enables a discrete number of assets to engage across the theater on a sustained basis. However, these alliances will be successful only if they are built on robust policies underwritten by well-equipped forces. Allies’ commitment to the United States and its interests depends directly on their perceptions regarding American presence, staying power, and resolve.

When cooperation is not possible, US leaders must have the capability and capacity to discourage and ultimately deter potential adversaries from threatening American interests. Whether alone or in concert with allied partners, American air power affords many policy options through its daily missions:

- Airlift and aerial refueling ensure regional and global mobility.
- Intelligence, surveillance, and reconnaissance assets provide critical data to inform the decision-making process.
- Air superiority ensures access throughout the global commons for all US forces.
- The ability to strike anywhere around the globe at will holds targets at risk.
- Nuclear forces provide an umbrella of protection for allied states and US forces.

However, efforts to change the calculus or behavior of potential adversaries are effective only if they are credible. Securing interests through peaceful influence demands
robust capability and capacity, including adequate quantity of forces. Failing to make such investments encourages regional instability that may lead to miscalculation and ultimately conflict.

**Tyranny of Distance Means Numbers Really Matter**

If the United States lacks the necessary force structure to preclude armed conflict, it is questionable whether the US military would be able to prevail in a war. Accordingly, if America’s leaders want to ensure they will be able to peacefully secure interests, they ultimately must consider what it would take to secure such goals through force.

When executing a military campaign in the western Pacific, size matters. Not only would there be a significant number of targets to strike, but the long distances between targets would spread combat assets thin. For example, when the United States launched Operation Linebacker II—its final major air campaign of the Vietnam War—the Air Force operated B-52 strategic bombers out of two locations: U-Tapao Royal Navy Airfield in Thailand and Anderson Air Force Base in Guam.

Although U-Tapao was actually a smaller installation than Anderson—able to accommodate only one third of the total B-52 force (51 at U-Tapao versus 150 at Anderson)—the U-Tapao crews actually flew nearly half the total number of bombing missions during this period. The reason is simple. Thailand is virtually next door to Vietnam, while Guam is roughly 2,400 miles away. This meant that bombers based in Thailand were able to fly more sorties, or operational flights, in a given day than those based in Guam because they did not have to spend as much time in transit over the Pacific. Today, US long-range strike capabilities are predominantly based out of Guam and areas beyond.

During the Vietnam era, the United States had more than 500 B-52s. Today, the Air Force has only 134 combined B-1s, B-2s, and B-52s. (See figure 1.)

Of these assets, the B-2s are the only long-range strike aircraft that can penetrate enemy air defenses, conduct their missions deep within enemy territory, and survive. Given the force generation demands of a sustained air campaign, as few as four or five B-2s would likely be employed at a given time. These aircraft have not been in production for more than a decade, so existing aircraft are nearly two decades old and combat losses cannot be replaced. Its stealth attributes will be increasingly challenged when operating in increasingly sophisticated threat environments, as former Air Force Chief of Staff T. Michael Moseley noted during an address to the Air Force Association.

The B-1 and B-52s predate modern stealth technology and would be restricted to a stand-off role.

The United States lost fifteen B-52s during the twelve days of Linebacker II. Since that time, air defenses in the Asia-Pacific domain and elsewhere have grown far more lethal and complex. Although fighter assets could be used to conduct some attack missions, they lack sufficient range to strike targets deep within a country like China and lack the payload capacity of a bomber.

Although the advent of precision guided munitions enables individual aircraft to strike multiple targets on an individual sortie, successful air campaigns require parallel concurrent attacks to subvert an enemy’s war-making capacity through a massive collapse of key centers of gravity—command and control, infrastructure, logistics, and specific military units. Striking these targets gradually empowers an enemy with time to compensate for individual strike damage.

Because each airplane cannot be in two places at once, the number of tails matter. Limited “silver bullet” fleets diffused by distance would be hard-pressed to execute a concurrent attack—especially with a large number of targets.
Considering that the average theater campaign has 30,000 enemy targets, it is also not financially feasible to strike such a high volume of enemy positions with expensive stand-off, or long-range, munitions like cruise missiles. As many US allies learned during Operation Odyssey Dawn over Libya, combat operations are most effective if they are sustainable. NATO forces conducted more than 26,000 sorties against nearly 6,000 targets over the course of this relatively small-scale conflict. Even though the United States undertook over one quarter of all airstrike sorties against Libya, many participating allies still ran out of precision weapons during the limited operation.

This is an important and unmistakable lesson. The US military must not fall victim to similar underinvestment in a discrete number of assets. Numbers matter, and it is important to consider that hundreds of aircraft-dropped GPS-guided bombs, such as Joint Direct Attack Munitions, can be acquired for the cost of one stand-off cruise missile. Additionally, stand-off assets are generally less effective against mobile and time-sensitive targets. Their aim-point coordinates are set before launch, and when fired at range, their time before impact is normally measured in hours, not minutes.

Air Power and the Anti-Access/Area-Denial Challenge

Air power also plays a critical role in deterring and defeating proliferating Anti-Access/Area-Denial (A2/AD) capabilities around the world. As the 2010 Quadrennial Defense Review Report explains, “Anti-access strategies seek to deny outside countries the ability to project power into a region, thereby allowing aggressive or other destabilizing actions to be conducted by the anti-access power.”

China, for example, has spent the past two decades developing a comprehensive aerial A2/AD capability. Next-generation platforms such as the J-20 stealth fighter, HQ-9 surface-to-air-missile, and DF-21 anti-ship ballistic missile are only the tip of the iceberg. Fourth-generation fighters such as the SU-27, J-10, J-11, and J-15 also pose significant threats. Even where new technology is not available, China has the advantage of amassing its assets at home without having to worry about the complexities entailed with power projection. This means that Chinese capabilities do not necessarily need to equal or exceed those of the United States to be effective.

If the United States wants to preserve its ability to conduct a successful campaign to defeat A2/AD capabilities, fifth-generation fighters and bombers will need to penetrate sophisticated air defense networks to strike key targets. With only 185 F-22s and 20 B-2s, the United States has an extremely limited number of stealth aircraft that could participate in a first-wave assault to eliminate the source of these threats. (See figure 2.)

These small-fleet dynamics become even more complex considering that only a portion of these aircraft would be combat-coded and available at a given time.

A potential conflict over North Korea also highlights challenges associated with power projection in a robust A2/AD environment. Given the strategic threat posed by the rogue communist state’s nuclear arsenal, Seoul’s proximity to the border, and the refugee and humanitarian crises that would likely unfold, US forces would need to launch a concurrent parallel strike against myriad targets—nuclear facilities, ballistic missile sites, command and control architecture, air defenses, logistics lines, fielded forces, artillery batteries, and more. Such an attack would involve thousands of aim points, many of them hardened and deeply buried.

With legacy systems challenged to survive amidst North Korea’s A2/AD defense—especially if China provided an umbrella of protection—the Air Force’s
finite inventory of F-22 and B-2 stealth aircraft would execute many of the strikes. Support platforms like the U-2 and RC-135 intelligence, surveillance, and reconnaissance aircraft; KC-135 and KC-10 tankers; and E-3 AWACS airborne command and control planes would be of limited initial utility because they would have to operate outside the threat environment. If South Korean bases and essential support infrastructure were under attack—most likely with chemical, biological, and nuclear weapons—range would once again stand forth as a key attribute for American aircraft forced to operate from bases outside the country. The distances involved with such power projection would dilute the concurrent strike capacity of America’s small strike fleet.

In Asia today, American resolve, influence, and presence are being challenged by a rising great power for the first time since the collapse of the Berlin Wall.

As the Korean Peninsula example illustrates, controlling the skies is essential to the successful work of other US forces. Whether protecting naval assets; intelligence, surveillance, and reconnaissance platforms; command and control aircraft like AWACS and JSTARS; aerial refueling planes; ground forces; or forward operating bases, fighter aircraft would be stretched thin to provide the requisite coverage over such a vast expanse of territory. As of June 2011, the Air Force possessed 214 F-15Cs, 859 F-16Cs, and 185 F-22s. The Navy maintains 800 F-18s, of which roughly half are generally available for deployment at a given time. Of the US tactical fighter fleet, only the F-22s have the stealth attributes required to survive against China’s rapidly developing air defense systems.

The Navy and Marine Corps will continue to outsource the tough tactical air missions of the western Pacific to the Air Force. If a wing of seventy-two F-22 fighters was based at a distance of 1,500 nautical miles from the combat zone—roughly the distance between Anderson Air Force Base on Guam to the South China Sea—only six aircraft could be kept over the battle area at a given time. Additionally, if these few fighters were confronted by a large volume of adversary aircraft, US planes could literally run out of missiles. Even if all weapons strike their targets and no US fighters are shot down, the United States might still lose the engagement because enemy aircraft could simply overwhelm US forces.

If air dominance is not attainable on a sustained basis, most nonstealth weapons systems may have to operate outside the reach of the threat. This would dramatically curtail the use of key assets such as aerial refueling tankers, air-battle management aircraft, antisubmarine aircraft, carrier battle groups, and recently acquired platforms like the Littoral Combat Ship. These systems are simply not survivable amidst an unchecked A2/AD environment. Although F-22s, B-2s, DDG-1000 destroyers, and submarines are impressive platforms, they are all tools of a campaign, not independent solutions. Evolving doctrine like AirSea Battle is built on the foundation of joint interdependence, with a wide variety of systems working together to attain the desired effect. Air dominance ensures participating assets can be employed and survive in the combat zone.

The A2/AD threat also poses a major problem for operating facilities such as aircraft carriers, airfields, ports, and logistics centers. According to the 2009 Annual Report to Congress on the Military Power of the People’s Republic of China, China is amassing an arsenal of ballistic and cruise missiles that can “hold large surface ships, including aircraft carriers, at risk . . . [and] deny the use of shore-based airfields.” Missiles currently in the Chinese inventory could strike all US facilities in the western Pacific, including those on Guam.

Combat aircraft do not operate autonomously. They require runways on land bases or carrier decks, support personnel, fuel, munitions, command and control networks, spare parts, and maintenance facilities. Eliminating any part of this support network would dramatically impede a sustained air campaign. An F-22 or B-2 is extremely difficult to shoot down, but this means little without the requisite infrastructure to keep it airborne. The same is true for most naval assets. Campaign planning must ensure such critical interlinks are defendable, robust, resilient, and diversified. Single points of failure within this system project unacceptable vulnerability.

Resources Must Match Reality

Numerous reports and studies over the past several years have emphasized the importance of robust American power projection capabilities in the Asia-Pacific. As the bipartisan 2010 Quadrennial Defense Review Independent Panel aptly highlighted:

[W]e recommend an increased priority on defeating anti-access and area-denial threats. This will
involve acquiring new capabilities, and ... developing innovative concepts for their use. Specifically, we believe the United States must fully fund the modernization of its surface fleet. We also believe the United States must be able to deny an adversary sanctuary by providing persistent surveillance, tracking, and rapid engagement with high-volume precision strike. That is why the Panel supports an increase in investment in long-range strike systems and their associated sensors. In addition, U.S. forces must develop and demonstrate the ability to operate in an information-denied environment.¹¹

The scale and scope of America’s interests in the Asia-Pacific demand sustained investment based on strategic wisdom, not short-term opportunism.

Unfortunately, such recommendations have largely lain dormant amidst short-term priorities and alternate agendas. If the Obama administration and Congress truly believe in the centrality of the Asia-Pacific region to the nation’s fundamental interests, they need to transform rhetoric into meaningful action. In Asia today, American resolve, influence, and presence are being challenged by a rising great power for the first time since the collapse of the Berlin Wall. Budget and policy priorities must reflect the need to continually strengthen air and sea power to allow technologies to mature and the full value of taxpayer investments to be realized. Continued reliance on aging Cold War-era systems will effectively sunset US ability to credibly engage in the Asia-Pacific theater. Considerable lead time is required to recapitalize key weapons systems and enhance associated support infrastructure. This means action is needed today, especially when addressing draconian issues like budget sequestration.

Policymakers’ investment priorities should focus on the next-generation bomber; F-35, KC-46, and F-22 modernization; acquiring long-range, low-observable, carrier-based strike and air dominance platforms; and joint electronic warfare capabilities. Additionally, they must ensure that the glue that holds the force together is modernized to ensure operational capacity amidst a contested environment. Diversified logistics lines, air base resiliency, carrier battle group defenses, vigorous cyber capabilities, strong command and control networks, and robust data links will also stand forth as critical enablers for the entire joint force. Realistic training and maintaining high readiness levels are also important to keeping the force prepared for conflict and ensuring credible peacetime deterrence.

No matter how capable weapons systems might be on an individual level, the Asia-Pacific domain demands adequate numbers of key platforms. Since the end of the Cold War, the services have struggled to fill their stated military requirements for major systems. Whether discussing the B-2, Seawolf-class attack submarine, F-22, DDG-1000, or Global Hawk, multiple administrations and many Congresses have repeatedly chosen to prematurely curtail needed production. Although this approach affords the illusion of short-term costs savings, it actually induces tremendous long-term costs because research and procurement expenses are not efficiently amortized. The results are clear: the nation expends vast resources developing a capability but fails to procure adequate numbers to realize a full return on our investment—we develop devastating weapons, but we fail to buy enough of them. With the military requirement left unmet, leaders have fewer national security options, and those in uniform must accept increased risk.

As legacy systems more quickly age out of the inventory, entire mission sets are now at risk. Even if new programs are started, they end up costing far more than if leaders had simply invested in purchasing the original replacement system. The administration and Congress are in the midst of repeating this cycle for the F-35 Joint Strike Fighter Program. Full-rate production is continually delayed, yielding unit cost growth and a cut in production. This destructive cycle must be stopped. Aside from exposing the nation to tremendous cost imposition for minimal return, such patterns suggest leaders assume America’s perceived military preeminence no matter the details of diminishing defense budgets. These assumptions are dangerous.

The past decade has illustrated what it means to force the military to accept ever more risk: forces are put into harm’s way with too few of the capabilities required to ensure timely mission success and basic survival. More risk also means more American lives lost and more strategic objectives not achieved or delayed. Policymakers must learn from such mistakes. The scale and scope of America’s interests in the Asia-Pacific demand sustained investment based on strategic wisdom, not short-term opportunism.
Notes


11. Hadley and Perry, The QDR in Perspective, 60.