



THE LAND WARFARE PAPERS

No. 117 JANUARY 2018

The Importance of Land Warfare: This Kind of War Redux

David E. Johnson

A National Security Affairs Paper
published on occasion by

**THE INSTITUTE OF
LAND WARFARE**

ASSOCIATION OF THE
UNITED STATES ARMY
Arlington, Virginia

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AN INSTITUTE OF LAND WARFARE PAPER

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LAND WARFARE PAPER No. 117, January 2018

The Importance of Land Warfare: This Kind of War Redux

by David E. Johnson

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Preface

The purpose of this essay is to provide a primer for those not involved in the day-to-day complexities of discussions of U.S. military concepts, doctrine, capabilities, force structure and budgets. Principally, it aims to provide a guide to the role of the joint force—and more specifically our nation’s land forces—in thinking about how to deter and win future wars.

Since the terrorist attacks on the U.S. homeland on 11 September 2001, the United States has been engaged in worldwide military operations. The initial campaigns during Operations Enduring Freedom and Iraqi Freedom demonstrated the unmatched conventional capabilities of the U.S. military, developed mostly during the Cold War, as they rapidly toppled the regimes of the Taliban in Afghanistan and Saddam Hussein in Iraq. These rapid victories soon turned into protracted irregular wars, for which the United States and its allies and partners were not fully prepared. In the years that followed, new concepts and capabilities rapidly evolved to fight these wars. Nowhere were these adaptations more profound—and costly—than in U.S. land forces.

Against insurgents and terrorists, the United States operated freely in the air, maritime, space and cyber domains. These domains were all shaped and harnessed to enable contested operations on land. That said, we have purchased systems optimized for fighting low-end enemies while neglecting capabilities needed for more capable future adversaries. Furthermore, while U.S. land forces have significant combat experience against irregular opponents, they are not prepared for more competent, well-armed adversaries. As historian John Shy noted “The peculiarity of first battles lies mainly in the lack of recent, relevant combat experience.”* Thus, there is a key generational gap, both in the U.S. military and our broader citizenry; we have come to believe that our experiences and adaptations over the past 16 years are relevant to the challenges we will face in the future against very different kinds of adversaries.

This is a particularly important time to have this discussion. The United States has become an expeditionary power, largely based in the continental United States, accustomed to the uncontested projection of military power by dominating the air, maritime, space and cyber domains. But U.S. domain supremacy is eroding, if not ending, with the renewal of great power competition with state actors—principally China and Russia—who can contest U.S. operations to some degree in all domains. Furthermore, other state (Korea, Iran) and non-state (Hezbollah, pro-Russian separatists in Ukraine) actors have high-end capabilities that can also challenge U.S. domain dominance. The unfettered application of U.S. precision air attacks, enabled by exquisite intelligence, surveillance and reconnaissance will be much more difficult. In this emerging security environment, land forces will play an important role in deterring conflict and, if necessary, winning America’s wars.

Much work remains to be done, as we are now in a competition for the first time since the Cold War with adversaries who can challenge and perhaps defeat the United States in their local regions. Time and current resourcing levels are not on our side in countering these challenges—we urgently need to move forward to address them.

* John Shy, “First Battles in Retrospect,” in Charles E. Heller and William A. Stofft, *America’s First Battles: 1776–1965* (Lawrence, KS: University of Kansas Press, 1986), p. 327.

Author's Note

This is an expanded version of the essay "An Overview of Land Warfare" that I wrote for the Heritage Foundation's 2018 Index of U.S. Military Strength, edited by Dakota L. Wood. I want to thank the staff of the Association of the United States Army, of which I am a proud life member, for their support in realizing this project. Thanks go particularly to Lieutenant General Guy Swan, USA, Ret., Colonel Daniel Roper, USA, Ret., Ellen Toner, Sandee Daugherty and Kevin Irwin.

The Importance of Land Warfare: This Kind of War Redux

Introduction

What will be the role of the land domain in future wars? As the U.S. Army and the Marine Corps pursue the emerging Multi-Domain Battle concept, and other services are increasingly pursuing cross-domain capabilities, future land forces may not look like those of the past. Despite these trends, however, most of the fundamental principles of land warfare remain the same. This essay will provide an overview of how the joint force currently thinks about military operations and the role that the land domain plays. It is a primer for readers not involved in intra-service discussions of doctrine, capabilities, concepts and budgets. It will begin with a discussion of the land domain and methods to assess key determinants of how land forces operate: mission, enemy, terrain and weather, troops, time available and civil considerations. This will be followed by a discussion of how U.S. joint forces are employed, including what types of operations may be undertaken. Finally, it will conclude with an assessment of how actions in the land domain can facilitate operations in the air, maritime, space and cyberspace domains.¹

This is a particularly important time to have this discussion. Since the end of the Cold War, the United States has become an expeditionary power, largely based in the continental United States (CONUS), accustomed to projecting power by dominating the air, maritime, space and cyber domains. U.S. superiority has been routinely contested only in the land domain, albeit largely by irregular adversaries, insurgents and terrorists. But U.S. domain supremacy is eroding, if not ending, with the renewal of great power competition with state actors—principally China and Russia—who can contest U.S. operations to some degree in all domains.

As William Faulkner perceptively wrote: “The past is never dead. It’s not even past.”² Since the dawn of time, as historian T.R. Fehrenbach wrote in *This Kind of War*, “the object of warfare is to dominate a portion of the earth, with its peoples, for causes either just or unjust. It is not to destroy the land and people, unless you have gone wholly mad.”³ Fehrenbach was analyzing U.S. involvement in the Korean War; in the preface to his book, he draws a lesson from that limited war—fought in a time of great power competition between nuclear-armed adversaries—that bears revisiting today:

The great test placed upon the United States was not whether it had the power to devastate the Soviet Union—this it had—but whether the American leadership had the will to continue to fight for an orderly world rather than to succumb to hysteric violence Yet when America committed its ground troops into Korea, the American people committed their entire prestige, and put the failure or success of their foreign policy on the line.⁴

For the first time since the 1940s, the United States faces the prospect of peer competitors in the Pacific and in Europe who can challenge U.S. capabilities, and thus credibility, in their regions. Coupled with these high-end adversaries are other actors, ranging from rogue states (North Korea) to hybrid adversaries (Hezbollah, the Islamic State, pro-Russian separatists in Ukraine) to irregular terrorist threats (al Qaeda, Taliban). In this evolving security environment, the land domain will be particularly important in crafting concepts and capabilities to support U.S. deterrence and in defeating America's enemies if deterrence fails.

Understanding the Land Domain

METT-TC is an Army doctrinal term that is also used by the Marine Corps and Air Force; the acronym stands for mission, enemy, terrain and weather, troops, time available and civil considerations. It is helpful in analyzing the essential elements of what needs to be done to accomplish military objectives across the range of operations, as will be discussed later. METT-TC is also a useful way to understand the dynamics of operating in the land domain.

Mission

The mission is “the task, together with the purpose, that clearly indicates the action to be taken and the reason therefore.”⁵ Understanding the mission enables:

Integrated planning, coordination, and guidance among the Joint Staff, CCMD [combatant command] staffs, Service chiefs, and USG [U.S. Government] departments and agencies (OGAs) translate strategic priorities into clear planning guidance, tailored force packages, operational-level objectives, joint operation plans (OPLANS), and logistical support for the joint force to accomplish its mission.⁶

It is important to note that the military is one of the instruments of national power that U.S. national leaders employ (in coordination with the diplomatic, informational and economic instruments) to “advance and defend U.S. values and interests, achieve objectives consistent with national strategy, and conclude operations on terms favorable to the U.S.”⁷ This echoes the admonition by Clausewitz that “war is simply a continuation of political intercourse, with the addition of other means. We deliberately use the phrase ‘with the addition of other means’ because we also want to make it clear that war in itself does not suspend political intercourse or change it into something entirely different.”⁸

Enemy

A thorough understanding of the enemy or potential adversary is central to determining what means are necessary to frame deterrence efforts or to defeat the enemy through force if deterrence fails.⁹ As the old saying goes, the enemy always gets a vote. Consequently, as the new Army FM 3-0, *Operations*, stresses:

Intelligence drives operations and operations support intelligence; this relationship is continuous. The commander and staff need accurate, relevant, and predictive

intelligence in order to understand threat centers of gravity, goals and objectives, and courses of action. Precise intelligence is also critical to target threat capabilities at the right time and place and to open windows of opportunity across domains during large-scale combat operations. Commanders and staffs must have detailed knowledge of threat strengths, weaknesses, organization, equipment, and tactics to plan for and execute friendly operations.¹⁰

What has become increasingly apparent since the 2006 Lebanon War is that there are three broad categories of enemies and adversaries that the United States could confront in the future: non-state irregular, state-sponsored hybrid and state enemies.

Non-state Irregular Enemies

These are the types of adversaries whom the United States has primarily faced since the 11 September 2001 terrorist attacks on the U.S. homeland, including the Taliban, al Qaeda and now the Islamic State. The Russians faced this type of adversary in the mujahideen, primarily in the 1980s during their war in Afghanistan, as did the Israelis during the intifadas in the West Bank and Gaza. These adversaries are generally limited to small arms, rocket-propelled grenades (RPGs), improvised explosive devices (IEDs) and the occasional mortar, rocket or man-portable air defense system (MANPADS). Their activity is mostly limited to operations in the land domain, often through insurgency or terrorism, though innovative insurgents have shown willingness to exploit small boats and unmanned aerial vehicles for their own ends.

Land-centric counterinsurgency (COIN) operations—which often require large numbers of ground forces for protracted periods, as seen in Afghanistan and Iraq—contest the insurgency and protect the population. Operations in other domains, often augmented by special operations forces, execute precision strike operations to go after high-value targets (HVTs) and carry out counterterrorism strikes and raids.

Irregular adversaries use small formations to avoid being found by intelligence, surveillance and reconnaissance (ISR) systems and killed by stand-off precision fires. These are enemies that are fixed in the close fight and are defeated using direct and indirect fires, such as artillery or air strikes. Rarely is a U.S. platoon or larger formation at risk.¹¹

In the aftermath of protracted operations in Afghanistan and Iraq, many question whether the invasions and COIN approaches were worth the costs. While this is a debatable question, if the objective of U.S. policy is to change conditions on the ground in an enduring way, large numbers of ground forces—either U.S. and/or indigenous ground forces supported by U.S. advisors and enablers—are likely to be needed.¹²

State-sponsored Hybrid Enemies/Adversaries

This is the type of adversary whom Israel faced in Hezbollah during the Second Lebanon War and against whom Ukraine is currently fighting in the form of Russian-supported separatists. It is also the type of enemy Russia faced in Afghanistan, once the mujahideen began receiving support from the United States. These adversaries pose a qualitatively different challenge from irregular opponents—similar to the challenges found in major combat operations, but at a lower scale and with a mix of niche, but sustainable, high-end capabilities (e.g., anti-tank guided missiles, MANPADS, intermediate- or long-range surface-to-surface rockets) provided by a state actor, which give them standoff fire capabilities.¹³ These adversaries attempt to hide from overhead ISR systems by using terrain or by mixing with the civilian population.

Land forces, using combined-arms maneuver, are required to make these adversaries visible and defeat them in close combat with direct and indirect fires (such as artillery or air strikes). The United States has not fought adversaries with the capabilities of Hezbollah or the Ukrainian separatists since it confronted North Vietnamese main force units during the Vietnam War. These types of adversaries can also inflict substantial casualties, as seen in the destruction of Ukrainian battalions by separatist rocket fire.¹⁴ The U.S. military has not suffered this level of mass casualties since the Korean War.

State Enemies/Adversaries

Events in Ukraine, Syria and the Pacific have once more drawn U.S. attention to high-end state adversaries (Russia and China), who have capabilities ranging from small arms to nuclear weapons. They have long studied U.S. capabilities and are modernizing their militaries to contest the United States across all domains, seeking to undermine the advantages that the U.S. military has enjoyed since Operation Desert Storm, including but not limited to uncontested use of close-in air bases and logistics facilities, overhead and/or persistent ISR and relatively unprotected, high-bandwidth communications.

The Russians in particular have been busy in the past several years, correcting deficiencies in their military after the wars in Chechnya and Georgia and now using the conflicts in Ukraine and Syria as proving grounds for new weapons and tactics. They have integrated air defense systems ranging from MANPADS to the S-400 air defense system, creating significant access challenges to allied aircraft of all services. They also field a range of rocket and conventional artillery, as has been their tradition, and plan for the use of chemical and nuclear weapons as part of their operations. They are also improving their armor and have fielded active protection systems to undermine the lethality of existing NATO anti-armor capabilities. Finally, they are operating in familiar territory inside a tough, layered anti-access and area-denial (A2/AD) environment that is designed to impede adversary operations.¹⁵ Despite long-running rivalries

Figure 1
Types of Enemies and Adversaries and Their Capabilities¹⁶

	NON-STATE IRREGULAR	STATE-SPONSORED HYBRID	STATE
	<ul style="list-style-type: none"> • Mujahideen in Afghanistan, 1979 • Palestine Liberation Organization (PLO) West Bank • al Qaeda in Iraq • Taliban in Afghanistan 	<ul style="list-style-type: none"> • Mujahideen in Afghanistan, 1988 • Chechen rebels • Hezbollah in Lebanon • Hamas in Gaza • Islamic State • Ukrainian Separatists 	<ul style="list-style-type: none"> • Russia • China • North Korea • Iran
ORGANIZATION	Not well-trained; little formal discipline; cellular structure; small formations (squads)	Moderately-trained; disciplined; moderate-size formations (up to battalion)	Hierarchical; brigade or larger-sized formations
WEAPONS	Small arms, RPGs, mortars, short-range rockets, improvised explosive devices/ mines	Same as irregular, but with stand-off capabilities (ATGMs, MANPADS, longer-range rockets)	Sophisticated air defenses; ballistic missiles; conventional ground forces; special operations forces; air forces; navies; some with nuclear weapons
COMMAND & CONTROL	Cell phones; runners; decentralized	Multiple means; decentralized	All means; generally centralized

during the Cold War, the United States has not fought an adversary capable of contesting U.S. operations across all domains since World War II. Figure 1 depicts the range of adversaries—and their associated capabilities—whom the United States must be prepared to deter and defeat.

Each of these types of enemies presents challenges to the joint force—as well as opportunities, which will also be discussed. It is important to note that at this time irregular and hybrid adversaries are not able to contest U.S. supremacy in air and maritime domains, but several state adversaries—particularly Russia and China—do have this ability.

Terrain and Weather

Joint Publication 3-31, *Command and Control for Joint Land Operations*, defines the land domain as “the area of the Earth’s surface ending at the high water mark and overlapping with the maritime domain in the landward segment of the littorals.”¹⁷ Joint doctrine also stresses the importance of the physical environment:

Weather, terrain, and sea conditions can significantly affect operations and sustainment support of the joint force and should be carefully assessed before and during sustained combat operations. Mobility of the force, integration and synchronization of operations, and ability to employ precision munitions can be affected by degraded conditions. Climatological and hydrographic planning tools, studies, and forecast products help the JFC [joint forces command] determine the most advantageous time and location to conduct operations.¹⁸

Of all the domains, the land domain has the greatest ability to create operational friction. It is the environment that informed Clausewitz’s admonition that “Everything in war is very simple, but the simplest thing is difficult.”¹⁹ Soldiers and Marines cannot “slip the surly bonds of earth.”²⁰ It is the domain where humans live, and operating there almost certainly results in human interaction—for good or ill.

The land domain can provide opportunities for adversaries—or friendly forces—to hide from observation and avoid accurate attack from the other domains, particularly the air domain. This was the case in the 2006 Lebanon War, when Hezbollah hid rockets and other systems in forested areas and in bunkers to avoid detection and attack from Israel’s air force. Similarly, the Islamic State went to ground in Mosul, using congested, dense urban areas and “hiding amongst the people” to avoid destruction from the air and to force Iraqi ground forces to clear the city block by block.²¹

Furthermore, the land domain, unlike the other physical domains, is highly variable and its very nature forces adaptation by ground forces. The 2005 Army working definition of “complex terrain” is instructive: “those areas that severely restrict the Army’s ability to engage adversaries at a time and place of its choosing due to natural or man-made topography, dense vegetation or civil populations, including urban, mountains, jungle, subterranean, littorals and swamps. In some locales, such as the Philippines, all of these features can be present within a ten kilometer radius.”²² Retired Lieutenant General Patrick M. Hughes succinctly summed up the implications of operating in complex terrain: “It is dam [sic] hard to find a vacant lot to hold a war in . . . and in this new era of warfare, that’s the last thing the enemy wants anyway.”²³

Operations in Afghanistan, both now and during occupation by the Soviet Union, show the effects of complex terrain. The absence of roads and the mountainous terrain make helicopters important in moving forces, medical evacuation and resupply. The weather and terrain (cool

and thin air at high altitudes negatively affects lift), however, also make flying helicopters much more difficult than in Iraq (hot air at low altitudes positively affects lift).²⁴ Air operations against the Islamic State, until it went to ground in urban areas, cut off their lines of communication—as they had for pro-Gaddafi forces in Libya—because Islamic State forces were in relatively open terrain. What is visible to American forces can be seen and hit, particularly from the air and maritime domains, with near impunity where the United States dominates the air, maritime, space and cyber domains. This was not the case in Kosovo or Vietnam, where the terrain enabled the enemy to hide from U.S. aerial observation and strike. Two other types of terrain in land operations are particularly worth mentioning: littoral and urban areas.

Littoral areas are where the maritime domain transitions to the land domain. For amphibious operations, particularly during forcible entry, “The littoral area contains two parts. First is the seaward area from the open ocean to the shore, which must be controlled to support operations ashore. Second is the landward area inland from the shore that can be supported and defended directly from the sea.”²⁵ The fielding of advanced A2/AD capabilities by Russia and China make operating in the littorals increasingly difficult against those states and their current and future clients.

The continued global trend toward urbanization means that dense urban terrain is a likely future operational environment. As Army Chief of Staff Mark Milley noted in October 2016, “In the future, I can say with very high degrees of confidence, the American Army is probably going to be fighting in urban areas.”²⁶ While urban terrain can affect all the domains, it creates particularly difficult challenges for land forces, as recent U.S. experiences in Mogadishu, Fallujah, Baghdad and Mosul demonstrate.²⁷ Dense urban areas enable an adversary to hide, to move unobserved and to achieve positions of advantage over friendly forces. It slows ground operations and often involves clearing buildings one-by-one, putting friendly ground forces at risk. Finally, many urban areas exist in the littorals, combining these two challenges for land operations.

Weather, notoriously unpredictable and changing, can also complicate the challenges of the land domain and can impede the ability to employ maritime and air domain capabilities. As the Germans realized during Operation Barbarossa, winter in Russia can be a formidable adversary. Weather and tides were critical decision points for the invasion of Normandy in June 1944 and Incheon in September 1950. Bad weather enabled the German offensive in the Ardennes in late 1944 by grounding Allied air support. Finally, a sand storm caused a pause in ground maneuver during the Coalition drive to Baghdad in 2003. Cold and heat can affect the performance of Soldiers and increase logistical demands.

Troops

The troops available to the operational commander are a key consideration. Is the force sufficient and supported with the correct capabilities to accomplish the assigned mission? Are they the right kind of force to counter enemy capabilities? Are sufficient joint enablers—air support, maritime control, cyber, electronic warfare and space assets—in place to support land operations? Examples abound when poor answers to these questions created significant operational and political problems. Insufficient numbers of troops not trained for security, military governance and stability operations failed to secure Iraq after the collapse of the regime of Saddam Hussein, spawning an insurgency whose aftereffects are still roiling the Middle East.²⁸ Force caps made mission accomplishment difficult during Operation Restore Hope in Somalia, while the absence of U.S. armor in the aftermath of the Blackhawk Down

incident made the extraction of U.S. Army Rangers and Delta Force Soldiers impossible until Pakistan and Malaysia provided tanks and armored personnel carriers to assist in their disengagement.²⁹ Insufficient forces in the Marine Corps and the Army made it impossible to deploy enough ground forces to meet doctrinal COIN security force to population ratios in Iraq and Afghanistan simultaneously.³⁰

While decisions about how many and what kind of troops to deploy are frequently political in nature, these decisions can have profound effects on land operations. At the end of the day, although military strategy is the servant of policy, a clear understanding of the numbers and types of troops—and their support—is critical in designing operational plans that will solve the problem confronting policy.

Time

Time available is a critical variable in military operations, particularly in the land domain. The Army is charged by Department of Defense (DoD) directive to “conduct prompt and sustained combined arms combat operations on land in all environments and types of terrain, including complex urban environments, in order to defeat enemy ground forces, and seize, occupy, and defend land areas.”³¹ “Prompt” is the key word. The Army, since the end of the Cold War, has greatly reduced its forward presence in Europe and in the Pacific. The wars in Afghanistan and Iraq in the aftermath of the initial invasions have been sustained by forces rotating in and out of these countries (and others) without being contested by an enemy. In short, time has not been an issue in getting the allotted forces into theater or sustaining them during these recent operations. This is not likely to be the case with crisis response, limited contingency or large-scale combat operations.

Army airborne forces, Marine Corps air-ground task forces and special operations forces provide the DoD with limited capabilities to rapidly deploy relatively small numbers of forces to deal with crises and contingencies and to serve as the vanguard of more slowly arriving ground formations from the Army and the Marine Corps. Marine Corps Doctrinal Publication 1-0, *Marine Corps Operations*, explains this very clearly:

Like all members of the joint team, the Marine Corps conducts expeditions—military operations by an armed force to accomplish a specific objective in a foreign country. Each Service contributes complementary capabilities to any expedition. The Navy, Air Force, and Army are optimized to dominate the sea, air, and land, respectively. **Generally, the greater the capability and capacity required to dominate those portions of the sea, air, or land necessary to accomplishing the overall objective of the expedition, the longer it will take to deploy the associated forces.** Simply put, **there is a tradeoff between size and speed whenever an expedition is put in motion** [emphasis added].

While the Marine Corps may operate on and from the sea, in and from the air, and on the land, it is not optimized to dominate any of them. Rather, the Marine Corps is optimized to be expeditionary—a strategically mobile middleweight force that can fill the gaps created by the size/speed tradeoff.³²

Thus, the inherent dilemma posed in the land domain by time is that the joint force is limited to prepositioned ground forces, a limited rapid ground response or operations in the other domains until land forces of sufficient size and capability can deploy to the area of operations.

Civil Considerations

Civil considerations were added to METT-T after operations in Bosnia, Kosovo and elsewhere, as first elaborated in Army doctrine in 2001:

Civil considerations relate to civilian populations, culture, organizations, and leaders within the AO [area of operations]. Commanders consider the natural environment, to include cultural sites, in all operations directly or indirectly affecting civilian populations. Commanders include civilian political, economic, and information matters as well as more immediate civilian activities and attitudes.³³

The importance of protecting the population in COIN operations, the “CNN effect,” and social media that transmit civilian casualties and collateral damage images globally have created limits, particularly among Western states, on the degree of military force considered appropriate or “usable” in various situations. These sensibilities often result in restrictive rules of engagement (ROE). Even in the war against the Islamic State, whose depredations against civilians are infamous, a coalition strike that caused civilian casualties in Mosul essentially shut down operations for a period of time.³⁴ Furthermore, the practice of lawfare or “the strategy of using—or misusing—law as a substitute for traditional military means to achieve a warfighting objective” has significantly affected the ways in which “strong” militaries can operate against “weak” actors, particularly if there is a risk of civilian casualties.³⁵ Hamas has positioned rockets in civilian neighborhoods to purposely make Israel bring on international approbation when it legally attacks them; the Islamic State uses human shields to limit the ability of the coalition to attack them from the air.

Importantly, these constraints force changes in the way Western militaries employ military force and weapons against irregular and hybrid adversaries. Thus, many Western states have banned the use of cluster munitions because they do not need them to succeed against low- and mid-level adversaries. This is not the case against state actors, e.g., Russia or North Korea, where area coverage is necessary to defeat dispersed and mobile capabilities like artillery, rockets and air defenses.³⁶

How Land Forces are Employed

Since the passage of the Goldwater-Nichols Act of 1986, command of U.S. military forces runs from the President through the Secretary of Defense to the combatant commanders.³⁷ The military services provide the combatant commanders with forces that are trained, organized and equipped to operate across the domains to support the range of military operations and activities within a combatant commander’s theater of operations. A joint force commander has subordinate commanders who oversee forces from their own services as well as functional commands, e.g., special operations forces. Together, these subordinate commanders provide the combatant command with the ability to conduct operations across the domains.

Types of Military Operations and Activities

Although the “ultimate purpose of the U.S. Armed Forces is to fight and win the nation’s wars,” they are also employed to achieve many other objectives. The U.S. joint force and the services, either in combination or independently in support of the combatant command, are routinely engaged in or prepared for a wide variety of missions, tasks and activities, as shown in Figure 2.³⁸

Figure 2

Examples of Military Operations and Activities³⁹

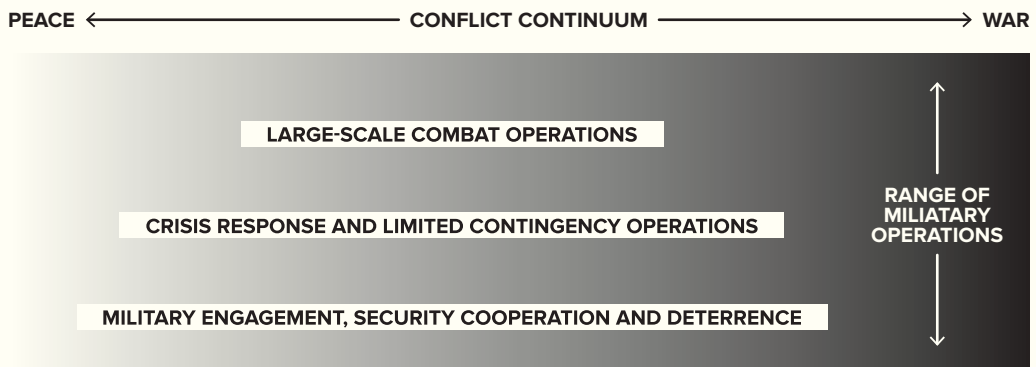
- Stability activities
- Defense support of civil authorities
- Foreign humanitarian assistance
- Recovery
- Noncombatant evacuation
- Peace operations
- Countering weapons of mass destruction
- Chemical, biological, radiological and nuclear response
- Foreign internal defense
- Counterdrug operations
- Combating terrorism
- Counterinsurgency
- Homeland defense
- Mass atrocity response
- Security cooperation
- Military engagement

The Conflict Continuum and the Range of Military Operations

Operations “vary in purpose, scale, risk, and combat intensity along the conflict continuum . . . that ranges from peace to war” and “encompasses three primary categories: military engagement, security cooperation, and deterrence; crisis response and limited contingency operations; and large-scale combat operations” as shown in Figure 3.

Figure 3

Notional Operations across the Conflict Continuum⁴⁰



Military operations and activities may or may not involve combat and may also occur simultaneously with other operations, e.g., a noncombatant evacuation operation (NEO) defined as “an operation to evacuate noncombatants and civilians from foreign countries to safe havens or to the U.S. when their lives are endangered by war, civil unrest, or natural disaster.”⁴¹ An example of an NEO for humanitarian reasons occurred in June 1991, when Mount Pinatubo in the Philippines erupted. Operation Fiery Vigil evacuated over 20,000 refugees under urgent, but noncombat, conditions.⁴² The April to June 1996 evacuation of 2,444 people (485 Americans and 1,959 citizens of 68 other countries) during Operation Assured Response in the face of renewed civil war in Liberia is an example of an NEO where there was the potential for combat.⁴³ Furthermore, foreign internal defense, counterdrug, counterterrorism, COIN and security cooperation operations have all occurred simultaneously in Afghanistan. Finally, all of these types of operations and activities occur in the land domain and generally require ground forces.

The mission in military engagement, security cooperation and deterrence operations is “to prevent and deter conflict by keeping adversary activities within a desired state of cooperation

and competition.”⁴⁴ These are ongoing activities that support the theater security cooperation plans of the combatant commands. An example is Pacific Pathways, where Army units have conducted exercises and engagement activities with foreign militaries in the Pacific Command area of operations, including in Mongolia, Japan, South Korea, Thailand, the Philippines, Malaysia and Indonesia.”⁴⁵

In crisis response and limited contingency operations, the mission is typically to address a specific objective. NEOs are such a mission. These missions can also take the form of strikes or raids. A strike is a mission “to damage or destroy an objective or capability.” Operation El Dorado Canyon, the 1986 attack on Libya after a terrorist attack on U.S. servicemembers in Berlin, is an example of a strike mission. The April 2017 attack on Syria after it employed chemical weapons on civilians is another.⁴⁶ The mission of a raid is “to temporarily seize an area, usually through forcible entry, in order to secure information, confuse an enemy, capture personnel or equipment, or destroy an objective or capability” and “end with a planned withdrawal upon completion of the assigned mission.”⁴⁷ Special operations missions into Pakistan to kill Osama bin Laden and into Yemen to seize intelligence information are examples of raids.⁴⁸ It is important to note that raids often involve putting boots on the ground to accomplish objectives.

The mission of a large-scale combat operation is to achieve key strategic objectives. Examples include: Operation Just Cause in 1989 to overthrow Panamanian dictator Manuel Noriega; Operation Desert Storm in 1991 to remove Iraqi forces from Kuwait; Operation Enduring Freedom in 2001 to preclude terrorists from using Afghanistan as a base of operations and to destroy al Qaeda; and Operation Iraqi Freedom to end the regime of Saddam Hussein. Mission accomplishment in these types of operations involves the synchronization of military power across all the domains as well as the integration of the diplomatic, informational and economic instruments of national power.

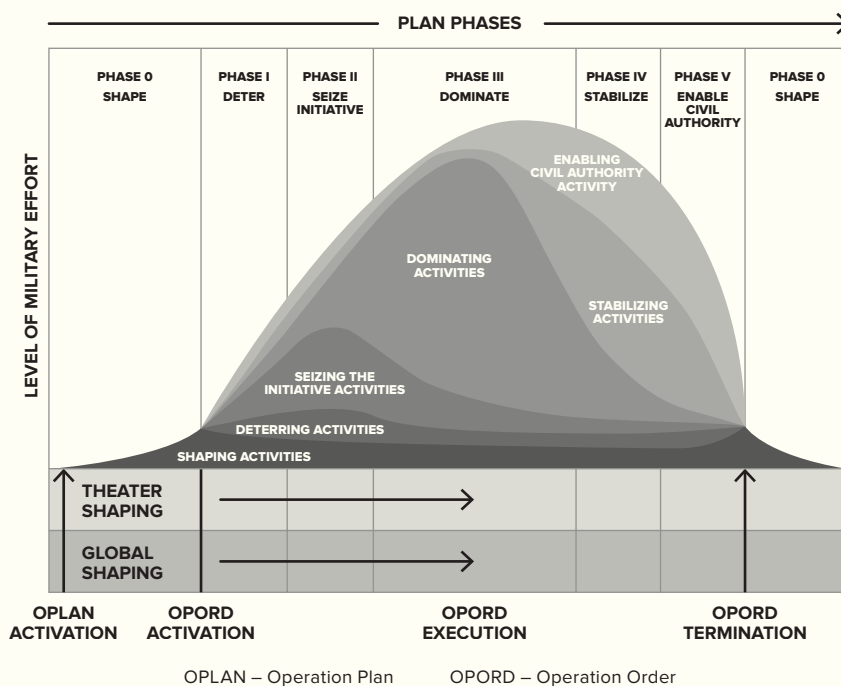
Combatant commanders routinely plan for operations and conduct shaping activities within their theaters in accordance with their theater security cooperation plans—Phase 0 operations. They also develop flexible deterrent options (FDOs) and flexible response options (FROs) for the Secretary of Defense and the President:

FDOs and FROs are executed on order and provide scalable options to respond to a crisis. Both provide the ability to scale up (escalate) or de-escalate based on continuous assessment of an adversary’s actions and reaction. While FDOs are primarily intended to prevent the crisis from worsening and allow for de-escalation, FROs are generally punitive in nature.⁴⁹

Figure 4 shows how a military operation is planned and executed in phases that extend from peacetime Phase 0 shaping activities through combat to the resumption of Phase 0. What is important in this figure is a steady increase of military effort during Phase I (deter) and Phase II (seize the initiative) before reaching Phase III (dominate). Since the end of the Cold War, Phase II and Phase III in large-scale operations have required moving the majority of forces, particularly land forces and their sustainment from CONUS to the theater of operations.

Operations Desert Shield and Desert Storm are good examples of how the United States has employed this phasing construct since the end of the Cold War. While the President and the rest of the executive branch of the government worked to establish coalitions, basing rights and other agreements, DoD began moving forces forward to deter Saddam Hussein from attacking Saudi Arabia. This involved activity across the domains, with significant air and maritime components rushing to theater, and a land “speed bump,” initially provided by

Figure 4
Notional Operation Plan Phases⁵⁰



the rapidly deployable 82nd Airborne Division and backed up by overwhelming U.S. superiority in all other domains.

Over the next five months, the U.S. coalition built up sufficient forces and sustainment capacity to seize the initiative and then dominate in air and ground offensive operations. What is extremely important from this example—and from the initial operations in virtually all large-scale U.S. operations since World War II—is the fact that the United States initially had unchallenged supremacy in all but the land domain; this dominance enabled a sanctuary for the build-up of sufficient forces to win in Phase III.

Against near-peer regional adversaries, U.S. abilities to project power into their regions or to steadily build up combat power and sustainment capacity will be confronted by formidable A2/AD capabilities. Having sufficient ground forces in place to deter hostile action is particularly relevant in the Baltic States. Analysis has shown that, given the current U.S. posture in Eastern Europe, Russia could take and occupy Estonia and Latvia and present NATO with a *fait accompli* within 36 to 60 hours.⁵¹ Air, maritime, cyber and space responses would merely be punishment after the fact. Furthermore, U.S. land forces, accustomed to freely leveraging the other domains and to being largely shielded from enemy action except on the ground, would be contested from across all domains as adversaries enjoyed periods of relative sanctuary while U.S. forces and partners worked to erode A2/AD barriers to regain access to the fight.

Leveraging the Domains against the Range of Adversaries

The U.S. military is awakening to the reality that it cannot assume domain dominance against regional adversaries like China and Russia. That said, the United States still has

significant advantages against irregular and hybrid adversaries. Figure 5, below, shows the roles for the application of air and ground power against irregular, state-supported hybrid and state adversaries.

Figure 5

U.S. Air-Ground Integration against Different Types of Adversaries⁵²

	NON-STATE IRREGULAR	STATE-SPONSORED HYBRID	STATE
ROLE OF AIR POWER	<ul style="list-style-type: none"> Overhead intelligence, surveillance, and reconnaissance (ISR) and signals intelligence (SIGINT) are crucial because enemy does not mass and for finding and killing high value targets (HVTs) Air mobility key for supply and evacuation Mostly ground-directed close air support (CAS) with tight rules of engagement (ROE); key for force Air superiority contested below 3,000 feet; above 3,000 feet air mainly invulnerable 	<ul style="list-style-type: none"> Overhead ISR and SIGINT tightly linked with precision strikes Key to attacking enemy deep strike assets and HVTs Tight ROE for centralized strikes and CAS Suppression of enemy stand-off systems to allow ground maneuver Denies enemy massing and reinforcement Air superiority contested below 15,000 feet 	<ul style="list-style-type: none"> Key to deterrence via global reach/strike capabilities Overhead ISR and SIGINT tightly linked with precision strikes Strategic and operational air mobility and tankers are critical capabilities All domains (land, air, maritime, space, cyber) may be contested at all levels Centralized control is critical Can preclude large scale enemy ground maneuver if air superiority is established Bases are contested Operations may be in chemical, biological, radiological and/or nuclear environments
ROLE OF GROUND POWER	<ul style="list-style-type: none"> Focused on establishing security, human intelligence (HUMINT) and training indigenous forces Maneuver focused on clearing, holding and building Dispersed operations increase difficulty of force protection Tight ROE demands rigorous target identification 	<ul style="list-style-type: none"> Key to forcing enemy reaction and uncovering hidden assets Combined arms operations fundamental to success Closes with enemy defenses Dispersed and decentralized operations Operations that are both high-intensity and similar to major combat operations (MCOs) are possible at brigade levels and below Vulnerable lines of communication 	<ul style="list-style-type: none"> Troop deployment is a key signal Combined arms operations are key to success Ground maneuver forces enemy operational reaction Engages ground units that avoid air and indirect fire attacks; pursues those that do not Key for exploitation and consolidation of gains Deals with hybrid and/or irregular threats Key to establishing post-MCO security and stability Basing and staging are contested Operations may be in chemical, biological, radiological and/or nuclear environments
LEVEL OF AIR-GROUND INTEGRATION	<ul style="list-style-type: none"> Ground-centric, air-dependent operations Command, control, ISR assets and joint tactical air controllers best integrated at lower echelons for direct support 	<ul style="list-style-type: none"> Balanced operation requires tighter coordination, extensive training and rehearsals Centralized control of air with high responsiveness to ground units 	<ul style="list-style-type: none"> Highly-centralized air Air superiority is key to ground maneuvers Integrated suppression of enemy air defenses is key Supported-supporting relationships could be air or ground lead depending on operation—and could shift

This table demonstrates that U.S. dominance in the land and air domains diminishes (as it will in the maritime, space and cyber domains) as one prepares for irregular through state adversaries, as do the roles of air and ground power and the integration of these domains. U.S. operations in the other domains are generally analogous. Close air support (CAS) is a good example. Against irregular adversaries, U.S. aircraft can operate with near impunity above small arms (rifles, machine guns). Against a hybrid adversary with MANPADS or other air defense systems, aircraft must have countermeasures or operate outside the range of the adversary's systems. Furthermore, in complex terrain (urban, mountainous, jungle), land forces have to make these adversaries visible and engage them in close combat to locate and destroy their forces. This requires tightly integrated multidomain operations to strip away stand-off fire capabilities to get into close combat range, disrupt command and control, neutralize indirect and air defense fires and defeat or capture enemy land forces. Again, against these two levels of adversarial forces, the United States can maintain domain supremacy. Large gaps remain, however, in concepts and capabilities for state adversaries, particularly Russia and China, who will contest all domains.

In the *2017 Index of U.S. Military Strength*, Antulio Echevarria discussed the central importance—and challenges in crafting—new operational concepts to “provide a way to convert military strength into military power: the ability to employ military force where and when we want to employ it.”⁵³ Echevarria, while noting the success of some U.S. concepts like AirLand Battle, highlights the failure of effects-based operations and the incomplete nature of AirSea Battle.⁵⁴ What all of these concepts share is that they began as a way that U.S. forces wanted to fight and then later evolved into general purpose solutions to face any adversary.

Again, the rise of China and the resurgence of Russia pose dramatically different problems, as did Imperial Japan and Nazi Germany in the 1940s. AirSea Battle may be important in contesting China, but its utility in deterring Russia in Eastern Europe is less certain. Finally, familiar concepts like AirLand Battle may not offer satisfactory answers in Europe, as they did in the Cold War, when NATO had substantial ground forces deployed along its eastern border to confront the Warsaw Pact, in addition to having either parity or dominance in most domains.

The Current Debate

The resurgence of Russia has brought the role of land operations to the fore once again. Indeed, it is back to the war Fehrenbach described, the war that highlights the centrality of the land domain and the need to put boots (and other land-based capabilities—fires, electronic warfare, etc.) on the ground to achieve policy objectives and to enable success in the other domains:

Americans in 1950 rediscovered something that since Hiroshima they had forgotten: you may fly over a land forever; you may bomb it, atomize it, pulverize it and wipe it clean of life—but if you desire to defend it, protect it, and keep it for civilization, you must do this on the ground, the way the Roman legions did, by putting your young men into the mud.⁵⁵

These are the central points that make land forces a key component of a force to deter adversaries, as U.S. ground forces did on the Korean Peninsula after the Korean War and in NATO during the Cold War. Ground forces are also important to compel adversaries if deterrence fails; Operation Desert Storm accomplished this by pushing Iraqi forces out of Kuwait. Nevertheless, land operations have inherent risks and liabilities from a political perspective.

Putting troops on the ground signals a physical commitment that takes time to realize, but can be difficult to reverse—and there is the prospect of increased U.S. casualties.

What has changed since the Korean War, in the minds of many, is the notion that committing large numbers of ground forces from the Army or Marine Corps is necessary for success. Or, more problematically during the Vietnam War, a large ground commitment did not guarantee victory and, instead, unhinged internal U.S. political stability—all at great costs in blood, treasure and reputation.

Furthermore, in an argument that has its origins in the words of air power advocates after World War I—as well as believers in the game-changing nature of cyber capabilities—dominance in particular domains may deter or defeat adversaries or sufficiently degrade their capabilities such that they are contained and no longer a significant threat to the United States. In a corollary to these notions in the post-9/11 world, some argue that small numbers of highly-trained special operations forces have more utility than conventional ground forces because they can direct precision attacks from the air by air and maritime forces and can also conduct precision raids to kill or capture HVTs. Or, at most, small numbers of conventional ground forces can deploy to train and advise U.S. partners and enable their use of U.S. capabilities—without becoming directly engaged in combat themselves. Again, this limits the risks and liabilities of large numbers of boots on the ground engaged in close combat operations. These solutions are also targeted against specific adversaries that can be defeated by these operations and are likely to be ill-suited against current and future state actors.

Nevertheless, these are attractive policy options. Objectives can be realized by leading from behind, as happened during the 2011 campaign to topple Gaddafi in Libya by employing air, maritime, space and cyber capabilities to support allies with no conventional U.S. ground force commitment. Similarly, conventional ground forces working with and through partners while providing them with key mission enablers could allow U.S. partners to bear the brunt of ground combat. Note, however, that the United States has had to take a more active role in both Iraq and Afghanistan to defeat its adversaries.

This debate about the utility of conventional ground forces has intensified, particularly in the aftermath of over 16 years of war in Afghanistan and Iraq and the high-value targeting campaign employed globally in the war on terrorism. Essentially, as the argument goes, large numbers of ground forces could not reach sustainable, satisfactory outcomes despite significant surges in both Iraq and Afghanistan. Indeed, land power advocates are viewed by some as dinosaurs who do not realize that the world has moved on to precision stand-off fires that can dominate the land domain without the political risks of committing large numbers of ground forces to direct combat or enduring nation-building missions.

These arguments, however, are based on favorable U.S. experiences against adversaries who were unable to contest the air, maritime, space and cyber domains. While technology is changing at a rapid pace, an understanding of the challenges posed by adversaries, particularly those with varied capabilities, is fundamental to understanding the full portfolio of capabilities and capacities that the United States will require in the future. What has also changed since Fehrenbach's quote about the Korean War—"you may fly over a land forever; you may bomb it"—is the challenge posed by Chinese and Russian A2/AD systems. In the future, unfettered operations in the air domain (or the other domains) is not a given. Local superiority must be wrested from the enemy, and land forces will play a critical role in contesting their A2/AD capabilities.

The recently published Army and Marine Corps white paper, *Multi-Domain Battle: Combined Arms for the 21st Century*, recognizes the military problem that the current and future operating environments pose for the United States across the domains: “U.S. ground combat forces, operating as part of joint, interorganizational and multinational teams, are currently not sufficiently trained, organized, equipped or postured to deter or defeat highly capable peer enemies to win in future war.”⁵⁶ The paper also begins the discussion of a “solutions synopsis” for land forces as part of a joint fight:

*Multi-Domain Battle: Combined Arms for the 21st Century requires ready and resilient Army and Marine Corps combat forces capable of outmaneuvering adversaries physically and cognitively through the extension of combined arms across all domains. Through credible forward presence and resilient battle formations, future Army and Marine Corps forces integrate and synchronize capabilities as part of a joint team to create temporary windows of superiority across multiple domains and throughout the depth of the battlefield in order to seize, retain, and exploit the initiative; defeat enemies; and achieve military objectives [emphasis original].*⁵⁷

While a good starting point, the Multi-Domain Battle concept is just the beginning. Much work remains to be done, as American forces are now in a competition for the first time since the Cold War with adversaries who can challenge and perhaps defeat the United States in their local regions. Time and current resourcing levels are not on our side in countering these challenges—we urgently need to move forward to address them.

Endnotes

- ¹ *Multi-Domain Battle: Combined Arms for the 21st Century*, 24 February 2017, p. 1, http://www.tradoc.army.mil/MultiDomainBattle/docs/MDB_WhitePaper.pdf. An Army–Marine Corps white paper, this document notes that “The Joint services recognize five domains—air, land, maritime, space, and cyberspace. This paper highlights the electromagnetic spectrum, information environment, and cognitive dimension of warfare as additional contested areas that must be addressed by U.S. forces.”
- ² William Faulkner, *Requiem for a Nun* (New York, NY: Vintage Books, 2011), p. 73.
- ³ T. R. Fehrenbach, *This Kind of War* (Dulles, VA: Potomac Books, 2008), p. 290.
- ⁴ Fehrenbach, *This Kind of War*, p. x.
- ⁵ *DOD Dictionary of Military and Associated Terms*, August 2017, p. 157, http://www.dtic.mil/doctrine/new_pubs/dictionary.pdf.
- ⁶ Joint Publication (JP) 3-0: *Joint Operations* (Washington, DC: Government Printing Office, 17 January 2017), p. I-6.
- ⁷ JP 3-0, *Joint Operations*, p. I-1.

- ⁸ Carl von Clausewitz, *On War*, ed. and trans. Peter Paret and Michael Howard (Princeton, NJ: Princeton University Press, 1984), p. 605.
- ⁹ Headquarters, Department of the Army, Field Manual (FM) 3-0: *Operations* (Washington, DC: Government Printing Office, 2001), pp. Glossary-4 and Glossary-9. FM 3-0 *Operations* defines adversary as “A party acknowledged as potentially hostile to a friendly party and against which the use of force may be envisaged” and enemy as “A party identified as hostile against which the use of force is authorized.”
- ¹⁰ FM 3-0, *Operations*, p. 2-42.
- ¹¹ David E. Johnson, *Hard Fighting: Israel in Lebanon and Gaza* (Santa Monica, CA: RAND Corporation, 2011), pp. 148–149.
- ¹² See James T. Quinlivan, “Force Requirements in Stability Operations,” *Parameters: U.S. Army War College Quarterly*, vol. 25, no. 4 (Winter 1995–1996), pp. 59–69; Quinlivan’s analysis informed Army and Marine Corps doctrine on this topic in FM 3-24: *Counterinsurgency* (Washington, DC: Government Printing Office, 2006), which on p. 1-13 states, “Twenty counterinsurgents per 1000 residents is often considered the minimum troop density required for effective [counterinsurgency] operations; however as with any fixed ratio, such calculations remain very dependent upon the situation. . . . As in any conflict, the size of the force needed to defeat an insurgency depends on the situation.” See also David E. Johnson, “Fighting the ‘Islamic State’: The Case for U.S. Ground Forces,” *Parameters: U.S. Army War College Quarterly*, vol. 45, no. 2 (Summer 2015), p. 14, which notes, “One could argue that they were not met across Iraq during the surge, but within Baghdad, considered by many to be the center of gravity of the war, there were approximately 131,000 U.S.-Iraqi security forces in a city with a population of some 7,000,000, which came close to the doctrinal ratio.”
- ¹³ Johnson, *Hard Fighting*, pp. 153–154. See Army Doctrine Reference Publication (ADRP) No. 3-0: *Unified Land Operations* (Washington, DC: Government Printing Office, 2012), p. 1-3, for the Army definition: “The term hybrid threat has evolved to capture the seemingly increased complexity of operations, the multiplicity of actors involved, and the blurring between traditional elements of conflict. **A hybrid threat is the diverse and dynamic combination of regular forces, irregular forces, terrorist forces, and/or criminal elements unified to achieve mutually benefiting effects** [emphasis original].”
- ¹⁴ Headquarters, Department of the Army, *The U.S. Army Combat Vehicle Modernization Strategy* (Washington, DC: Government Printing Office, 2015), p. 15; Amos C. Fox, “The Russian–Ukrainian War: Understanding the Dust Clouds on the Battlefield,” Modern War Institute at West Point, 17 January 2017, <https://mwi.usma.edu/russian-ukrainian-war-understanding-dust-clouds-battlefield>.
- ¹⁵ Eric S. Edelman and Whitney Morgan McNamara, *U.S. Strategy for Maintaining a Europe Whole and Free*, Center for Strategic and Budgetary Assessments, 16 February 2017, pp. 13–26. See also David E. Johnson, *The Challenges of the “Now” and Their Implications for the U.S. Army* (Santa Monica, CA: RAND Corporation, 2016). Other state adversaries, e.g., North Korea and Iran, while perhaps not as formidable as China and Russia, can present significant challenges. They both possess large land forces, air defenses and large amounts of long-range artillery, rockets and missiles. North Korea also has nuclear weapons.
- ¹⁶ Adapted from Johnson, *Hard Fighting*, p. 171.
- ¹⁷ JP 3-31: *Command and Control for Joint Land Operations* (Washington, DC: Government Printing Office, 24 February 2014), p. ix.
- ¹⁸ JP 3-0: *Joint Operations*, pp. VIII-9–VIII-10.
- ¹⁹ Clausewitz, *On War*, p. 119.

- ²⁰ John Gillespie Magee, Jr., “High Flight,” 1941, <http://www.arlingtoncemetery.net/highflig.htm>.
- ²¹ Ulf Laessing and Maher Chmaytelli, “Iraqi Forces Fight Door-to-Door in Mosul as Battles Enters Seventh Month,” *Reuters*, 17 April 2017, <https://www.reuters.com/article/us-mideast-crisis-iraq-mosul/iraqi-forces-fight-door-to-door-in-mosul-as-battles-enters-seventh-month-idUSKBN17J0TI>. A good source for understanding the physical characteristics of the land domain and their implications for operations is John M. Collins, *Military Geography: For Professionals and the Public* (Washington, DC: Potomac Books, 1998).
- ²² Brad Andrew, “It’s More Than Urban,” *Military Intelligence Professional Bulletin*, 1 April 2005, <https://www.thefreelibrary.com/It%27s+more+than+urban+...-a0144014687>.
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- ²⁴ Mark Thompson, “Why Flying Choppers in Afghanistan Is So Deadly,” *Time*, 27 October 2009, <http://content.time.com/time/nation/article/0,8599,1932386,00.html>.
- ²⁵ JP 3-0: *Joint Operations*, p. VIII-11.
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- ²⁸ See Thomas E. Ricks, *Fiasco: The American Military Adventure in Iraq* (New York, NY: Penguin Books, 2006).
- ²⁹ David E. Johnson, with Adam Grissom and Olya Olikier, *In the Middle of the Fight: An Assessment of Medium-Armored Forces in Past Military Operations* (Santa Monica, CA: RAND Corporation, 2008), MG-709-A, pp. 131–136; Mark Bowden, *Black Hawk Down: A Story of Modern War* (New York, NY: Atlantic Monthly Press, 1999).
- ³⁰ David E. Johnson, “What Are You Prepared to Do? NATO and the Strategic Mismatch between Ends, Ways, and Means in Afghanistan—and in the Future,” *Studies in Conflict and Terrorism*, vol. 34, no. 5 (May 2011), pp. 389–390; Johnson, “Fighting the ‘Islamic State,’” p. 14.
- ³¹ U.S. Department of Defense, “Department of Defense Directive Number 5100.0: Functions of the Department of Defense,” 21 December 2010, pp. 29–32, <http://www.dtic.mil/whs/directives/corres/pdf/510001p.pdf>.
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- ³⁶ David E. Johnson and Ryan Boone, “Improved Conventional Munitions Policy,” Center for Strategic and Budgetary Assessments, 7 March 2017.
- ³⁷ JP 3-0: *Joint Operations*, p. V-13.
- ³⁸ Chapter V of JP 3-0: *Joint Operations*, http://www.dtic.mil/doctrine/new_pubs/jp3_0.pdf, provides extensive detail on each of these operations and activities.
- ³⁹ Adapted from JP 3-0: *Joint Operations*, p. V-2.
- ⁴⁰ Adapted from JP 3-0: *Joint Operations*, p. V-4.
- ⁴¹ JP 3-0: *Joint Operations*, p. V-2.
- ⁴² John Treiber, “Operation Fiery Vigil Brought 21,000 Refugees to Anderson,” *Anderson Air Force Base News*, 28 June 2007, <http://www.andersen.af.mil/News/ArticleDisplay/tabid/1992/Article/415796/operation-fiery-vigil-brought-21000-refugees-to-andersen.aspx>. See also C. R. Anderegg, *The Ash Warriors* (Hickam Air Force Base, HI: Office of PACAF History, 2000), for a detailed description of the evacuation, particularly of Clark Air Force Base in the Philippines.
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- ⁴⁵ Michelle Tan, “Army Grows Pacific Pathways, Ties with Asian Partners,” *Army Times*, 24 August 2016, <https://www.armytimes.com/articles/army-grows-pacific-pathways-ties-with-asian-partners>.
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- ⁵¹ David A. Shlapak and Michael Johnson, *Reinforcing Deterrence on NATO’s Eastern Flank: Wargaming the Defense of the Baltics* (Santa Monica, CA: RAND Corporation, 2016), p. 4; David A. Shlapak and Michael Johnson, *Rethinking Russia’s Threat to NATO*, video presentation, RAND Corporation, 2016, <http://www.rand.org/pubs/presentations/PT159.html>.
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- ⁵⁴ Echevarria, “Operational Concepts and Military Strength,” p. 43.
- ⁵⁵ Fehrenbach, *This Kind of War*, p. 290.
- ⁵⁶ *Multi-Domain Battle: Combined Arms for the 21st Century*, p. 4.
- ⁵⁷ *Ibid.*