

# Special Report

## THE U.S. ARMY IN OPERATION DESERT STORM

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AN OVERVIEW

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ASSOCIATION OF  
THE UNITED STATES ARMY

2425 WILSON BOULEVARD • ARLINGTON, VIRGINIA 22201-3385

# THE U.S. ARMY IN OPERATION DESERT STORM

## An Overview

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### ASSOCIATION OF THE UNITED STATES ARMY

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## INTRODUCTION

The cessation of hostilities in Iraq on February 28, 1991 concluded one of the great feats of American arms. All of the stated objectives were accomplished in record time against the fourth largest army in the world. But more importantly, victory was achieved with an extraordinary minimum of casualties among the U.S. forces.

While the U.S. Army played the dominant role in the ground victory, Operation Desert Storm was a joint effort with the U.S. Air Force, Marine Corps, Navy and Coast Guard all performing prominent functions. Additionally, 37 nations allied themselves in the cause to evict Iraq from Kuwait. This unprecedented coalition was buttressed by a series of strong resolutions passed by the United Nations.

The military and political success of this campaign have been broadly acclaimed. It was a major forward step in global cooperation against aggression.

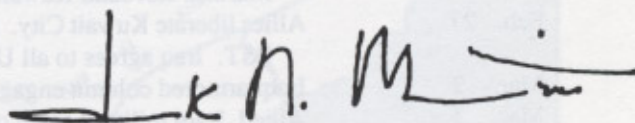
In this paper we will describe the performance of the U.S. Army in the Gulf War as part of a U.S. Joint Command and a coalition of some 37 nations acting to counter the illegal invasion, takeover and annexation of Kuwait by Iraq.

Operation Desert Shield is the code name applied to all military operations from the first U.S. response on August 6, 1990 until the initiation of combat on January 17, 1991. On that date, Operation Desert Shield became Operation Desert Storm. Thus commenced 42 days of intense air and ground war that ended when President Bush directed a temporary cessation of hostilities on February 28. On April 3, the U.N. Security Council adopted its Resolution 687 spelling out the conditions of a permanent cease-fire agreement. Those conditions were formally accepted by Iraq on April 6, setting in motion a 120-day countdown to withdrawal of allied forces from southern Iraq.

That Operation Desert Storm was a military success is uncontested. It proved the quality of United States armed forces, the value of U.S. training and the effectiveness of U.S. weapons. More importantly, it extinguished any prior doubts concerning U.S. military capabilities and resolve.

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June 1991



JACK N. MERRITT  
General, USA Ret.  
President



## A GULF WAR CHRONOLOGY

Aug. 2, 1990	Iraq invades Kuwait. U.N. demands withdrawal.
Aug. 3	U.S. announces it will add naval forces to Gulf.
Aug. 6	Iraq postures to invade Saudi Arabia. Saudi king invites U.S. assistance. U.N. authorizes economic sanctions. Bush orders troops and aircraft to Gulf. Operation Desert Shield commences.
Aug. 8	Iraq declares Kuwait a province. First U.S. Army units arrive in Gulf.
Aug. 11	First fast sealift ship departs U.S.
Aug. 16	Defense Secretary Cheney authorizes U.S. Navy to intercept ships going to or from Iraq and Kuwait.
Aug. 17	Baghdad threatens to use Westerners as human shields.
Aug. 18	U.N. condemns Iraq for holding hostages.
Aug. 22	President authorizes reserve call-up.
Aug. 25	Army activates first reserve units.
Aug. 27	First sealift ship arrives Saudi Arabia.
Sep. 7	First reserve units deploy to Saudi Arabia.
Sep. 16	U.N. condemns Iraq for violence against embassies.
Sep. 25	U.N. tightens embargo on air traffic.
Nov. 8	Bush orders additional 200,000 troops to the Gulf.
Nov. 29	U.N. approves "all necessary means" to evict Iraqi forces from Kuwait.
Dec. 6	Saddam announces release of all hostages.
Dec. 22	Iraq threatens to use chemical weapons if attacked.
Jan. 12, 1991	U.S. Congress grants Bush authority to go to war.
Jan. 15	U.N. deadline for Iraqi withdrawal passes.
Jan. 17	U.S. and allied forces launch air attack on Iraq. Operation Desert Storm begins.
Jan. 18	Iraq fires first SCUD missiles at Israel and Saudi Arabia. Patriot missile scores first kill.
Jan. 19	Added Patriot missiles airlifted to Israel. President Bush authorizes call-up of 220,000 reservists.
Jan. 20	U.S. forces grow to 472,000. Army calls up 20,000 Individual Ready Reservists. Iraq displays captured airmen on television.
Jan. 21	First rescue of downed coalition pilot in Iraq. Baghdad threatens to use allied POWs as human shields.
Jan. 26	Iraqis fly fighter aircraft to Iran. First U.S. combat firing of cruise missile from submarine.
Jan. 29	Iraqi battalions attack Saudi town of Khafji.
Jan. 31	Coalition forces recapture Khafji. Iraq loses more than 500 POWs, 300 KIAs.
Feb. 3	Allied air campaign passes 40,000 sorties.
Feb. 13	American attack helicopters make night raids on Iraqi positions.
Feb. 21	500 Iraqis surrender to Apache helicopter attack.
Feb. 24	Land war begins. U.S., coalition forces launch attacks across 300-mile front. First units met by mass surrenders.
Feb. 25	VII and XVIII Corps drive deep into Iraq. SCUD missile kills 28 U.S. troops in Dhahran barracks.
Feb. 26	XVIII Corps units attack into Euphrates valley. VII Corps destroys Iraqi armored divisions. Marines surround Kuwait City.
Feb. 27	Allies liberate Kuwait City. U.S. tanks crush Republican Guard. Bush halts offensive at 2400 EST. Iraq agrees to all U.N. resolutions.
Mar. 2	Iraqi armored column engaged by 24th Infantry, lose 187 armored, 400 wheeled vehicles.
Mar. 3	Allied, Iraqi military agree on cease-fire details, release of POWs. Shi'ites in Basra revolt against Saddam.
Mar. 4	Iraq releases 10 POWs (6 U.S.).
Mar. 6	First U.S. combat troops enplane for U.S.A. Remaining 15 U.S. POWs released.
Mar. 7	Saddam sends Republican Guard units against rebels.
Apr. 3	Iraqi revolts ebb. Kurdish rebels flee to borders.
Apr. 16	President Bush orders U.S. military to establish refugee camps.

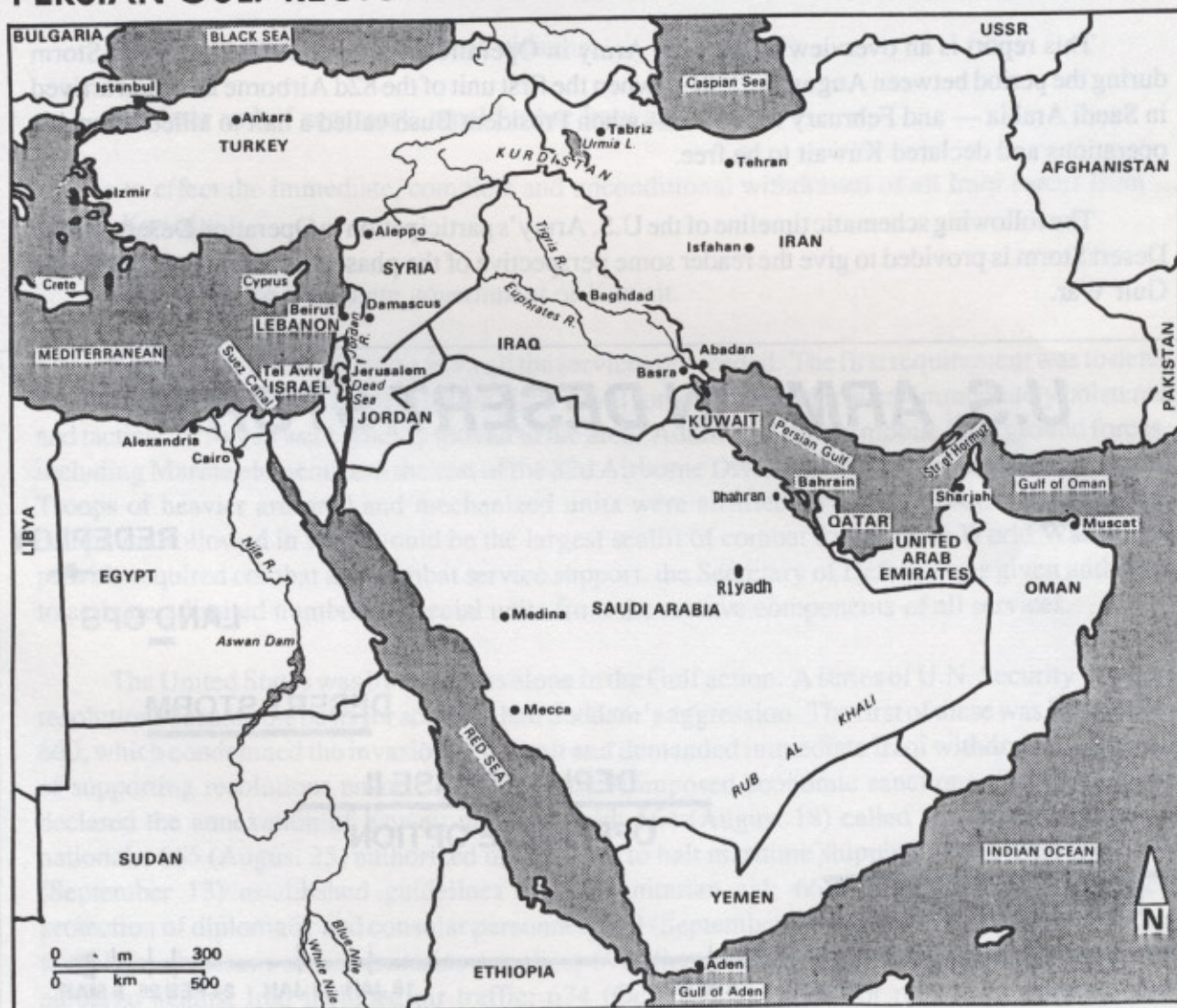


## HOW IT STARTED

The storm clouds had been gathering in the Persian Gulf region for many months before Iraqi President Saddam Hussein made his move in the late summer of 1990. Severely strapped for cash following an eight-year war with Iran, Saddam tried to pressure Kuwait and other OPEC nations to raise oil prices and to reduce production. He specifically accused the Kuwaitis of digging oil wells on Iraqi territory and of stealing \$2.4 billion worth of Iraqi oil, for which he demanded compensation. Saddam also sought to have Kuwait relinquish its corner of the Rumaila oil fields and demanded a long-term lease to the Kuwaiti islands of Warbah and Bubiyan, which would have provided Iraq with a needed seaport on the Persian Gulf.

By late July, after weeks of public threats against Kuwait, Saddam positioned a large force of troops along their mutual border. Iraqi-Kuwaiti relations worsened when, on July 26, a meeting of OPEC oil ministers refused Saddam's pricing and production demands. On August 2, Saddam's

## PERSIAN GULF REGION





army invaded Kuwait and gained full control of the emirate within one day. That move was promptly condemned by U.N. Security Council Resolution 660, which demanded the immediate withdrawal of Iraq's forces from Kuwait — a measure that Saddam chose to defy.

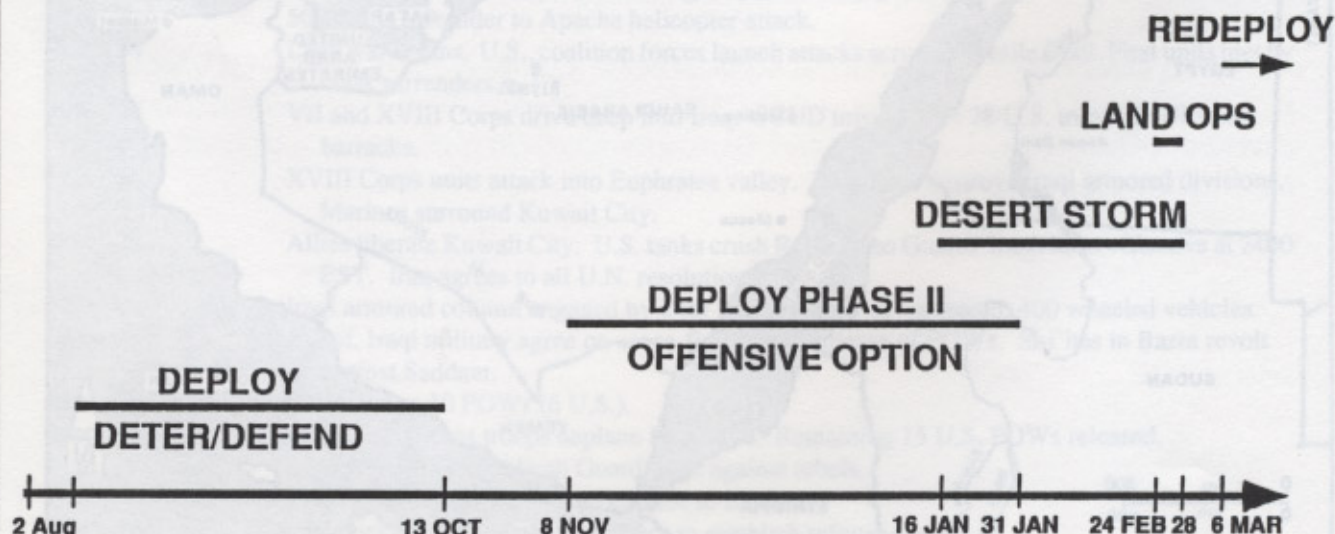
By August 6, with Iraqi forces disposed along the Kuwaiti-Saudi Arabian border and postured for a possible attack on Saudi Arabia, the U.N. authorized worldwide economic sanctions against Iraq. On the same day, President Bush announced the deployment of U.S. land, air and sea forces to the Persian Gulf region to deter or defend against an Iraqi invasion of Saudi Arabia. On August 8, Saddam publicly annexed Kuwait and declared it the 19th province of Iraq.

The prompt United States response to Iraq's invasion of Kuwait was quickly followed by the commitment of forces and support from other nations, many of them Iraq's Arab neighbors. The U.N. Security Council took positive and immediate action by approving a resolution which demanded unconditional and immediate withdrawal of Iraq's army. The initial resolution of condemnation was to be followed by nearly a dozen more resolutions leading up to the January 15 deadline for Iraq to withdraw or be evicted by the use of "all necessary means."

This report is an overview of the U.S. Army in Operations Desert Shield and Desert Storm during the period between August 8, 1990 — when the first unit of the 82d Airborne Division arrived in Saudi Arabia — and February 27, 1991 — when President Bush called a halt to allied offensive operations and declared Kuwait to be free.

The following schematic timeline of the U.S. Army's participation in Operation Desert Shield/Desert Storm is provided to give the reader some perspective of the phases and events of the Persian Gulf War.

## ***U.S. ARMY IN DESERT STORM***





## OPERATION DESERT SHIELD

Immediately following Saddam Hussein's attack on Kuwait, President Bush, in concert with several other nations, ordered an embargo on trade with Iraq and froze all Iraqi and Kuwaiti assets in the United States. Four days later, King Fahd of Saudi Arabia, fearing imminent attack, requested assistance in defense of Saudi territory. Thereafter, support from the U.S. and many other countries moved at a rapid pace.

On August 7, the president directed the commencement of Operation Desert Shield and ordered U.S. forces to begin moving to the Persian Gulf area. The first ground element, a 2,300-man contingent of the U.S. Army's 82d Airborne Division, was immediately deployed by air. Their arrival on August 8 and 9 marked a line in the sand which said the United States is here committed to the defense of Saudi Arabia.

The president also laid out the following national security objectives, which did not change throughout the ensuing operation:

- to protect the lives of American citizens;
- to deter and, if necessary, repel further Iraqi aggression;
- to effect the immediate, complete and unconditional withdrawal of all Iraqi forces from Kuwait;
- to restore the legitimate government of Kuwait.

Rapid deployment of forces from all the services proceeded. The first requirement was to deter any further encroachment by Iraqi forces. U.S. naval forces in the region were immediately bolstered and tactical air forces were quickly moved to the area. Additional highly mobile light ground forces, including Marine elements and the rest of the 82d Airborne Division, were also moved to the region. Troops of heavier armored and mechanized units were airlifted to the Gulf, while their combat equipment followed in what would be the largest sealift of combat forces since World War II. To provide required combat and combat service support, the Secretary of Defense was given authority to activate a limited number of special units from the reserve components of all services.

The United States was by no means alone in the Gulf action. A series of U.N. Security Council resolutions became the basis for action to halt Saddam's aggression. The first of these was Resolution 660, which condemned the invasion of Kuwait and demanded immediate Iraqi withdrawal. A series of supporting resolutions ensued: 661 (August 9) imposed economic sanctions; 662 (August 9) declared the annexation of Kuwait null and void; 664 (August 18) called for release of foreign nationals; 665 (August 25) authorized use of force to halt maritime shipping to and from Iraq; 666 (September 13) established guidelines for humanitarian aid; 667 (September 16) demanded protection of diplomatic and consular personnel; 669 (September 24) agreed to consider exceptions to 661 for shipment of humanitarian supplies; 670 (September 25) confirmed that the economic embargo against Iraq included air traffic; 674 (October 29) called for release of third-country

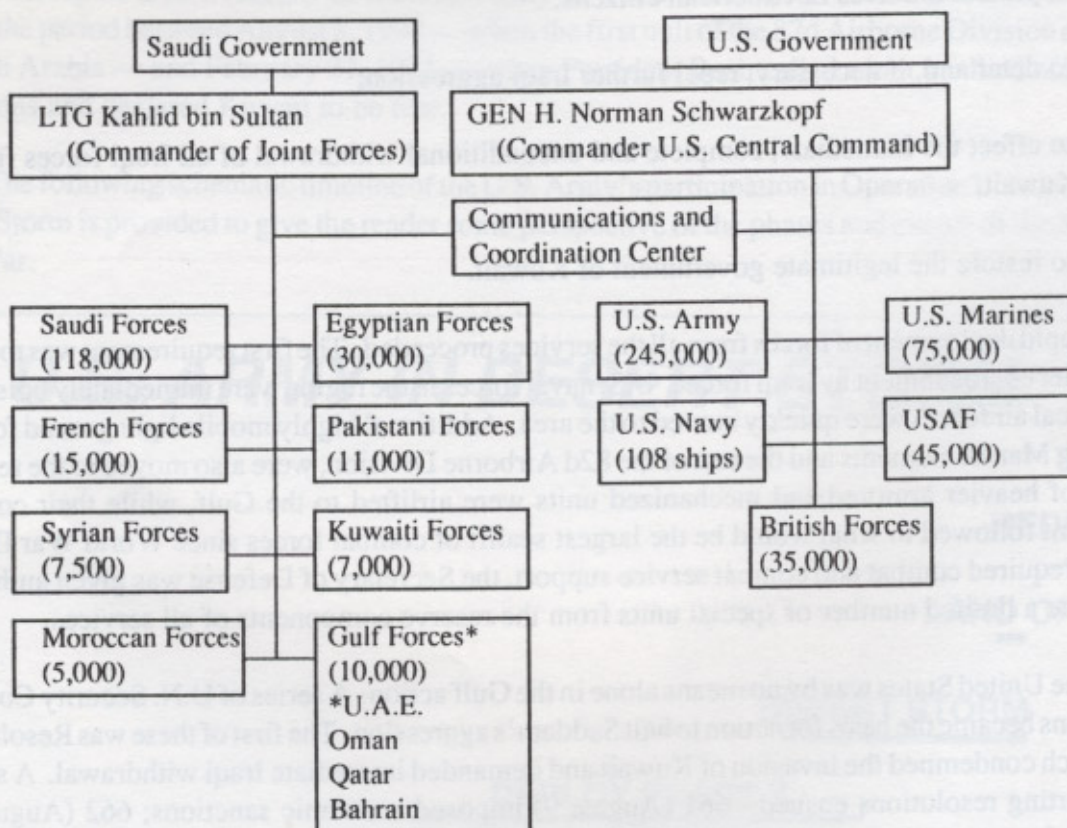


nationals and provision of food to those held against their will; 677 (November 28) condemned Iraqi attempts to alter Kuwait's demographic composition; 678 (November 29) authorized member states to "use all necessary means" to uphold and implement previous Security Council resolutions (this was the basis for later operations on the part of coalition forces to enforce compliance with the previous rulings); and 686 (March 2) emphasized previous resolutions and demanded Iraqi restitution for any damage to Kuwait and immediate release of all allied prisoners and other detainees.

In addition to the support shown in the U.N., some 37 nations sent military forces or medical teams to the region. Ten nations (including Japan and Germany, who did not send military forces) pledged more than \$50 billion to defray the costs of what became a true coalition effort.

All U.S. forces deployed in Desert Shield came under the command of U.S. Army General H. Norman Schwarzkopf, commander in chief of U.S. Central Command. USCENTCOM operated with the Saudi Joint Forces Commander through a Coordination and Communications Center. Initially British forces were under U.S. operational control and the French forces under Saudi control.

#### DESERT SHIELD CHAIN OF COMMAND



The whole concept of Operation Desert Shield was backed by a considerable amount of planning. For instance, as early as December 1982, Congress had approved the establishment of the U.S. Central Command with its full attention to Southwest Asia. Since then, extensive planning had been focused on the Gulf region and periodic training exercises had been conducted using a Gulf war scenario.



### Army Deployment - Phase I

The 82d Airborne Division from Fort Bragg, NC was the first American combat unit to arrive in Saudi Arabia. The first airborne soldier was on the ground within 31 hours of the time of initial alert. The rest of the 82d Airborne, along with Patriot air defense units, followed closely to secure needed ports and airfields. This initial force, supported by U.S. Navy and Air Force aircraft, was shortly joined by a Marine brigade with its armor and heavy equipment aboard maritime prepositioned ships.

Following this were Army air assault and mechanized units, with the troops moved by air and their equipment by fast sealift to provide the quick backup needed. The mid-September arrival of the 200 M1 Abrams tanks of the 24th Infantry Division (Mechanized) and the 197th Infantry Brigade greatly enhanced the U.S. combat power in the theater.

Other Army combat units in the first deployment included the 101st Airborne Division (Air Assault) (closing in early October), the 3d Armored Cavalry Regiment and the 1st Cavalry Division with its attached brigade from the 2d Armored Division (closing mid-October). All of these units initially came under control of XVIII Airborne Corps and, in turn, U.S. Army Central Command (ARCENT).

Also included in the initial deployment were: 11th Air Defense Artillery Brigade (Fort Bliss), 1st Corps Support Command (Fort Bragg), 13th Corps Support Command (Fort Hood), all from the CONUS, and 12th Combat Aviation Brigade and 7th Medical Command from Germany.

#### **OPERATION DESERT SHIELD ARMY DEPLOYMENT - PHASE I**

**82d Airborne Division, Fort Bragg, NC**  
**24th Infantry Division (Mechanized), Fort Stewart, GA**  
**197th Infantry Brigade (Mechanized), Fort Benning, GA**  
**Hq, XVIII Airborne Corps, Fort Bragg, NC**  
**101st Airborne Division (Air Assault), Fort Campbell, KY**  
**3d Armored Cavalry Regiment, Fort Bliss, TX**  
**1st Cavalry Division, Fort Hood, TX**  
**1st Brigade, 2d Armored Division, Fort Hood, TX**  
**11th Air Defense Artillery Brigade, Fort Bliss, TX**  
**III Corps Artillery, Fort Sill, OK**  
**1st Corps Support Command, Fort Bragg, NC**  
**13th Corps Support Command, Fort Hood, TX**  
**12th Combat Aviation Brigade, Germany**  
**3d Armored Division (aviation elements), Germany**  
**7th Medical Command, Germany**  
**Hq, 3d U.S. Army, Fort McPherson, GA**



These forces were initially positioned behind the Saudi task forces arrayed along the Saudi-Kuwaiti border. Other Arab and coalition forces were also placed in defensive positions along the border.

Those initial forces that were deployed by air were in place in the first weeks of August; the others arrived in increments through October. The major pacing factor for subsequent movements was the availability of airlift and sealift, with the equipment moving by sea and the troops flying to Saudi Arabia in time to marry up with their equipment.

By early November, Gen. Schwarzkopf reported he had sufficient combat capability — furnished by the Army, its sister services and the coalition partners — to provide an effective defense of Saudi Arabia.

In the meantime, Saddam Hussein showed no intention of withdrawing from Kuwait or complying with any U.N. resolutions. He continued to build his forces in the Kuwaiti theater to more than 400,000 troops, ordering mass construction of hardened bunkers, tank traps, mine fields and miles of earthen walls to reinforce his position along the frontier of Saudi Arabia. On the diplomatic front, he defied the world by curtly turning aside numerous efforts to reach a peaceful solution to this crisis.

#### Army Deployment - Phase II

Considering Saddam's continued intransigence, President Bush on November 8 decided to increase the range of options beyond the defense of Saudi Arabia and to develop an offensive capability with sufficient combat power to force the Iraqis out of Kuwait. At that point, the president ordered the powerful U.S. VII Corps to deploy from Europe and extended the call-up of some Reserve and National Guard units of all services.

Joining the VII Corps deployment from Germany were the 1st and 3d Armored Divisions, a forward-deployed brigade of the 2d Armored Division, the 2d Armored Cavalry Regiment and the 2d Corps Support Command with a large number of combat support and combat service support units. Also joining in the Phase II deployment were the 1st Infantry Division (Mechanized) from Fort Riley, KS, and other support and service support units from both the U.S. and Europe. Toward the end of November these units began to move, reaching full combat readiness in Saudi Arabia by early February.

#### **INCREASING THE OPTIONS ARMY DEPLOYMENT - PHASE II**

*1st Infantry Division, Fort Riley, KS*  
*1st Armored Division, Ansbach, Germany*  
*3d Armored Division, Frankfurt, Germany*  
*2d Armored Cavalry Regiment, Nuremberg, Germany*  
*2d Corps Support Command, Stuttgart, Germany*  
*VII Corps Headquarters, Stuttgart, Germany*



## A Logistics Miracle

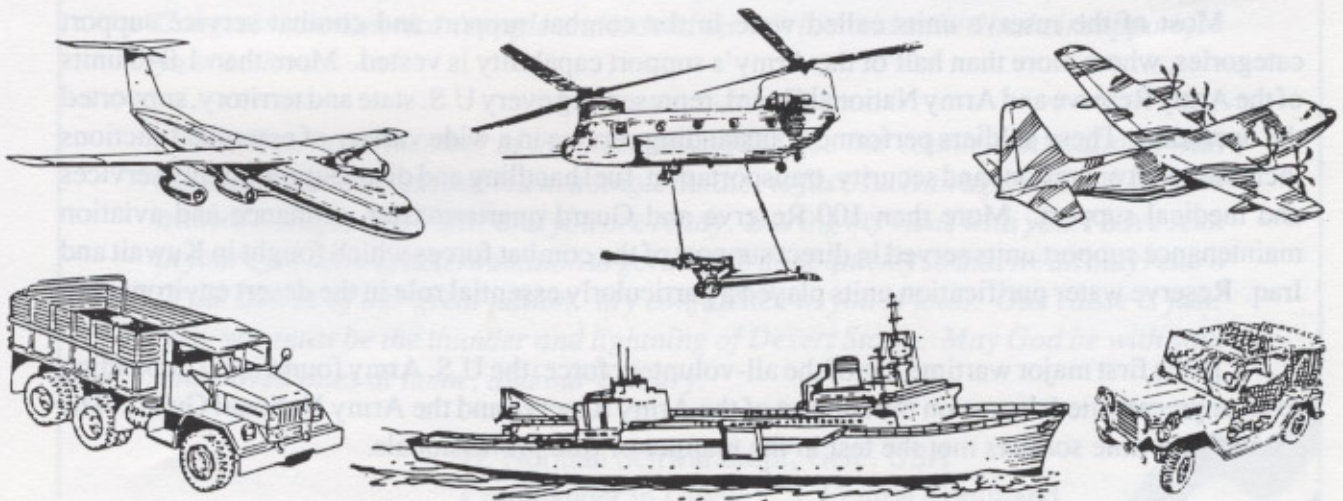
The logistics effort that deployed the forces and supported the units in the field during Desert Shield and Desert Storm was phenomenal. The U.S. moved more forces, over greater distances, in less time, than ever before in history. Despite limitations on strategic lift, only the U.S. could have pulled it off, and our ability to do so was one of Saddam Hussein's major strategic miscalculations.

In the first 80 days alone, more than 170,000 people and over 160,000 tons of cargo were moved to Saudi Arabia by air. Over 7,500,000 square feet of cargo and equipment were moved by sea. By the time the allied forces began the offensive on January 17, 1991, we had shipped some 460,000 tons of ammunition, 300,000 desert camouflage uniforms, 200,000 tires and 150 million military meals to sustain the 540,000 soldiers, sailors, airmen and Marines deployed.

Desert Shield logistical support has been described as being of the same magnitude as moving the entire city of Atlanta, Georgia — all its people and everything movable — to Saudi Arabia and then providing full support including food, water, clothing, etc.

In Saudi Arabia, all logistics support was coordinated by the 22d Theater Army Area Command under the leadership of Lt. Gen. William G. "Gus" Pagonis. How this was all brought together and managed through the use of active and reserve units, civilian technicians, contractor teams, and Saudi Arabian contractors and civilian employees is a story in itself.

That the logistics effort was one of the major successes of the whole operation was helped by the fact that allied forces had up to five months to prepare for the war. In addition, the tons of food and fuel contributed by the Saudi Arabian government probably halved the amount of these supplies that were required to be shipped from the United States. Other key contributions to our success included the ability to unload hundreds of ships at modern seaports without fear of enemy air attack. Also helpful were a number of vessels loaded with war equipment that were prepositioned in the Indian Ocean and helped provide needed weapons and equipment early in the operation.





### The Reserve Components in the Gulf War

The Total Force concept, which the Army embraced more than a decade ago, had its first major test in Operation Desert Shield. From the moment on August 22 when President Bush first authorized the call-up of a limited number of reserve component units, U.S. Army Reserve and National Guard personnel played extremely important roles throughout Desert Shield and Desert Storm.

The president's first authorization was for 40,000 personnel to be activated for 90 days with an option for a 90-day extension. The Army Guard and Reserve share was 25,000 troops. The initial reserve component call-up was largely directed to service support functions. In addition, a number of reservists had already volunteered for Desert Shield duty. Concurrently, "stop-loss" authority was granted to the service secretaries, permitting extension of active-duty tours of service people who would otherwise be scheduled for discharge or retirement.

In November, authority was extended to permit the call-up of reserve combat units for 180 days with the option of a 180-day extension. This resulted in the call-up of three National Guard combat brigades: the 48th Infantry from Georgia, the 155th Armored from Mississippi and the 256th Infantry from Louisiana. Included in the same call were two National Guard field artillery brigades: the 142d from Arkansas and Oklahoma and the 196th from Tennessee, Kentucky and West Virginia. The field artillery brigades were deployed to the Gulf in January and February and provided fire support to infantry and armored divisions in Desert Storm. The other three brigades underwent additional training in the States, but the quick end of the war negated their deployment.

On January 18, 1991, the president signed an executive order increasing the Army's call-up authority to 220,000 for up to 12 months; the order included the call-up of members of the Individual Ready Reserve.

In total, the Army called up some 140,000 soldiers, many of whom served in Saudi Arabia. Others provided vital deployment support functions or back-filled vacancies in the ranks of units in the CONUS and in Europe created by the deployment of active Army units to the Gulf.

Most of the reserve units called were in the combat support and combat service support categories, where more than half of the Army's support capability is vested. More than 1,040 units of the Army Reserve and Army National Guard, representing every U.S. state and territory, supported the operation. These soldiers performed outstanding service in a wide variety of essential functions including port operations and security, transportation, fuel handling and distribution, supply services and medical support. More than 100 Reserve and Guard quartermaster, ordnance and aviation maintenance support units served in direct support of the combat forces which fought in Kuwait and Iraq. Reserve water purification units played a particularly essential role in the desert environment.

In the first major wartime use of the all-volunteer force, the U.S. Army found itself depending to an unprecedented degree on the support of the Army Reserve and the Army National Guard. The former part-time soldiers met the test in the manner of true professionals.



### Countdown to War

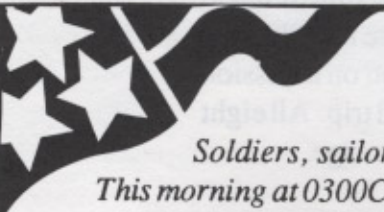
United Nations Resolution 678 of November 29 established a deadline of January 15 for Iraq to withdraw its forces from Kuwait and authorized member nations to employ all necessary means to evict them if they did not withdraw. By the time the deadline arrived, sufficient coalition forces were in place, prepared to take offensive action as necessary.

In a last-ditch effort to settle the matter diplomatically, U.S. Secretary of State James A. Baker III met with Iraqi Foreign Minister Tariq Aziz on January 9. That meeting accomplished nothing. It was obvious that Saddam Hussein had no intention of renouncing Iraq's annexation of Kuwait or complying with any of the other U.N. resolutions.

Another last-minute diplomatic effort by the Soviet Union proved futile as Saddam still refused to deal in terms of the U.N. resolutions. In the meantime, he was stripping Kuwait of everything of value amid increasing reports that Iraqi troops were inflicting unspeakable atrocities on the Kuwaiti people.

In Washington, Congress engaged in an extensive open debate leading to a January 12 vote giving President Bush authority to employ U.S. armed forces to carry out the United Nations resolutions.

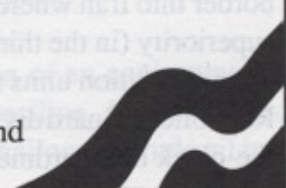
Time ran out for Saddam Hussein at midnight on January 15. U.S. and coalition forces went into action on January 17, 1991, and Operation Desert Shield became Operation Desert Storm.



*Soldiers, sailors, airmen and Marines of United States Central Command. This morning at 0300C we launched Operation Desert Storm, an offensive campaign that will enforce United Nations resolutions that Iraq must cease its rape and pillage of its weaker neighbor and withdraw its forces from Kuwait. The president, the Congress, the American people and indeed the world stand united in their support for your actions.*

*You are a member of the most powerful force our country, in coalition with our allies, has ever assembled in a single theater to face such an aggressor. You have trained hard for this battle and you are ready. During my visits with you, I have seen in your eyes a fire of determination to get this job done quickly so that we all may return to the shores of our great nation. My confidence in you is total. Our cause is just! Now you must be the thunder and lightning of Desert Storm. May God be with you, your loved ones at home, and our country.*

H. Norman Schwarzkopf, Gen., USA  
Commander in Chief, U.S. Central Command  
Saudi Arabia, January 17, 1991





## OPERATION DESERT STORM

Operation Desert Storm lasted six weeks from the beginning of the air attacks against Iraq on January 17 to the cessation of ground combat on February 28. Throughout the 1,000 hours of the air campaign and the 100 hours of the ground war, the operation was a coherent and beautifully orchestrated combined campaign using U.S. and coalition air, sea and land forces.

The initial phase of the air war was intensive and thorough. The coalition unrelentingly employed its tremendous air resources — including armed helicopters, cruise missiles, and at least 18 types of land- and sea-based aircraft — to maximum advantage. Electronic jammers, sophisticated sensors, night vision devices and precision bombing technology wreaked havoc on Iraq's strategic capability and astounded the world's TV audiences. The initial priorities aimed to destroy Saddam's biological and chemical weapons production capabilities, his air defenses, the air and missile offensive capability and the entire Iraqi command and control structure.

The U.S. Army was credited with firing the first shots of Desert Storm using AH-64 Apache attack helicopters to knock a hole in part of Iraq's early-warning radar screen. That attack is summarized in the following Army account:

Early on the night of Jan. 17, eight Apaches from the 101st Aviation Brigade conducted deep attacks into western Iraq to destroy two early-warning radar sites. Achieving complete surprise, the Apaches fired 27 Hellfire missiles completely destroying both radar sites and creating a corridor for use by the allied aircraft to begin Desert Storm's air campaign. In addition to the Hellfire missiles, the Apaches fired 2.75 inch rockets and 30mm ammunition on a mission that took 15 hours and covered 950 nautical miles round trip. All eight Army helicopters completed their mission with no damage.

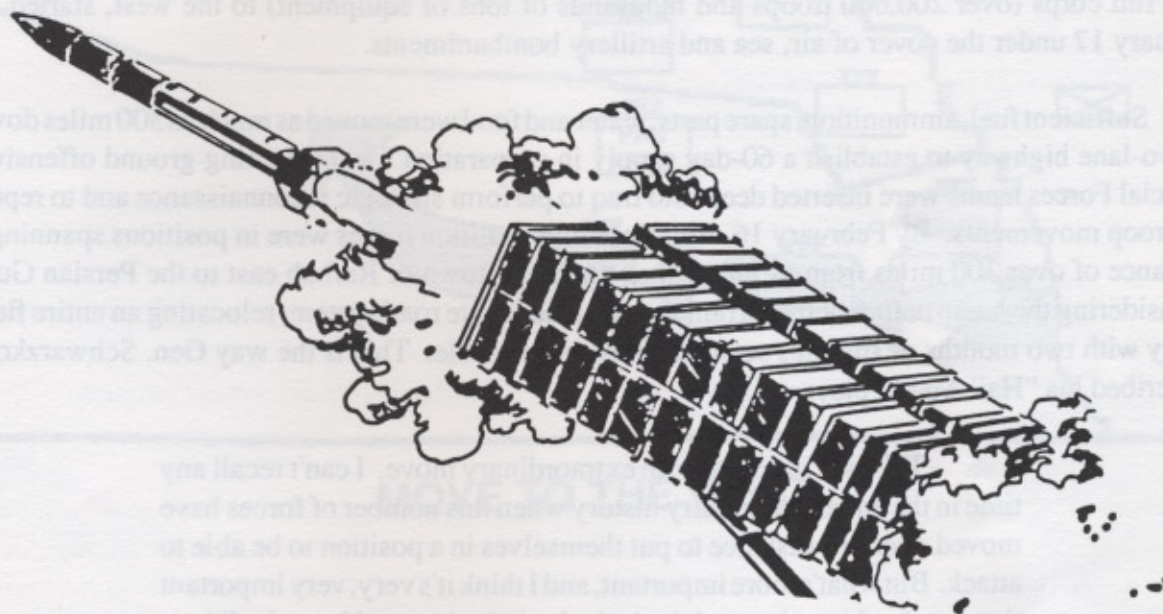
Thousands of sorties were flown every day attacking targets of military importance such as missile sites; command and control centers; telecommunications facilities; power generating plants; airfields and runways; aircraft storage shelters; chemical, biological and nuclear weapon development and production facilities; bridges; and Iraqi troop positions. Air sorties against Iraqi military targets were also conducted by Saudi, Kuwaiti, British, French, Canadian, Bahraini, Qatari and Italian forces.

As planned, coalition air superiority was achieved early in the operation. The few Iraqi aircraft that ventured forth were quickly destroyed by coalition aircraft. The rest went to ground — either in protective bunkers, where many were later knocked out by precision guided weapons, or concealed in civilian communities. Later, a number of Iraqi aircraft (total estimate of 140) escaped across the border into Iran where they were impounded. By the time Gen. Schwarzkopf declared coalition air superiority (in the third week), the campaign was directed increasingly against Iraqi ground forces facing coalition units across the Kuwaiti-Saudi Arabian border and particularly against the vaunted Republican Guard divisions. The air and sea offensive continued for 38 days with a constant, around-the-clock bombardment that brought the war to every corner of Iraq.



Although his air force had proved completely ineffective, Saddam lashed out in several ways, none of which achieved any military advantage for him. SCUD missiles were his most serious threat. He promised to "sear" Israel and launched missiles against both Israel and Saudi Arabia. U.S. Army Patriot missiles knocked out the first SCUD missiles fired against Saudi Arabia, but the Israelis suffered civilian damage and casualties. In prompt response, additional U.S. Patriot missiles were immediately airlifted from Europe to Israel where they provided antimissile protection for the remainder of the war.

Despite the high priority given to locating and destroying SCUD launchers, missile attacks continued throughout the period, although in decreasing numbers. The SCUDs were intended as terror weapons against civilian targets and were never a serious military threat. The real story of the SCUDs was the remarkable role played by U.S. Army Patriot missiles. This was the first tactical use of missiles to defeat other missiles in a combat situation. Not only did it work as designed, but the Patriot captured international attention and acclaim as night after night, live intercepts of Iraqi SCUD missiles were broadcast around the world.



Another of Saddam's ill-conceived ventures was a ground incursion south of the Saudi border with about four battalions on January 29. These forces moved into the abandoned Saudi town of Khafji for several days until troops from Saudi Arabia and Qatar, supported by U.S. air and artillery, drove them off. This attack accomplished nothing for Iraq and, in fact, revealed weaknesses in their ability to conduct offensive operations as well as the poor condition of some of their equipment. If Saddam had hoped this would draw U.S. forces into a ground war on his terms, he was sadly disappointed.

Another wanton act on the part of Saddam was the deliberate creation of an environmental disaster by opening the pumps at a sea island oil terminal off the Kuwaiti coastline. He also pulled the plugs on five loaded Kuwaiti tankers, dumping hundreds of thousands of gallons of crude oil into



the Gulf. This caused the greatest oil spill in history. Stopping the flow of oil to the offshore terminals required precision bombing of the control systems. This was effectively accomplished by U.S. aircraft on January 26. The long-term effects of this gigantic oil spill will not be fully determined for years.

As the constant pounding from the air continued to isolate and punish Iraqi divisions in and around Kuwait, Saddam began the deliberate demolition of Kuwaiti oil wells by setting them afire. Before the war ended, more than 600 wells were put to the torch, thus creating another major ecological disaster.

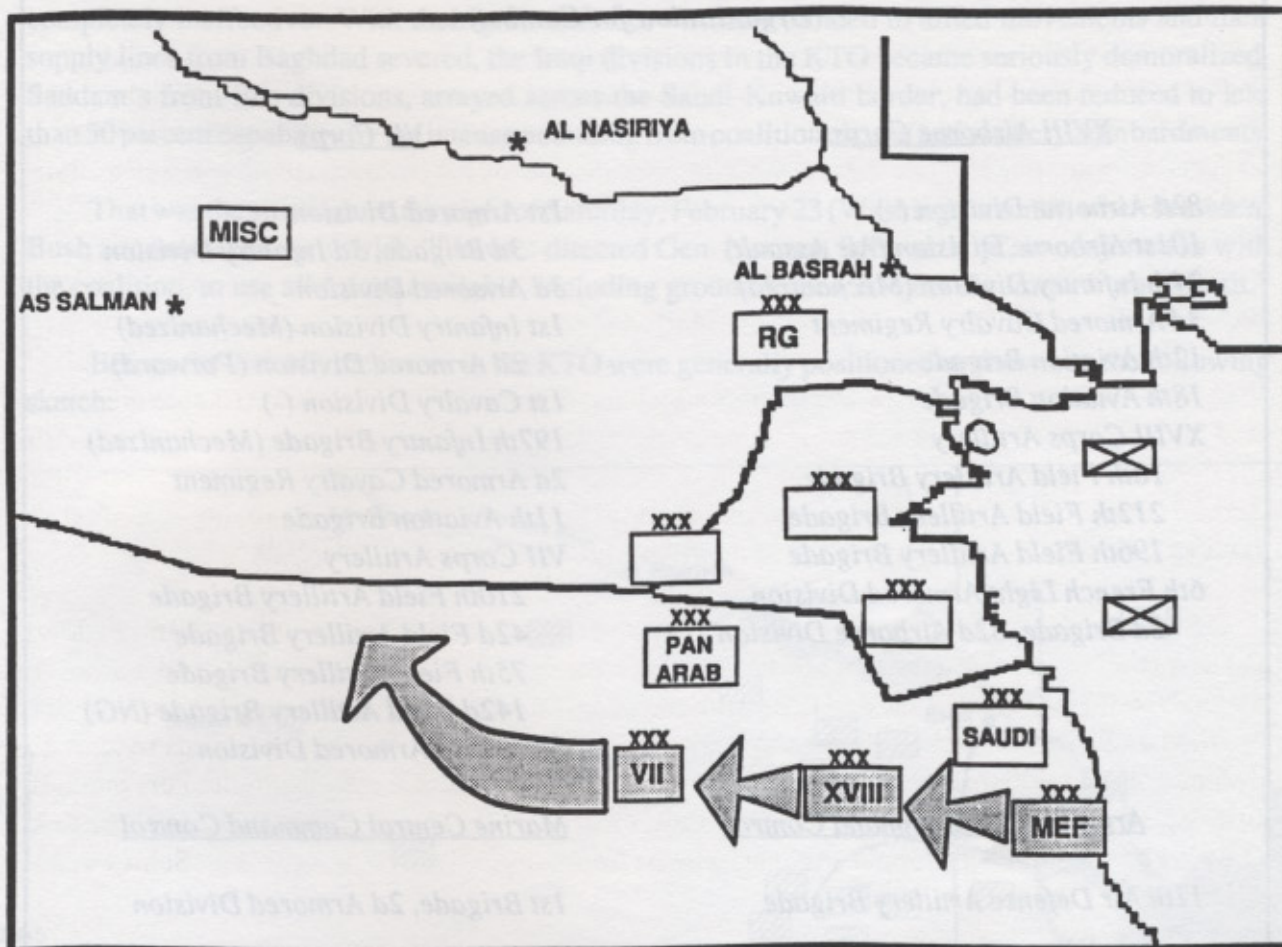
### The "Hail Mary" Play

In the meantime, as the air war deprived Saddam of the ability to see, a remarkable maneuver was taking place to position coalition ground forces for the planned attack that would eventually result in the liberation of Kuwait. This part of the operation, involving the massive movement of two full corps (over 200,000 troops and thousands of tons of equipment) to the west, started on January 17 under the cover of air, sea and artillery bombardments.

Sufficient fuel, ammunition, spare parts, water and food were moved as much as 300 miles down a two-lane highway to establish a 60-day supply in preparation for the coming ground offensive. Special Forces teams were inserted deep into Iraq to perform strategic reconnaissance and to report on troop movements. By February 16, American and coalition forces were in positions spanning a distance of over 300 miles from as far west as the Saudi town of Rafhah east to the Persian Gulf. Considering the harsh nature of the terrain and the inadequate road system, relocating an entire field army with two months of supplies seemed almost impossible. This is the way Gen. Schwarzkopf described his "Hail Mary" play:

This was absolutely an extraordinary move. I can't recall any time in the annals of military history when this number of forces have moved over this distance to put themselves in a position to be able to attack. But what's more important, and I think it's very, very important that I make this point, and that's the logistics bases. Not only did we move the troops out there, but we literally moved thousands and thousands of tons of fuel, of ammunition, of spare parts, of water, and of food out there, because we wanted to have enough supplies on hand so if we got into a slugfest battle, which we very easily could have, we'd have enough supplies to last for 60 days. It was an absolutely gigantic accomplishment, and I can't give enough credit to the logisticians and the transporters who were able to pull this off, for the superb support we had from the Saudi government, the literally thousands and thousands of drivers of every national origin who helped us in this move. And of course, great credit goes to the commanders of the units who were also able to maneuver their forces out here and put them in this position.





## MOVE TO THE WEST

Throughout this phase of the war, numerous feints, probes and mock attacks were conducted by various elements of the coalition forces. On several occasions the Navy and Marines rehearsed invasions from the sea and throughout maintained a large presence in Gulf waters off the shores of Kuwait. The American and coalition land forces executed reconnaissance missions all along the fortified borders of Kuwait and Saudi Arabia. By concentrating their forces along the southern Kuwaiti border and by fortifying the beaches east of Kuwait City, the Iraqis made it clear that they expected a headlong attack into their most heavily fortified areas. Gen. Schwarzkopf later admitted that this is exactly what he wanted them to expect.

By mid-February the emphasis of the air campaign was clearly shifting to inflict maximum damage on Iraqi troop formations and defensive positions, softening them for the pending ground attack. By now, the U.S. Army had over 250,000 troops in the Persian Gulf area. Its combat elements were poised for the attack with an organization for combat as shown below:



## **MAJOR ARMY FORCES** **(Organization for Combat)**

### XVIII Airborne Corps

82d Airborne Division (-)  
101st Airborne Division (Air Assault)  
24th Infantry Division (Mechanized)  
3d Armored Cavalry Regiment  
12th Aviation Brigade  
18th Aviation Brigade  
XVIII Corps Artillery  
18th Field Artillery Brigade  
212th Field Artillery Brigade  
196th Field Artillery Brigade  
6th French Light Armored Division  
2d Brigade, 82d Airborne Division

### Army Central Command Control

11th Air Defense Artillery Brigade

### VII Corps

1st Armored Division  
3d Brigade, 3d Infantry Division  
3d Armored Division  
1st Infantry Division (Mechanized)  
2d Armored Division (Forward)  
1st Cavalry Division (-)  
197th Infantry Brigade (Mechanized)  
2d Armored Cavalry Regiment  
11th Aviation Brigade  
VII Corps Artillery  
210th Field Artillery Brigade  
42d Field Artillery Brigade  
75th Field Artillery Brigade  
142d Field Artillery Brigade (NG)  
1st British Armored Division

### Marine Central Command Control

1st Brigade, 2d Armored Division

### Special Operations Command Central Command

5th Special Forces Group  
3d Special Forces Group (-)

## The Ground War - 100 Hours

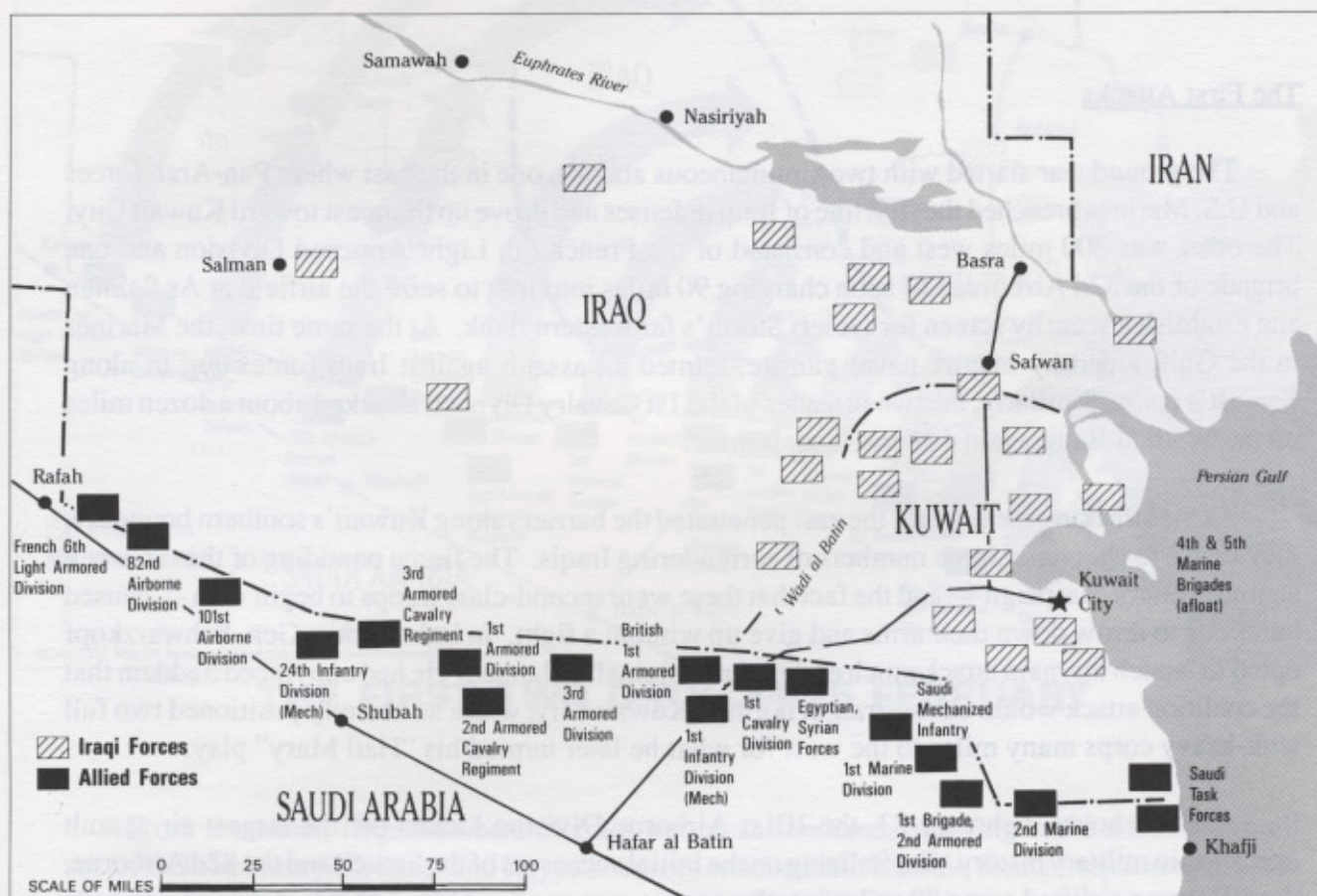
At 0400 hours (Gulf time), February 24, 1991, the United States and coalition forces launched the largest successful ground campaign since World War II. Across a 300-mile front, the allied forces rolled into Kuwait and Iraq to engage the world's fourth largest army. One hundred hours later, on February 28, President Bush declared: "Iraq's army is defeated. ...This war is now behind us." The shooting ended at midnight and with it ended Saddam Hussein's occupation of Kuwait.



When the ground campaign opened, Iraq had 43 divisions in the Kuwaiti Theater of Operations (KTO) — 12 heavy and 31 light — comprising an estimated 500,000 personnel. In the 38 days of the air war, Iraq's military infrastructure had been ravaged and its air force and navy had been made completely ineffective. With their ground forces virtually blinded to allied movements and their supply lines from Baghdad severed, the Iraqi divisions in the KTO became seriously demoralized. Saddam's front-line divisions, arrayed across the Saudi-Kuwaiti border, had been reduced to less than 50 percent capability by the intense pounding from coalition air, sea and artillery bombardments.

That was the situation on the night of Saturday, February 23 (Washington time), when President Bush announced to the world: "I have... directed Gen. Norman Schwarzkopf, in conjunction with the coalition, to use all forces available, including ground forces, to eject the Iraqis from Kuwait."

Before the kickoff, the forces in the KTO were generally positioned as shown on the following sketch:



## 'GOOD TO GO' - 23 FEBRUARY



To the far west, the French 6th Armored Division and a brigade of the U.S. 82d Airborne Division were deployed to guard the left flank of the XVIII Airborne Corps. XVIII Corps also included the rest of the 82d Airborne, the 101st Airborne Division, the 3d Armored Cavalry Regiment and the 24th Infantry Division (Mechanized). Further east, VII Corps, which included the 1st and 3d Armored Divisions, the 2d Armored Cavalry Regiment and the British 1st Armored Division, was deployed along the Saudi-Iraqi border. Near the confluence of the Saudi-Iraqi-Kuwaiti borders, in the vicinity of the Wadi al Batin, were the 1st Infantry Division (Mechanized) and the 1st Cavalry Division. To their right a Pan-Arab force consisting of Saudi, Kuwaiti, Egyptian and Syrian units operated at the western edge of the Saudi-Kuwaiti border. The 2d Marine Division and the Tiger Brigade of the 2d Armored Division were positioned to the east of the Pan-Arab force; the 1st Marine Division held down their right flank. Prepared to advance up the Persian Gulf coast were two additional Saudi task forces, while Marines of the 4th and 5th Expeditionary Brigades were poised for amphibious operations just off the Kuwaiti coast. Earlier a number of Special Forces teams had been inserted deep in Iraq to track enemy movements and especially to locate SCUD missile sites.

### The First Attacks

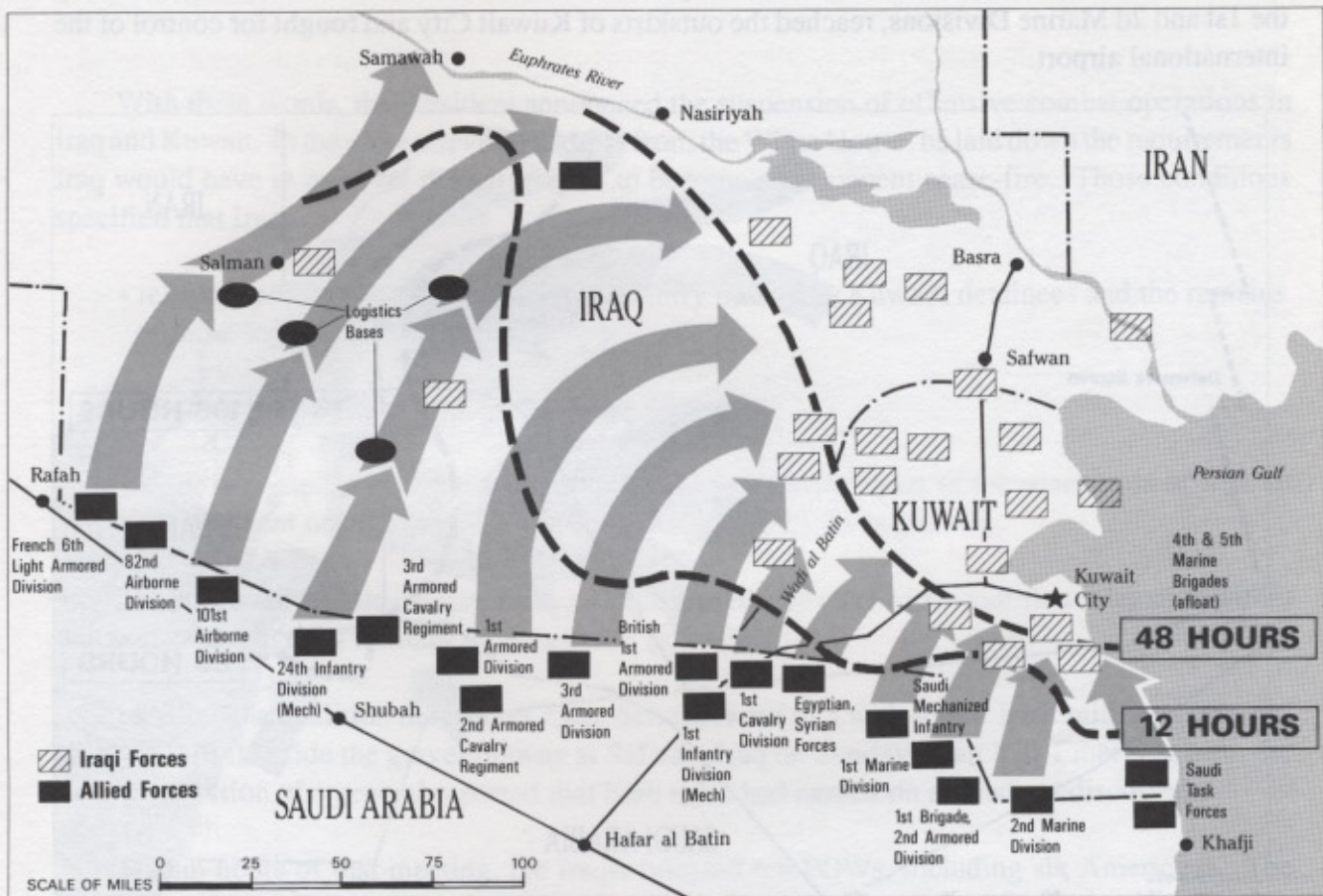
The ground war started with two simultaneous attacks, one in the east where Pan-Arab forces and U.S. Marines breached the first line of Iraqi defenses and drove up the coast toward Kuwait City. The other was 300 miles west and consisted of the French 6th Light Armored Division and one brigade of the 82d Airborne Division charging 90 miles into Iraq to seize the airfield at As Salman and establish a security screen for Desert Storm's far western flank. At the same time, the Marines in the Gulf, aided by intense naval gunfire, feinted an assault against Iraqi forces dug in along Kuwait's coast. Similarly, the two brigades of the 1st Cavalry Division attacked about a dozen miles up the Wadi al Batin against sporadic resistance.

As the attacking elements in the east penetrated the barriers along Kuwait's southern boundary, they began to encounter large numbers of surrendering Iraqis. The fierce pounding of the six-week air and artillery campaign — and the fact that these were second-class troops to begin with — caused hundreds to throw down their arms and give up without a fight. In light of this, Gen. Schwarzkopf opted to launch his main attack much earlier than originally planned. He had convinced Saddam that the coalition attack would come straight north to Kuwait City, while he secretly positioned two full tank-heavy corps many miles to the west for what he later termed his "Hail Mary" play.

At 0800 hours, February 23, the 101st Airborne Division kicked off the largest air assault operation in military history. Capitalizing on the initial successes of the French and the 82d Airborne, the 101st was airlifted some 70 miles into Iraq to set up a series of forward refueling and resupply bases. Having accomplished that in a few hours, the 101st immediately began leapfrogging its brigades north to intercept Iraqi lines of communication along the Euphrates River. That afternoon, XVIII Airborne Corps ordered the 3d Armored Cavalry Regiment and the 24th Infantry Division (Mechanized) to attack north into Iraq in what an American officer later called "the greatest cavalry charge in history."



Just to the east, in VII Corps' sector, the 1st Infantry Division breached Iraqi defensive positions and attacked north, followed by the British 1st Armored Division. The 2d Armored Cavalry Regiment and the 1st and 3d Armored Divisions attacked rapidly, bypassing hundreds of enemy positions. Along the coast, Saudi-led coalition forces breached defensive barriers and joined the Marines in the attack on Kuwait City. By the end of February 24, all major coalition forces were engaged as depicted on this sketch.



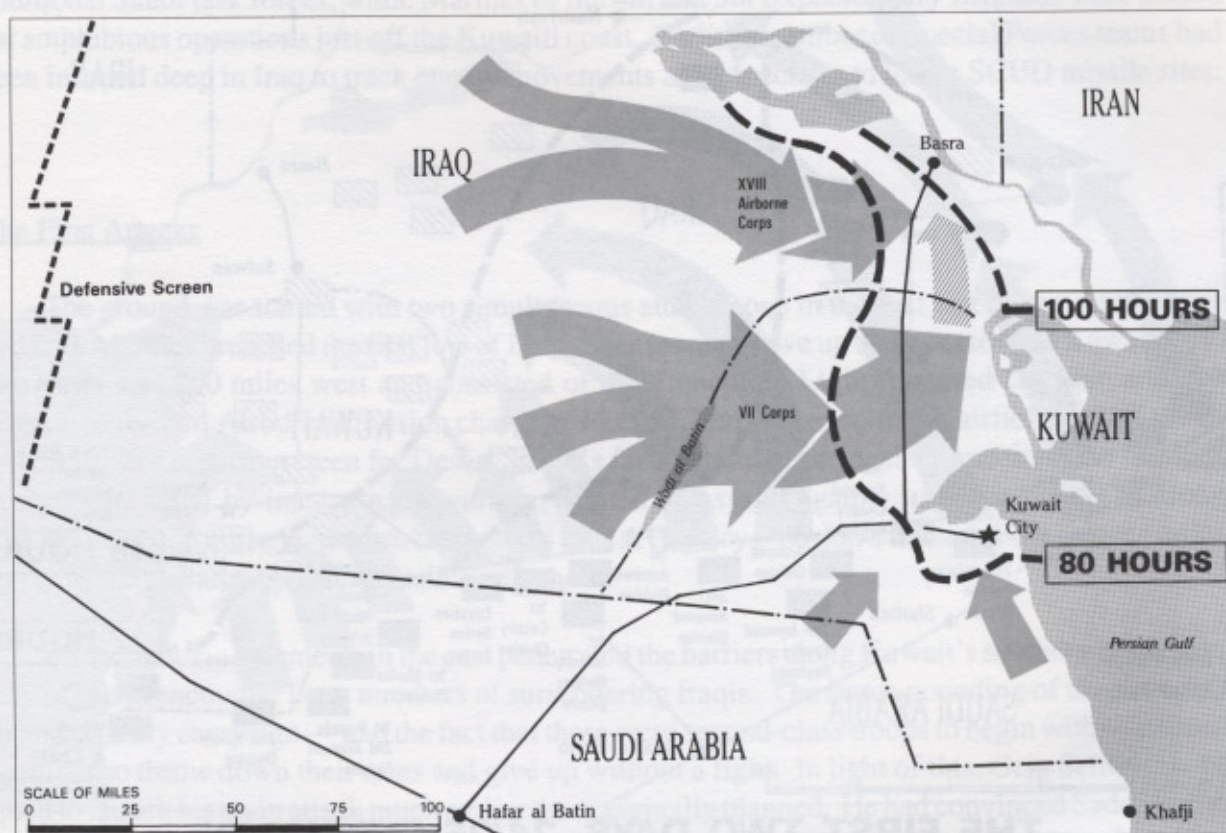
## THE FIRST TWO DAYS-24/25 FEBRUARY

From the onset, large numbers of Iraqi troops surrendered, allowing rapid advances in all sectors. On February 25, Saudi and Egyptian forces attacked into Kuwait, fixing Iraqi forces in place along the eastern Saudi-Kuwaiti border. In the west, the 82d Airborne Division conducted operations to secure supply routes and forward logistics bases, while the French 6th Armored Division guarded ARCENT's left flank. The 101st Airborne Division and the 24th Infantry Division secured blocking positions near the Euphrates River. VII Corps pressed its attack, with the British 1st Armored Division passing through the 1st Infantry Division. The 1st and 3d Armored Divisions drove north in preparation for a turning movement to the east. In Kuwait, coalition forces and the two Marine divisions supported by the Army's Tiger Brigade continued attacking toward Kuwait City.



## The Final Push

On February 26, elements of the XVIII Airborne Corps and VII Corps wheeled to the east to trap and destroy what was left of the Iraqi Republican Guard. Having driven almost 100 miles into Iraq, the 24th Infantry Division and the 3d Armored Cavalry Regiment turned toward Basra to cut off retreating Iraqi forces. VII Corps units turned east to attack the Iraqi reserve, composed of Republican Guard units situated southwest of Basra. During the night, VII Corps, which now included the 1st Cavalry Division, conducted a coordinated attack which resulted in the destruction of (among others) the Tawakalna and Medina Republican Guard divisions. Coalition forces, notably the 1st and 2d Marine Divisions, reached the outskirts of Kuwait City and fought for control of the international airport.



### **THE FINAL PUSH-26/27 FEBRUARY**

On February 27, Kuwait was liberated. Iraqi divisions in Kuwait were defeated or routed and the vaunted Republican Guard, now badly mauled, was rendered ineffective. The 24th Infantry Division drove east toward Basra while the 1st and 3d Armored Divisions, the British and the 1st Infantry Division attacked deep to seize control of northern Kuwait and that part of Iraq south of Basra. Coalition forces liberated Kuwait City, while the 1st and 2d Marine Divisions secured the outskirts of the city. By the time President Bush ordered a suspension of offensive combat operations (at 0800, February 28, 1991 Gulf time), U.S. and coalition forces had destroyed or rendered ineffective 43 Iraqi divisions, captured more than 80,000 prisoners, and destroyed or damaged 4,000 tanks, 2,100 artillery pieces, 1,800 armored personnel carriers, seven helicopters and 103 Iraqi aircraft.



## THE AFTERMATH

*Kuwait is liberated. Iraq's army is defeated. Our military objectives are met. ...[This] is a time of pride in our troops. ... And soon we will open wide our arms to welcome back home to America our magnificent fighting forces.*

President George Bush

February 27, 1991

With these words, the president announced the suspension of offensive combat operations in Iraq and Kuwait. In the same televised address from the White House, he laid down the requirements Iraq would have to meet for the suspension to become a permanent cease-fire. Those conditions specified that Iraq:

- release immediately all POWs, third-country nationals, Kuwaiti detainees and the remains of those killed;
- disclose the location of all land and sea mines;
- agree to comply with all U.N. resolutions, including rescission of the annexation of Kuwait and payment of compensation for damages caused by its aggression.

The Iraqis were told to designate military commanders to meet with a coalition delegation within 48 hours to arrange for military aspects of the cease-fire.

Heading the coalition delegation, Gen. Schwarzkopf met with senior Iraqi military representatives in a tent beside the gravel runway at Safwan, Iraq on Sunday, March 3. Emerging from the two-hour session, the general reported that both sides had agreed on all matters discussed.

Within hours of that meeting, the Iraqis released ten POWs, including six Americans. The remainder of the POWs held by Iraq were freed over the next four days. The process of releasing upwards of 100,000 Iraqis who had surrendered to coalition forces was also begun promptly.

(At the United Nations, ironing out the details of the formal cease-fire agreement would take another month. That mission was accomplished on April 3; Saddam pronounced his acceptance on April 6 and the cease-fire was proclaimed on April 10. Included in the U.N. action was the authorization of a 1,440-member observer team to oversee a newly created demilitarized zone (DMZ) between Kuwait and Iraq.)

Even as the two delegations were meeting at Safwan, Islamic fundamentalists in the southern Iraqi city of Basra were rising in revolt against the rule of Saddam. Adding to the chaos in Iraq's second largest city was the arrival of many hundreds of troops and vehicles driven out of Kuwait by the Desert Storm blitzkrieg.



These remnants of the Iraqi Republican Guard, many apparently still loyal to Saddam, turned their few remaining tanks and guns on the rebels and in a few days were able to brutally crush the revolt in Basra and about a dozen nearby cities. Thousands of rebels who were able to escape fled south toward the American-occupied regions of southern Iraq. Similar uprisings were occurring in the predominantly Kurdish regions of northern Iraq, near the borders with Turkey and Iran. In these instances, Saddam unleashed his remaining helicopter gunships against the lightly armed Kurds, and again it took only a few days to turn nearly a million rebels into refugees fleeing to the mountainous regions along the Turkish and Iranian borders.

Thus, Operation Desert Storm, born of Operation Desert Shield, became Operation Provide Comfort as some 13,000 coalition military personnel — including about 9,000 U.S. troops — turned their full attention to giving food, shelter and medical care to the refugees.

### Redeployment

While these uprisings were taking place throughout Iraq, the thought foremost on the minds of most U.S. troops who had fought or supported Desert Storm was, "When do we go home?"

President Bush provided the first hint that U.S. troops would soon be returning when he addressed Congress just three days after the March 3 Safwan agreements. "Soon our troops will begin the march we've all been waiting for — their march home," he said. "I have directed Secretary Cheney to begin the immediate return of American combat units from the Gulf. Less than two hours from now, the first planeload of American soldiers will lift off from Saudi Arabia, headed for the U.S.A. That plane will carry men and women of the 24th Mechanized Infantry Division bound for Fort Stewart, Georgia. This is just the beginning of a steady flow of American troops coming home."

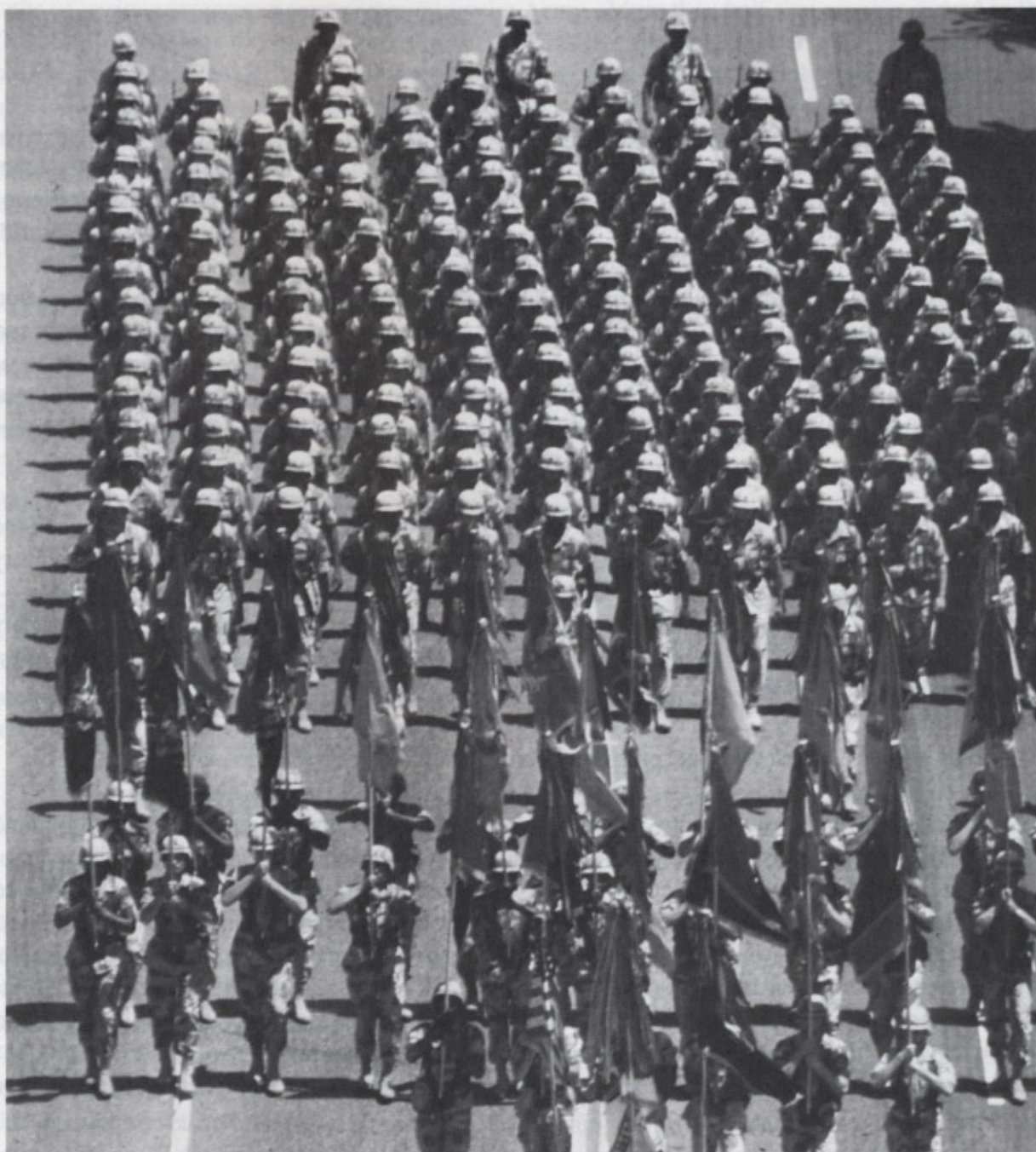
With that initiative, the redeployment of U.S. forces became the next major effort of USCENTCOM. Within just a few days, a daily average of 5,000 troops was being airlifted back to the States. Those not engaged in monitoring the cease-fire in Iraq and Kuwait turned their attention to the repair, cleanup, repacking and loading of the mountains of supplies and equipment that had taken seven months to deliver. (Not even the oldest soldier in Desert Storm had ever witnessed a 30-square-mile ammunition supply point like the one established in Saudi Arabia.)

As the U.S. troops in the DMZ were relieved by U.N. forces, the refugee support effort in the south was accepted by the Saudis. In the north, Operation Provide Comfort (support for the Kurdish refugees, much of which was rendered through Turkey) became the responsibility of the U.S. European Command.

There has been much speculation concerning the size of an American residual force in Southwest Asia. Without adding to that speculation it is safe to say that the possibility of retaining sufficient weapons, ammunition and equipment to supply a heavy U.S. division (armor or mechanized) somewhere in the region is currently being discussed. There has been no indication that any major American force would remain in the area in the future.



To the 541,000 American soldiers, sailors, Marines, airmen and Coast Guardsmen who provided the thunder and lightning for Operation Desert Storm, that is the best news they could hear. The first troops to return were greeted with the most enthusiastic welcome home since the 82d Airborne Division paraded up Broadway at the end of World War II. At this writing, about 85 percent of the Desert Storm force has redeployed and the latest to return are being greeted with equal exuberance. As Gen. Schwarzkopf put it on the occasion of his own return and again when he addressed the Congress, "It's a great day to be a soldier. It's a great day to be an American."





## OBSERVATIONS

*For as long as Americans honor their history, these 100 hours of Operation Desert Storm will be remembered as one of the most powerful applications of military might and one of the most flawlessly executed campaigns in the annals of warfare.*

Gen. Carl E. Vuono  
Chief of Staff, U. S. Army

To what extent Desert Storm is a model for future conflicts is a subject that will be debated for some time. That it was an overwhelming success is uncontested. Also unchallenged is the fact that a major share of the credit for that triumphant victory goes to the soldiers, civilians and families of America's Total Army who served in the Middle East, in the United States and around the world.

Desert Shield and Desert Storm were the largest operational tests of the nation's forces and doctrine since World War II. Joint Chiefs of Staff and service teams are now evaluating current and emerging joint doctrine in the context of the desert deployment and war. We will leave the job of compiling the official book of "lessons learned" to them and to the war colleges. It is our intent here to present a few significant observations relating to the Army experience in Desert Shield/Desert Storm.

Our first observation speaks for itself. The performance of the force and the competence of the leaders involved in the Persian Gulf War reaffirm the efficacy of the Army's commitment to quality over the last decade. The quality of that force — and the quality of the people who comprise it — is the foundation of all the Army achieved in Desert Storm. And crucial to that were the skilled leaders — sergeants and officers — who, in the words of the Army Chief of Staff, "are quite simply the best our nation has ever fielded."

Some additional observations, presented in no particular priority order, are:

AirLand Battle Doctrine Works. All the emphasis placed on joint and combined operations and training over the last few years paid off handsomely. The 100-hour war was a classic example of the application of AirLand Battle doctrine on the modern battlefield. Army ground forces, supported by successful deception and air operations, executed a classic operational maneuver against positions on the enemy flank, while Marine and coalition forces fixed the enemy in place and conducted frontal attacks against main defensive positions. Army armored, mechanized infantry and air assault units outmaneuvered the enemy and conducted highly effective combined arms operations in close concert with Army aviation, field artillery and tactical air assets. The synchronization of air, ground and sea resources completely disrupted the enemy's plans, precipitating the quick and decisive capitulation of his forces.



Heavy Ground Forces Must be Part of the Tool Kit. Desert Storm reaffirmed the need for adequate heavy armored and mechanized units as part of rapidly deployable U.S. contingency forces. While it was particularly apparent in the case of Iraq (with over 5,000 tanks), there are 12 other nations in the world today with 1,000 or more main battle tanks. Light forces alone may not be an adequate deterrent or a capable counterforce.

The Importance of Reserve Components to the Total Army. The reserve components provided important and essential support. Over 140,000 Army Reserve and National Guard soldiers and 1,038 units of various categories were activated by the Army. More than half that number served in the Gulf, while the others provided support from the CONUS sustaining base or were sent to Europe to backfill deployed USAREUR units and to provide medical and other vital services. In addition, approximately 20,500 Individual Ready Reservists, Mobilization Designees and volunteers were activated to fill special requirements. Reserve personnel and units were essential in Desert Shield/Desert Storm and will be equally essential in future contingencies. Their contribution was substantial.

Train the Way You Will Fight. The success of Desert Storm and the fact that our casualties were so light are reflections of two decades of hard training by American fighting men and women. Unlike previous situations when too often we sent inadequately prepared soldiers into combat, strict adherence to the highest standards of training readiness was evident from the moment the first Airborne trooper set foot in Saudi Arabia through the time the two Army corps lambasted the cream of the Iraqi army. The unparalleled support given XVIII and VII Corps, along with our British and French allies, is further testimony to the training readiness of all the combat support and combat service support units and personnel of the Total Army.

Much credit for the success of the "Hail Mary" play is given to the fact that all active armored, cavalry and mechanized battalions rotate through the National Training Center (NTC) in the California desert every two years; certain reserve units also go. That many leaders of the heavy units which deployed from Europe had previously trained at NTC also helped those units adapt to the desert scenario — that, and the fact that all units in the Army are constantly honing their warfighting skills to a fine edge.

The Logistics Performance Was Miraculous. The 8,000-mile, 500-ship bridge that deployed the force, the extraordinary repositioning of the entire field army for the 100-hour war and the rapid redeployment of a half-million troops and millions of tons of cargo made the logistical challenges of Desert Shield and Desert Storm almost beyond imagination in scope and magnitude. And, while the movement to and from Southwest Asia was a major part of the logistical operation, the tremendous support provided to the fighting forces throughout the war was also phenomenal. The provision of food and water, fuel and ammunition, medical and maintenance support, and all the other supplies and services needed for the soldiers, airmen, sailors and Marines to be able to survive and fight the war required a tooth-to-tail ratio of about 1:1. This was far leaner than the 1:2.3 Vietnam ratio, which makes the results achieved even more remarkable. The crowning accomplishment for the logisticians was the shift of two heavy corps, with a full 60 days of supplies, as much as 300 miles to the west in 12 days in preparation for the great western encirclement of the 100-hour war.



Validation of the Army's Modernization Goals. Almost without exception, the Army weapons systems fielded for Desert Storm performed superbly. The investment in modernization made over the past decade paid bountiful dividends. The criticism that most of the modern weapons were too expensive and too sophisticated to perform well under combat conditions was laid to rest with the opening shots of Desert Storm.

The Patriot missile system was a distinguished performer as the sole defender against Iraqi missiles fired against Israel and Saudi Arabia. The M1A1 Abrams tank, M2/M3 Bradley fighting vehicle, AH-64 Apache attack helicopter, OH-58D Kiowa scout helicopter, UH-60 Black Hawk tactical lift helicopter, Multiple Launch Rocket System (MLRS), Hellfire missile and Copperhead laser-guided artillery round all received highly positive user reports with respect to both combat performance and reliability.

Two new systems introduced for the first time in an operational role were the Joint Surveillance and Target Attack Radar System (air platform developed by the Air Force and ground station by the Army) and the Army Tactical Missile System, fired from the MLRS launcher. Both provided excellent results in terms of locating, identifying and destroying deep targets. These systems had been under budget pressure because their early justification was based on the European threat. The requirement for both, however, is now firmly established.

Support of the American People. If there is one point of agreement among all the commanders, all the leaders and all the fighting men and women who participated in Operations Desert Shield and Desert Storm, it is that they were sustained, from the beginning to the end, by the sure knowledge that the American people were behind their efforts. Soldiers were strengthened by the support provided to their families left at home in the United States, Europe and elsewhere. Here is the way Gen. Schwarzkopf expressed it in a speech to Congress on May 8, 1991:

When that terrible first day of war came, we knew we would not fail. We knew we had the strength of the American people behind us, and with that strength, we were able to get the job done, kick the Iraqis out of Kuwait, and get back home. ... From all of us who proudly served in the Middle East in your armed forces, thank you to the great people of the United States of America.





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