

Occasional Paper

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**Reflections on the Gulf War:
The August Nightmare That Could Happen Next Time**

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CNA **CENTER FOR NAVAL ANALYSES**

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CONTENTS

	Page
Preface	v
Introduction	1
Immediate Military Tasks	5
Secure LOCs and Bases	5
Air Defense	5
Mine Countermeasures and Antisubmarine Warfare	6
Defending Bases	7
Strike Strategic Targets	8
Slow Down Invading Forces	10
Quarantine	13
Summary	14
Common and Unique Features of Desert Shield	15
Common Features	15
Unique Features	16
Capacities of Ports and Bases	16
Military Actions and Threats	17
Looking Ahead: Themes for the Navy and Marine Corps	19
Enabling Force	20
Forward Deployments	21
Littoral Operations	21
Navy-Marine Corps Integration	22
Joint Operations	23

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PREFACE

Although the Gulf War is rapidly becoming old news, it is still big news for defense planning. The war remains the single best source of information on what works and what needs to be fixed. It also serves as the starting point for thinking about the types of contingencies for defense planning in the post-cold-war world. This short paper looks at one aspect of the latter problem.

It steps back from the details of what happened in the Gulf War to explore the implications of what might have happened if Saddam Hussein had not stopped in Kuwait. This August nightmare—an Iraqi invasion of Saudi Arabia in August 1990—is more than a bad dream. The next Saddam, though probably more cautious in picking a fight with the United States, would be more likely to go for broke if he chooses the path of military aggression. Such a short-warning contingency represents the most demanding scenario for U.S. forces short of a major war in Europe.

This paper merely scratches the surface of a complicated topic. Its purpose is descriptive rather than prescriptive, and, in line with the background and institutional affiliation of the author, the focus is on implications for the Navy and Marines. Clearly, however, the capabilities of all the services would be required. Only by planning and operating together can U.S. forces cope with what would initially be a difficult situation.



INTRODUCTION

Looking back, the remarkable outcome of Desert Storm reflected basic factors of time, space, technology, and training. The coalition had more than five months to deploy forces to the theater and develop detailed operational plans before launching Desert Storm. Rapid access to an extensive modern infrastructure of ports and airfields enabled the coalition to support a large military force in theater. These forces were ready and well-trained, and they enjoyed an across-the-board advantage in technology, from stealth aircraft to infrared tank sights. Finally, Iraq did not possess nuclear weapons and proved unwilling or unable to employ chemical and biological weapons. Together, these factors explain much of the outcome of Operation Desert Storm. If these conditions are repeated in a future regional contingency, the outcome would likely be roughly the same—U.S. forces would crush the regional opponent.

At least one of these factors—time—is not under U.S. control. The five months' time U.S. forces had to prepare for Desert Storm was a result of Iraq's decision not to invade Saudi Arabia. That decision probably reflected Saddam Hussein's assumption that the west would acquiesce to aggression limited to seizure of Kuwait but would fight for Saudi Arabia. In view of the outcome this time, the next would-be aggressor will think twice about stepping out of line. If outright aggression is the intent, however, the likely strategy will be to exploit the early advantage fully rather than to hope the west will not respond. In this case, U.S. forces would have to face the August nightmare of a short-warning scenario halfway around the world.

Although Iraq did not invade Saudi Arabia for the first few weeks, the United States behaved as if Iraq might attack, and

so Desert Shield provides a starting point for examining a future short-warning scenario. The time-phased deployment of forces during Desert Shield is summarized in the first two figures. Figure 1 summarizes the deployment of ground forces—three Marine Expeditionary Brigades (MEBs), the 82nd Airborne Division, the 101st Air Assault Division, the 24th Infantry Division (Mechanized), the 3rd Armored Cavalry Regiment, and the 1st Cavalry Division. On C-day (August 7, the day that the JCS issued the formal deployment order for Desert Shield) all of these forces were in the United States except for some amphibious forces in the western Pacific. The 82nd Airborne deployed entirely by airlift, as did one aviation brigade of the 101st. One MEB deployed aboard amphibious ships. For all other units, the troops arrived by air, but their equipment and supplies came by sea. Army equipment came from the United States. Equipment and supplies for two MEBs came from Maritime Prepositioning Ships (MPSs) based in Diego Garcia and Guam.

Figure 2 summarizes the initial deployment of U.S. fixed-wing fighter, attack, and bomber aircraft in Desert Shield. The early availability of Navy aircraft reflects the response time of aircraft carriers on routine deployments in the Mediterranean Sea and the Indian Ocean. For land-based aircraft, the pace of arrival was driven by the availability of bases and refueling aircraft. Two F-15C squadrons and 5 AWACS early-warning aircraft received highest priority, arriving on scene on C+1 and C+2 to contribute to the air defense of Saudi ports and bases. The initial deployment of fixed wing aircraft was largely completed by C+30. The forces consisted of 250 fighter and attack aircraft in the three Navy airwings and the Marine Air Combat Element (ACE) and about 400 Air Force fighter and attack aircraft. About 100 attack helicopters and a variety of support aircraft—tanker, surveillance, and electronic warfare aircraft—were also in theater at this time.

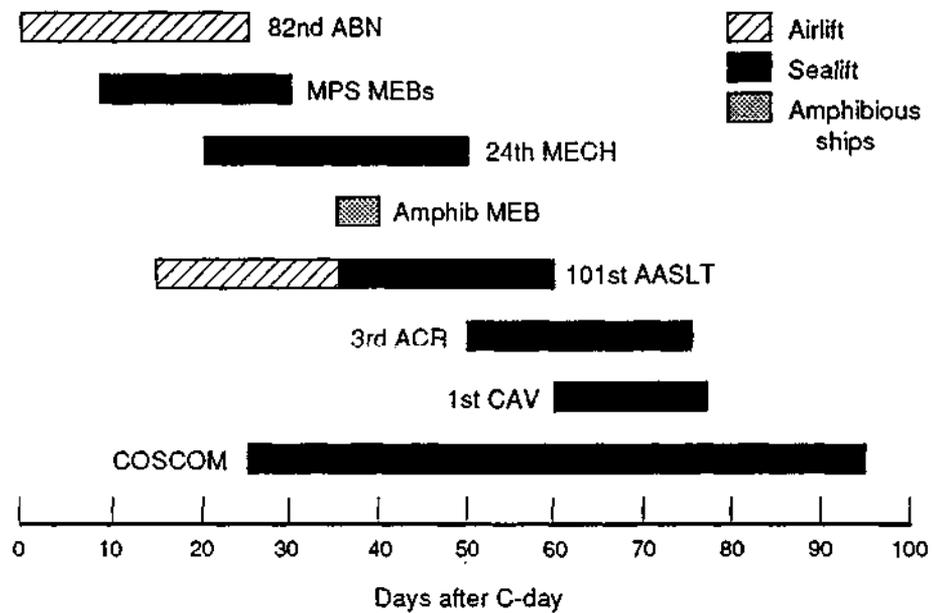


Figure 1. Arrival of Major Ground Units and the Corps Support Command

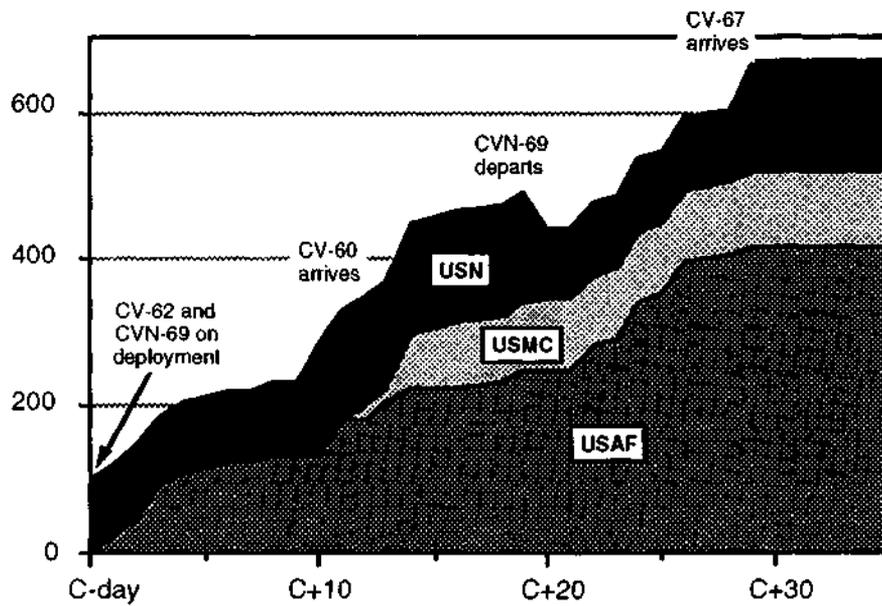


Figure 2. Arrival of Fixed-Wing Fighter and Attack Aircraft in Theater

Figures 1 and 2 illustrate that ground forces built up more slowly than air and sea forces. The initial air and sea buildup was complete in about a month, whereas the buildup of major ground forces continued well into the third month. This schedule might be accelerated a couple of weeks based on the lessons learned from Operation Desert Shield, but nine to ten weeks is about the minimum time achievable for deploying the initial Desert Shield ground forces to the Gulf. Thus, if combat occurs in the first month of a future short-warning contingency, the United States would have to rely initially on the air and sea forces plus the early-arriving ground forces. The next section of this paper examines the immediate military tasks that these would have faced had Iraq invaded Saudi Arabia in August 1990. The third section then discusses the common and unique features of Desert Shield to understand which lessons from August 1990 might be different in a future contingency. The final section of the paper identifies major issues that the Navy and Marines face in responding to the example of Operation Desert Shield.

IMMEDIATE MILITARY TASKS

If Iraq had invaded Saudi Arabia in the first month of Desert Storm, U.S. forces would have faced four immediate military tasks: secure sea and air lines of communication (LOCs), ports, and bases; strike strategic targets; slow down invading forces; and quarantine/interdict the enemy's exterior LOCs. Each of the tasks is addressed in the following discussions, which summarize the forces that would have been available for the task and the factors that would have determined their effectiveness.

SECURE LOCs AND BASES

Securing lines of communication and bases is a prerequisite for an expeditionary operation such as Desert Shield. This task involves protecting forces en route via air and sea LOCs, protecting the air and sea ports of debarkation, and securing the bases where U.S. air and ground forces will operate once in theater. These tasks call for air defenses, antisubmarine and mine countermeasure forces, and sufficient ground forces to secure bases.

Air Defense

During Desert Shield, air defense of LOCs was provided by a combination of fighters, surface-to-air missiles (SAMs), and air surveillance systems. Figure 3 summarizes U.S. air defense forces that were on scene at C+3, which consisted of rapid-reaction USAF forces and naval forces in theater. Because of the importance of air defense, two F-15C squadrons along with five AWACS were the first USAF aircraft sent to Saudi Arabia. These aircraft arrived at C+1 to C+2. Already on scene were the air defense assets of the *Independence* and *Eisenhower* battle groups and the Middle East Task Force,

which included four F-14 fighter squadrons, two E-2C early-warning squadrons, five cruisers, and six guided-missile frigates. In combination, these forces provided a significant air defense capability. The Saudi and USAF F-15s provided defense of the Riyadh area, whereas the naval forces protected the sea and air LOCs to the Gulf, including the key Gulf ports. The Saudis, the AWACS, and the Navy had considerable experience in working together from previous crises in the 1980s, including the Earnest Will tanker escort operations.

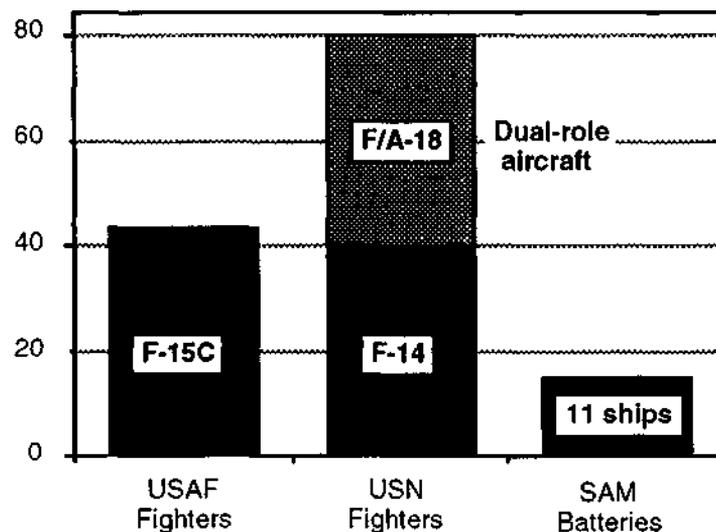


Figure 3. Air Defense Forces on Scene at C+3

Mine Countermeasures and Antisubmarine Warfare

As Desert Storm illustrated, mines are a serious threat to naval operations in coastal waters. They pose an equally serious threat to use of the seas for transporting the initial reinforcements. Mining of the ports or chokepoints, such as the Strait of Hormuz, could disrupt critical sea lanes for many days. Submarines are another threat requiring serious attention. Antisubmarine warfare (ASW) was not a consideration in

Desert Shield because Iraq lacked a submarine force. However, the continuing modernization of Third World submarine forces makes ASW a serious concern for future conflicts. Press reports indicate, for example, that Iran may be acquiring modern diesel submarines. Just a handful of submarines, effectively operated, could have wreaked havoc on the initial deployments. Only about 30 sealift ships arrived in the first month, including 20 prepositioning force ships carrying equipment and supplies for two Marine Expeditionary Brigades and supplies for the Army and Air Force. The loss of even two or three of the ships to submarines would have been a serious setback. In sum, U.S. forces must be prepared to cope with both submarine and mining threats in a future regional contingency.

Defending Bases

The critical bases and facilities in theater are potentially subject to attack by enemy ground forces, special forces, or terrorists. Airfields would be a particularly lucrative target, both the bases for combat aircraft and the air ports of debarkation for strategic airlift. Securing these critical facilities is one of the first tasks of early arriving ground forces. In Desert Shield, the initial two brigades of the 82nd Airborne fulfilled the initial security task against unconventional forces and terrorists. The arrival of the Marine Expeditionary Brigades in weeks two and three added firepower and sustainability, giving U.S. forces some capability to withstand a heavier attack by conventional forces. This sequence of forces—the 82nd Airborne arriving by airlift, followed immediately by one or two MEBs with equipment from maritime prepositioning ships—reflects the rapid deployment capability of airborne and maritime prepositioned forces. These same forces would likely fill the critical security role in any future regional conflict.

STRIKE STRATEGIC TARGETS

Striking economic and military targets in the enemy's homeland would be another key military task in responding to regional aggression. The key targets would be the same types of targets struck during the initial air campaign in Operation Desert Storm—air defenses (radars and control centers); chemical, nuclear, and biological weapon production and storage; command and control nodes; offensive strike systems (Scuds and airfields); energy production and transmission; and lines of communication. The objectives of these strikes would be to punish the opponent, to reduce its potential for long-range power projection, and to disrupt its capabilities to coordinate and sustain a land war.

The coalition forces—over 1,500 fighters, attack aircraft, and bombers plus several hundred cruise missiles—did a very effective job on most of these targets during Desert Storm. However, the forces available during the early days of Desert Shield were smaller. Figure 4 summarizes the strike aircraft that were on scene at C+15. Included are strike aircraft from three CV airwings, the Marine Air Combat Element, and the Air Force. (The chart excludes attack helicopters, A-10s, and AV-8s because these aircraft would have been used primarily for battlefield strike missions rather than for deeper theater strikes.)

The strike potential of these aircraft depends on a variety of factors, including the characteristics of individual aircraft and their weapons and the ability of the logistics system to sustain high-intensity strike operations. Nevertheless, U.S. capability at C+15, though significant, was only a fraction of the air armada that was assembled after the five-month buildup

to Desert Storm. Had strike operations been required in mid-August, U.S. commanders would have needed all the help they could get from on-scene and early-arriving airpower.

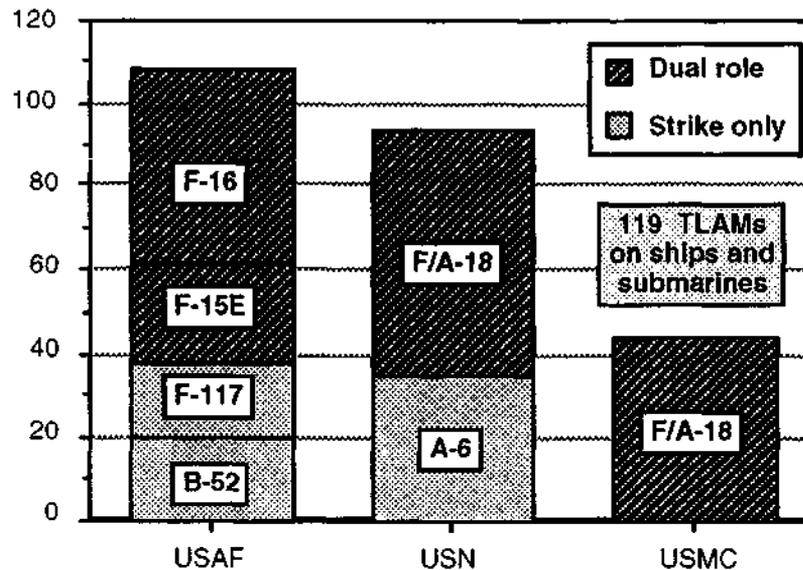


Figure 4. Strike Aircraft on Scene at C+15

The Tomahawk land-attack missiles (TLAMs) on Navy ships are another source of early-strike potential. Figure 5 plots the number of TLAMs that were available in theater during the first month of Desert Shield. It also shows the numbers that would likely be available in a similar situation in the future when weapon loadouts are reallocated to reflect the post-cold-war threat and new classes of ships now under construction enter the fleet with their greater numbers of vertical launchers. Before the Gulf war, the allocation of launchers aboard ships and submarines reflected cold-war loadouts, which emphasized AAW and ASW weapons. In regional conflicts, the need for SAMs and torpedoes is diminished, leaving more space for land-attack missiles. The current procurement plan for

Tomahawk will support a loadout of about 200 TLAMs per battle group. This number is consistent with the loadouts of ships that deployed later in the war.

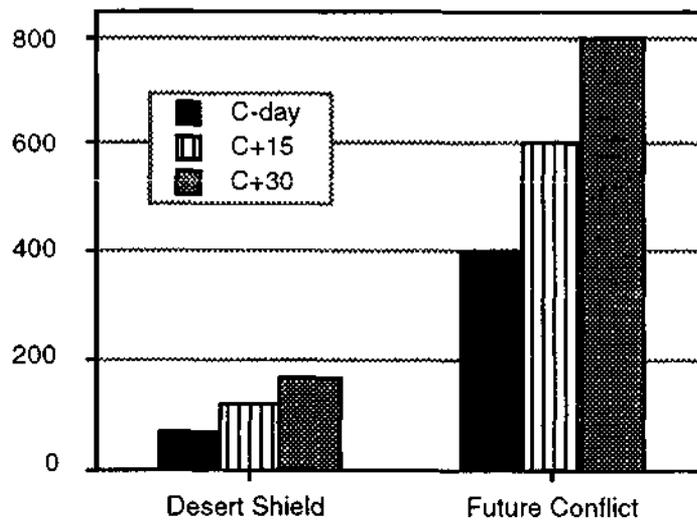


Figure 5. Number of TLAMs Within Strike Range

Although TLAMs would represent at most a few percent of U.S. strike capability in terms of tons of bombs delivered, their potential contribution is greater than the weight of ordnance. TLAM is well suited to initial attacks on heavily defended economic and military targets and on the air defenses themselves. Because of its high accuracy, TLAM can destroy targets without causing significant collateral damage. It also is very capable at penetrating air defenses, and, if TLAM is shot down, there is no loss of highly trained aircrews or future delivery capability.

SLOW DOWN INVADING FORCES

An air campaign against targets in Iraq, although an important element of a U.S. response to an invasion of Saudi Arabia, would not likely have turned the tide in

mid-August. Stopping an Iraqi invasion of Saudi Arabia would have required direct military action against invading armored forces. The key steps in this task include gaining air superiority over the battlefield, using U.S. airpower to decimate invading forces, establishing sufficient ground combat forces on scene early to prevent the loss of key areas, and reinforcing as rapidly as possible.

Bringing U.S. airpower to bear would be essential to help offset the initial numerical disadvantage on the ground. Airpower alone would not be enough, however. At least some ground forces would be needed. Their job would be to hold key areas until the arrival of heavier reinforcements. In fact, the whole operation would be a case of "holding the fort until the cavalry arrives." A less colorful but perhaps more descriptive term is the sequential application of combat power. The challenge is to get enough combat power on scene quickly to prevent a *fait accompli* and to pave the way for a further buildup of forces.

Figure 6 tallies the air forces that were available for battlefield missions at C+15. Both fixed-wing aircraft and helicopters are included. The "other" category in figure 6 encompasses the fixed-wing aircraft previously listed in figure 4 as available for theater strike missions. (Only half these aircraft are included in figure 6, because many would be allocated to independent strike missions deeper in the theater. Because A-10s, AV-8s, and attack helicopters are designed and train primarily for battlefield support missions, all of these aircraft are included in figure 6.) The figure shows that Navy and Marine Corps aircraft constituted about half the total and that about a third of the aircraft were attack helicopters. Based on the outcome of Desert Storm, the A-10s, AV-8s, and helicopters would be a potent counter to invading armored forces.

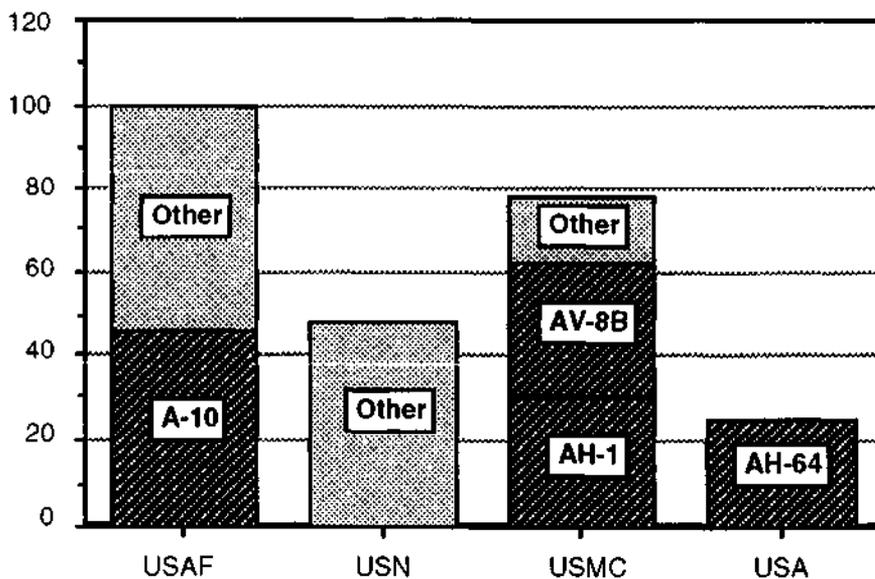


Figure 6. Close-Air-Support Aircraft on Scene at C+15

Though a crucial element, airpower alone would not likely stem the tide. Forces on the ground would be essential. Figure 7 plots one important dimension of this sequential buildup—tanks. The 82nd Airborne brought M551 Sheridan light tanks. They were followed rapidly, beginning at C+7, with the unloading of maritime prepositioning ships carrying heavier USMC M-60 main battle tanks, which were a better match for Iraqi armor. (Marine M-60s, though less capable than M-1s, outclassed Iraqi armor in several battles during Desert Storm.) Thirteen days later, M1 main battle tanks of the 24th Mechanized began arriving from the United States via fast sealift ships. By the time Desert Storm began five months later, Army forces accounted for the overwhelming majority of U.S. main battle tanks. As figure 7 illustrates, however, the Marines played a key role in the initial buildup, accounting for over a third of the main battle tanks in theater during the first two months.

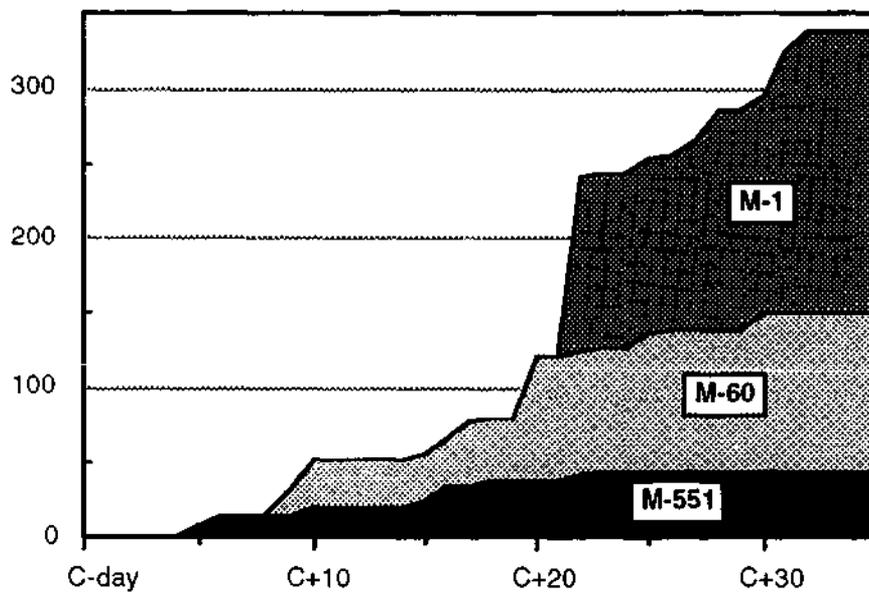


Figure 7. Tanks Arriving in Theater During the First Month

QUARANTINE

Though perhaps the least crucial of the immediate military tasks, cutting off the opponent's exterior lines of communication is still important. An effective quarantine will slowly weaken an enemy's military capabilities. For example, the quarantine of Iraq cut off its trade by sea, which eliminated its foreign exchange earnings, raw materials for its industry, and many spare parts for Iraq's sophisticated foreign-made weapons. In Desert Shield, the quarantine also had an important role in building a coalition. It was much easier for nations to support a quarantine and participate in its enforcement than to commit ground forces and support immediate strikes against Iraq. The maritime intercept force began operations on C+10 and ultimately involved combatants from 18 countries: Australia, Argentina, Belgium, Canada, Denmark, France, Greece, Italy, the Netherlands, Norway, Spain, the United Kingdom, the United States, and the five Gulf Cooperative Council countries.

SUMMARY

The most stressing case for U.S. forces in the post-cold-war world is a major regional conflict that erupts with little warning and few U.S. forces on scene—such as the situation in August 1990. If the next Saddam Hussein chooses to exploit his early advantages, the surge of forces from the United States would occur under combat conditions rather than the less demanding conditions of Desert Shield. In such a situation, on-scene and early-arriving forces would play a key role in “holding the fort” until the heavy forces could arrive. Based on the experience in Desert Shield, the key forces are likely to be forward-deployed naval forces, prepositioned Marine forces, long-range bombers, the 82nd Airborne, and early-arriving tactical aircraft, followed by heavier Army units deployed from the United States.

The crucial enabling phase of the operation requires forces of all services, but the Navy and Marines play a particularly important role. Because naval forces are forward deployed and can reposition upon ambiguous warning prior to the granting of base access, naval forces will arrive on scene early. The Navy and Marine Corps would have played an important role in each of the immediate military tasks facing U.S. forces had Iraq invaded Saudi Arabia in August—securing LOCs and bases, striking strategic targets in Iraq, slowing down the initial invasion, and interdicting Iraq’s external lines of communication. These tasks reflect basic facts of life of a major expeditionary operation halfway around the world. Movement of huge amounts of equipment takes considerable time, so a sequencing of forces, taking into account responsiveness and combat power, is essential.

COMMON AND UNIQUE FEATURES OF DESERT SHIELD

In the last half of the 1980s, an Iraqi thrust to the south was one of the popular scenarios in the defense analytical community. Yet, virtually no one foresaw the exact sequence of events in the summer of 1990, illustrating once again that international events, though subject to analysis and influence, defy precise prediction or control. In fact, the demise of the bipolar world has made the course of international events more variable and unpredictable. At the moment, the usual suspects—the Middle East, Northeast Asia, and the Persian Gulf—appear to be the most likely locales in the near term for another major regional conflict that would involve U.S. forces on a large scale. Which, if any, of these conflicts will occur, and when, are subject to educated guesses but not scientific prediction. In other words, the location and context for the next major regional conflict could easily differ from the Gulf War. To be prepared for the possibility of different conditions next time, U.S. defense planners must understand which aspects of the Gulf War would be common to a future fast-breaking regional conflict and which may have been peculiar to Desert Shield.

COMMON FEATURES

Several key factors of Desert Shield are likely to be common to future regional conflicts involving U.S. forces. The crisis may arise with little warning (except in retrospect). Rapid deployment of initial naval, air, and at least some ground forces will often be crucial to prevent a *fait accompli*. Few U.S. forces are likely to be on the ground before the outbreak of hostilities because of the reluctance of countries to accept permanent presence of U.S. forces. As a result, when the conflict begins, significant ground, air, and sea forces must be deployed over a long distance in a relatively short time. Finally, the

“threat” will be less numerous and capable than the Warsaw Pact, but still significant. The opponent is likely to have considerable modern hardware as well as a home-field advantage.

UNIQUE FEATURES

Several important features of Desert Shield might not be present in a future regional conflict. It is important to recognize likely differences and to prepare to cope with the potential consequences.

Capacities of Ports and Bases

At the top of the list is the extensive modern infrastructure in the Gulf, particularly ports and airfields, which were well in excess of civilian needs. For example, Al Jubayl and Ad Dammam, the two main ports of debarkation for coalition forces that deployed to the Gulf, are modern facilities with large amounts of pier space, warehouses, and uncovered storage. Al Jubayl alone contains about four times the total uncovered storage space of the main ports in South Korea or Israel. The unloading of equipment and marrying up with forces, which went fairly smoothly in Desert Shield, could be a serious bottleneck elsewhere. Fuel is another factor that was not a problem in the Gulf but could be a constraint in other scenarios. Another potential difference involves the general notion of access—to ports, airfields, transit routes, etc. During Desert Shield, U.S. forces enjoyed widespread access to facilities in the Gulf and to a lesser degree in Egypt, Turkey, and other countries. In other Middle East scenarios, particularly those involving Israel, access would probably be more restricted. Less favorable base access or poorer infrastructure would slow down the buildup rate and perhaps restrict its ultimate size, which would further increase the importance of forces that could operate at sea or from more distant bases in theater, such as aircraft carrier battle groups and long-range bombers.

Military Actions and Threats

Saddam Hussein himself is a unique feature of Desert Shield. In retrospect, he made bad judgments at almost every critical juncture. The next would-be aggressor is likely to be more cautious in picking his time and place, more careful in preparing for military action, and more forceful in pursuing an initial advantage. Almost certainly he would take steps, both politically and militarily, to inhibit a rapid response by the United States. On the military side, mining appears to be the cheapest and most effective way to disrupt the U.S. response. With the benefit of surprise, Iraq could have mined Saudi ports and perhaps the southern Persian Gulf. Although more risky, mining the Gulf of Suez by unconventional means might also be possible. Even a few mines could wreak havoc for weeks until mine-countermeasure forces arrived on scene. It seems only prudent to prepare for such a threat.

If the next Saddam Hussein plans more carefully, not only would he be prepared for an early mining campaign, but he might also have chemical, biological, and nuclear weapons plus ballistic missiles to deliver them within the theater and to adjacent regions. Use of such weapons, or even the threat of using them, would pose grave risks for the initiator as well as the threatened. Nevertheless, several of the most likely opponents have the motive and resources to develop nuclear weapons and ballistic missiles, particularly with the expertise available on the world market. If Israel had not destroyed the Osirak reactor in 1981 (or if Saddam Hussein had been willing to wait a few years), we might already have an example of how nuclear weapons affect a regional conflict.

The hope is that a concerted effort by the major nations can slow nuclear proliferation; however, even a sustained and serious diplomatic campaign probably cannot prevent countries from acquiring weapons of mass destruction or threatening to

use them in some circumstances. Proliferation of chemical and nuclear weapons, ballistic missiles, and other advanced conventional weapons poses a particular problem for expeditionary forces because the ports and airfields on which they depend would be prime military targets for a chemical or nuclear attack. Ships are somewhat less vulnerable to chemical or nuclear attack because of their mobility, but, in contrast to bases, they can suffer serious damage from a single well-placed conventional weapon. Thus, a proliferated world will be a more dangerous one for all U.S. expeditionary forces.

Coping with the effects of proliferation involves capabilities to preempt, defend, and withstand attacks by chemical, nuclear, and advanced conventional weapons as well as to retaliate for them. Because it seemed futile to defend against large-scale nuclear attacks by the Soviets, the U.S. forces have relied on the threat of retaliation to deter the attack. Against nascent nuclear and chemical powers, however, deterrence is less reliable, whereas the prospects for preempting, defending, and withstanding the attack are higher. These aspects deserve more attention in U.S. defense planning.

LOOKING AHEAD: THEMES FOR THE NAVY AND MARINE CORPS

At this point in time, the main reason for looking back to Desert Shield and Desert Storm is to help see ahead. Lessons learned from the Gulf War will improve the odds that U.S. forces are as successful in the next regional war as they were in the last. This section does not address detailed lessons learned from Desert Shield, but rather seeks to identify broad themes and issues that are important for future Navy and Marine Corps planning.

The demise of the global threat and the emergence of regional conflict as the focus of U.S. military planning is the overall theme. Compared with a war against the USSR, U.S. forces would have major advantages against regional opponents. Based on the experience in the Gulf War, U.S. forces would rapidly achieve superiority (though not a free ride) in the air and on the sea. They are also likely to be technologically superior, better trained, and in most cases supported by a coalition of allies. Even on the ground, U.S. forces will almost certainly have a clear edge in firepower if not in actual numbers—provided there is time to build up forces on scene.

If combat should occur before there is time to organize a coalition and build up forces in theater, U.S. forces would also face some disadvantages. In August 1990, Iraq had the tactical advantage. It had a sizable army equipped with some amount of modern weaponry, such as MiG-29 aircraft, T-72 tanks, South African artillery, and a French-designed air defense system. It also had the home-field advantage—short lines of communication and intimate familiarity with the terrain and environment. Saddam Hussein chose not to press these advantages, presumably on the assumption that the United States would acquiesce to his seizure of Kuwait. But

U.S. forces must be prepared to deal with this situation next time, which leads to several supporting themes for the Navy and Marines.

ENABLING FORCE

In a major regional conflict that erupts with little warning, on-scene and early-arriving forces would play a key role in "holding the fort" until the heavy forces could arrive. Based on the experience in Desert Shield, the key forces are likely to be forward-deployed naval forces, prepositioned Marine forces, long-range bombers, the 82nd Airborne, which can be moved by air, and early-arriving tactical aircraft, which can self-deploy from the United States.

The crucial enabling phase of a short-warning expeditionary operation requires forces of all services, but the Navy and Marines play a particularly important role. Because naval forces are forward deployed and can reposition upon ambiguous warning before the granting of base access, some naval forces will arrive on scene early. In the Gulf War, one carrier battle group was on scene by C-day and another arrived the following day. These forces contributed considerably to the early air defense and strike potential. Similarly, the first MPS squadron arrived at C+7, providing the first main battle tanks in theater. Had the Iraqis chosen to push south into Saudi Arabia, Navy and Marine forces would have contributed to all of the immediate military tasks—including protecting SLOCs and bases, striking at strategic targets in Iraq, slowing down invading forces, and cutting off Iraq's exterior LOCs. Moreover, naval forces had high combat readiness, considerable maintenance capabilities, and roughly a 30-day supply of ordnance—all of which would have been essential to sustain early combat.

In sum, rapid response with combat-ready and sustainable forces are characteristics the nation pays for in its maritime

forces. This investment paid off in Desert Shield and would do so again in the enabling phase of the next major joint operation. As discussed next, realizing this potential requires that the Navy maintain a forward-deployed posture. At the same time, the Navy must prepare to deal with unique aspects of the enabling phase, as indicated in the subsequent two themes.

FORWARD DEPLOYMENTS

The ability of naval forces to respond rapidly to the events of August 2 was a direct result of routine forward deployments. Naval forces from the United States did not arrive until two weeks after C-day. Air-delivered forces began arriving on C+1, but building up their numbers and combat sustainability took time. Without a forward-deployed fleet, the United States would not have had combat-sustainable forces on scene in the critical first few days. Given the inherent difficulty of anticipating future regional wars, the experience in the Gulf War provides a powerful argument for maintaining forward-deployed and prepositioned forces. For naval forces, the incremental cost of forward deployments is modest, about 3 percent of life-cycle costs. This does not imply that a large number of naval forces should be procured solely to sustain deployments or that the current level and pattern of deployments is the right one for the new world. Changes are possible and probably desirable, but the principle remains: Forward-deployed forces play an important role in the U.S. national security strategy. They assure our friends, help deter adversaries, provide ready crisis-response capabilities, and serve as the leading edge of a joint force in a major regional conflict.

LITTORAL OPERATIONS

The Maritime Strategy was developed in the early 1980s in response to the Soviet challenge to U.S. and NATO control of the seas. Soviet submarines, long-range naval strike aircraft,

and an impressive surface fleet posed a serious threat to U.S. and allied maritime operations on the high seas. Not surprising, U.S. naval planning focused on countering these threats. Open-ocean sea control, particularly ASW and fleet air defense, were assigned priority in fleet tactical development and in Navy budgets.

The Gulf War confirmed that the demise of the Soviet threat has produced a fundamental shift in the naval environment. The Iraqis had no capability to threaten U.S. forces on the high seas. They could reach out at most a few hundred miles, compared with thousands of miles for the Soviet Navy. The threat was primarily mines, patrol boats, and tactical aircraft rather than Backfire bombers, Akula-class SSNs, and Kirov cruisers. Moreover, the Iraqis were not nearly as numerous or well trained as the Soviet Navy. Iraqi forces still had the potential to hurt U.S. naval forces, but did not fundamentally threaten their success, as could the Soviets. Thus, naval forces could move in closer and focus on supporting the battle ashore. For example, four aircraft carriers operated inside the Persian Gulf, flying several thousand strike sorties in support of the ground war. This experience is likely to be the norm for future naval operations, so the Navy must address current shortcomings of operating inshore while capitalizing on the new opportunities—one of which is greater integration of USN and USMC operations.

NAVY-MARINE CORPS INTEGRATION

The Navy and Marine Corps have worked together since they were founded in the Revolutionary War. Nonetheless, the Gulf War showed that there is an *opportunity* for even greater integration of the two sea services. Now that the threat of global war has diminished and there is no challenge on the high seas, the Navy can focus more attention on littoral operations and support to operations ashore. The historical

experience of Marines at Guadalcanal—the fear that the fleet will disappear to pursue or avoid some enemy fleet—does not apply in the post-cold-war world. There is no enemy fleet to chase and, although threats still exist, there is no plausible enemy strong enough to drive the fleet away.

At the same time, there is a greater *need* to integrate the Navy and Marine Corps more closely, for both tactical and economic reasons. The Maritime Prepositioning Force enabled the Marines to arrive rapidly in the Gulf with the first heavy ground forces that could confront Iraqi divisions. Had the Iraqis pushed south, however, the Marines would have needed all the help they could get. Naval aviation would have been a major source of support in the first few weeks. In addition, naval forces can provide logistics support to forces ashore. For example, aircraft carriers can provide intermediate-level maintenance support to Marine fly-in aircraft until the Marine aviation support capabilities are established in theater. The rapid drop in military budgets may force Navy and Marine aviation to integrate structurally as well as tactically. The details of such an integrated force are complex and controversial, but some degree of integration appears desirable and inevitable.

JOINT OPERATIONS

The Gulf War removed any lingering doubts about the need for joint operations. It is clear that future contingencies would require the capabilities of all the services. The precise role to be played by each service will depend on the nature of the crises, the size of the threat, the availability of bases, the amount of warning, and other factors. Each service needs to be prepared to play its appointed role in whatever situation arises. In the early enabling phase of a major regional conflict, the nature of joint operations will be different from that of Desert Storm. For example, it is unlikely that the commander in chief and his staff will be on scene, or that there will be a

fully manned joint forces air component commander, or that a detailed theater strike plan will have been prepared. Similarly, there will not be months in which to identify equipment and procedural incompatibilities and to develop workarounds. U.S. forces will have to hit the ground running. The ultimate price for not working as a team will be higher than would have been the case in Desert Storm.

The experience from the Gulf War revealed some incompatibilities in equipment and procedures among the different services, but the services appear to be addressing these shortcomings as a natural outgrowth of the lessons learned from the war. The more difficult and controversial issue is to what degree individual services should tailor their force structure in expectation of support from other services. One case that illustrates the importance and controversy of this issue for the Navy is selection of replacements for the Navy's aging fighter-attack aircraft.

One suggestion is that the Navy forgo capabilities for "deep strike" in future attack aircraft on the assumption that cruise missiles and USAF forces can carry out this mission. (Reducing the range requirements would probably lower the cost of the proposed A-X, which the Navy is developing to replace the aging A-6 medium attack aircraft.) In a situation like Desert Storm, where a large number of tankers and long-range land-based aircraft were available, such a tradeoff seems feasible. The picture looks different, however, for the critical early stages of a fast-breaking regional war. In Desert Shield, for example, naval aviation accounted for the majority of aircraft on scene in the critical first few days. Sea-based aircraft would have played a leading role had Iraq pushed south into Saudi Arabia in early August. In a future short-warning scenario, two carrier airwings would provide nearly half of the strike sorties the United States could mount in the first ten days in many situations, as shown in figure 8.

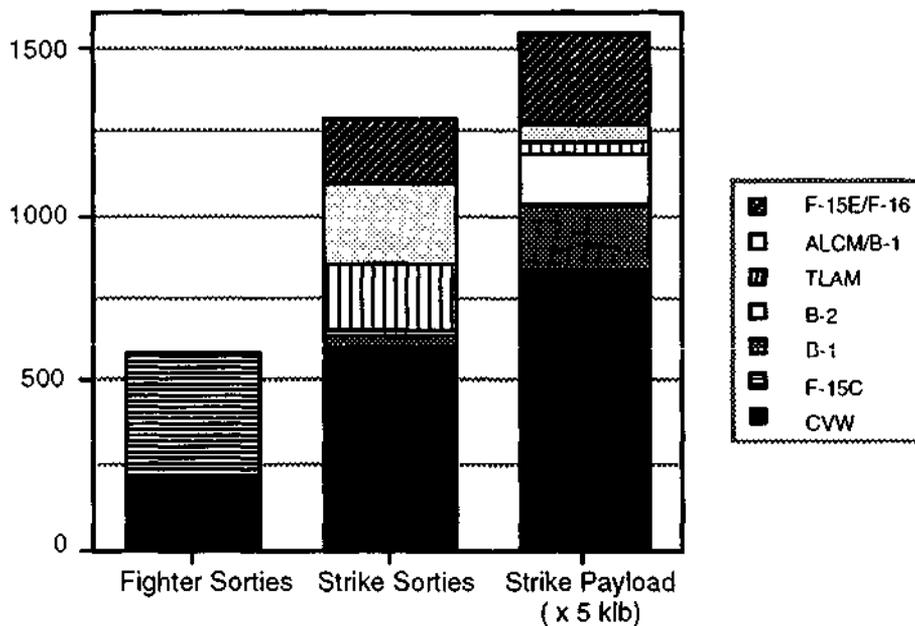


Figure 8. Illustrative Potential of U.S. Airpower in the First Ten Days of a Short-Warning Major Regional Contingency

Note: Figure 8 is based on the following assumptions, which are similar to deployment time lines in Desert Shield but updated for future forces.

1. Two aircraft carriers are on scene on D-day, each carrying an airwing (CVW) with 20 fighters, 20 strike fighters, and 20 medium attack aircraft. Each CV battle group also carries 200 TLAMs.
2. 48 F-15Cs and 5 AWACS aircraft arrive in theater on D+1.
3. 15 B-2 and 20 B-1 bombers participate in the contingency from bases in the United States. B-1s deliver conventional ALCMs.
4. 20 additional B-1s operate from an intermediate base closer to the theater beginning on D+4.
5. 24 F-15Es and 24 F-16s arrive in theater on D+4 and commence strike operations on D+5.
6. The effects of possible aircraft attrition are not included.

A short-warning scenario is the most important setting for naval aviation—and the most difficult. It provides the best argument for maintaining highly capable fighters and strike aircraft in the carrier airwing. Enemy air defenses would be at or near full strength. The United States would have relatively few forces on scene, and there would be a need to strike both battlefield targets and war-supporting targets deeper in the theater. In short, the type of capabilities intended for the A-X—longer range, greater payload, and stealthiness—should be valuable.

Even in this case, however, naval aviation will not be entirely on its own. The ships on scene will carry several hundred Tomahawk cruise missiles, long-range bombers will deliver some ordnance from the United States, and some land-based aircraft will arrive early, if bases are available. All these forces would be needed—and more. The combination of carrier airwings, bombers, cruise missiles, and land-based tactical aircraft on scene the first few days would represent only 10 to 20 percent of the air power that was eventually assembled for Desert Storm, and the combat situation would be much more stressful. Sea-based aircraft would certainly have a key role to play in this situation, but bombers and cruise missiles conceivably could focus on the deeper theater targets, while sea-based aircraft and on-scene land-based tactical aircraft establish air superiority over the battlefield and apply U.S. airpower directly to invading enemy forces.

This short discussion only touches on the complicated and controversial topic of whether and how joint operations should influence force structure. In the case of A-X, the best answer, taking into account both cost and capabilities, is far from clear. What is clear is that joint operations will be a central theme for future defense planning, and the Department of the Navy must address the implications for force structure as well as for operations.