Rethinking Special Operations Armed Overwatch

A Monograph

by

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14. ABSTRACT
The 2017 ambush of four US special operations soldiers in Niger prompted United States Special Operations Command (USSOCOM) to undertake an "armed overwatch" program to provide a dedicated aircraft to support special operations forces (SOF) across austere environments. Despite Department of Defense (DoD) support, Congress prohibited funding a new aircraft in the 2021 National Defense Authorization Act (NDAA) and mandated more analysis regarding armed overwatch roles and responsibilities, doctrinal changes, and relevance to the future threat environment. Armed overwatch is not a doctrinally defined term. USSOCOM has suggested four existing doctrinal characteristics represent its cumulative character: close air support (CAS), armed intelligence surveillance and reconnaissance (ISR), precision strike, and strike coordination and reconnaissance (SCAR). Instead of clarity, however, the fusion of these doctrinal missions creates friction. This is paradoxical for a glaring reason; the essence of armed overwatch, protecting ground troops from the air, is not a new military phenomenon. Historically, the concept of armed overwatch has deep roots in US military aviation, especially among congressionally mandated special operations activities such as special reconnaissance (SR), direct action, and counterinsurgency (COIN). Mindful of the past, armed overwatch must determine whether to acknowledge challenges of the future threat environment. An era of great power competition viewed through the lens of grey zone warfare provides an analytical approach for armed overwatch below the threshold of large-scale combat operations. Alternatively, the rapid emergence of technological trends characterizes an evolution in warfare that armed overwatch must consider both doctrinally and materially to remain relevant in non-contested environments. The term armed overwatch is presently used interchangeably in various contexts: a program, an aircraft, and a mission. Because of a lack of shared understanding, armed overwatch suffers from a lack of identity and narrative, especially amidst the current and future international security environment. This monograph seeks to apply the lenses of doctrine, history, and the future operating environment to make sense of and "rethink" armed overwatch.

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Abstract

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The 2017 ambush of four US special operations soldiers in Niger prompted United States Special Operations Command (USSOCOM) to undertake an “armed overwatch” program to provide a dedicated aircraft to support special operations forces (SOF) across austere environments. Despite Department of Defense (DoD) support, Congress prohibited funding a new aircraft in the 2021 National Defense Authorization Act (NDAA) and mandated more analysis regarding armed overwatch roles and responsibilities, doctrinal changes, and relevance to the future threat environment.

Armed overwatch is not a doctrinally defined term. USSOCOM has suggested four existing doctrinal characteristics represent its cumulative character: close air support (CAS), armed intelligence surveillance and reconnaissance (ISR), precision strike, and strike coordination and reconnaissance (SCAR). Instead of clarity, however, the fusion of these doctrinal missions creates friction. This is paradoxical for a glaring reason; the essence of armed overwatch, protecting ground troops from the air, is not a new military phenomenon. Historically, the concept of armed overwatch has deep roots in US military aviation, especially among congressionally mandated special operations activities such as special reconnaissance (SR), direct action, and counterinsurgency (COIN). Mindful of the past, armed overwatch must determine whether to acknowledge challenges of the future threat environment. An era of great power competition viewed through the lens of grey zone warfare provides an analytical approach for armed overwatch below the threshold of large-scale combat operations. Alternatively, the rapid emergence of technological trends characterizes an evolution in warfare that armed overwatch must consider both doctrinally and materially to remain relevant in non-contested environments.

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Abbreviations

A2/AD	Anti Access/Area Denial
AFRICOM	United States Africa Command
AFSOC	Air Force Special Operations Command
AI	Artificial Intelligence
C2	Command and Control
CAS	Close Air Support
COIN	Counterinsurgency
CT	Counterterrorism
CVEO	Countering Violent Extremist Organizations
DoD	Department of Defense
DOTmLPF-P	Doctrine, Organization, Training, materiel, Leadership and Education, Personnel, Facilities, and Policy
F2T2EA	Find, Fix, Track, Target, Engage and Assess
FAC(A)	Airborne Forward Air Controller
GCAS	Ground Alert Close Air Support
ISR	Intelligence, Surveillance, and Reconnaissance
IW	Irregular Warfare
JADC2	Joint All-Domain Command and Control
JFIRE	Joint Application of Firepower
JP	Joint Publication
LAA	Light Attack Aircraft
NATO	North Atlantic Treaty Alliance
NDAA	National Defense Authorization Act
NDS	National Defense Strategy
NSS	National Security Strategy
SCAR	Strike Coordination and Reconnaissance

SF	Special Forces
SOF	Special Operations Forces
SR	Special Reconnaissance
sUAS	Small Unmanned Aircraft System
UAV	Unmanned Aerial Vehicle
USSOCOM	United States Special Operations Command
XCAS	Airborne Alert Close Air Support

Introduction and Armed Overwatch Fundamentals

> Airplanes engaged in reconnaissance missions will be prepared to attack hostile ground forces, in order that emergency combat support may be rendered [to] friendly ground units without delay.
>
> —United States Marine Corps, *Small Wars Manual, 1940*

Background

On October 4, 2017, armed Islamic State militants ambushed a United States Special Forces (SF) team near Tongo Tongo, Niger.[1] Four American SF and five allied Nigerien troops died during the attack.[2] The incident represented the most significant combat loss of American lives in Africa since the Battle of Mogadishu in 1993.[3] Subsequent concern over US special operations military activities in Africa led to formal congressional and United States Africa Command (AFRICOM) investigations.

The roles of airborne intelligence, surveillance, and reconnaissance (ISR), command and control (C2), and close air support (CAS) were significant factors in the review of the Tongo Tongo incident. First, an airborne ISR asset that initially supported the SF team during their mission was re-tasked to support another military objective before the team returned to their base.[4] After friendly troops encountered enemy fire, it took ninety-one minutes for a US aircraft to arrive overhead.[5] Second, the area of operations in Africa is geographically large and diverse (Appendix A), and it is impossible to dedicate aircraft to every mission or priority concurrently.

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[1] Thomas Gibbons-Neff, "An Operation in Niger Went Fatally Awry. Who Is the Army Punishing?," *The New York Times*, November 3, 2018, accessed August 10, 2020, https://www.nytimes.com/2018/11/03/world/middleeast/army-niger-members-punished.html.

[2] Ibid.

[3] Ibid.

[4] Col Robert Manning, Robert S. Karem, Gen Thomas D. Waldhauser, and Maj Gen Roger L. Cloutier Jr., "DoD Press Briefing on the Results of the Investigation into the October 4, 2017, Ambush in Niger," (Transcript, May 10, 2018), 12, accessed September 14, 2020, https://www.defense.gov/Newsroom/Transcripts/Transcript/Article/1518332/department-of-defense-press-briefing-on-the-results-of-the-investigation-into-t/.

[5] Ibid., 13.

The AFRICOM investigation found that ISR "was hindered by limited operational planning and procedures, and a lack of coordination and synchronization with US forces and partner nations."[6] The SF team did not receive dedicated airborne ISR throughout the entirety of the mission.[7] Conceivably, uninterrupted ISR coverage, especially from the same platform, would have alerted friendly forces to the advance of potentially hostile forces during critical stages of the mission. Finally, the inability to provide immediate CAS from a US military aircraft was significant. The only available CAS, two allied French fighter jets, were not airborne when the enemy first attacked the SF team.[8] Once the jets arrived overhead to assist, they could not establish contact with the SF team, identify their exact location, or distinguish enemy personnel.[9] Outside of providing a show of force, they were combat ineffective for their intended purpose of providing CAS.

These findings point to a resounding conclusion: an airborne platform capable of providing a distinctive arrangement of dedicated ISR, discrete CAS, and C2 would likely have alerted the SF team to hostile forces and prevented the event's tragic outcome. Today, the Tongo Tongo incident represents a watershed event within United States Special Operations Command (USSOCOM). The outcome serves as a seminal foundation for the acquisition effort of an entirely new USSOCOM aviation program called "armed overwatch."

[6] US Africa Command, "Army Regulation 15-6 Investigation Findings: 4 October 2017 Enemy Contact Event in Tongo Tongo, Niger" (Memorandum for Commander, October 14, 2017), 130, accessed October 26, 2020, https://www.aclu.org/sites/default/files/field_document/34-8._exhibit_2.7_3.25.20.pdf, document is now declassified.

[7] US Africa Command, "Army Regulation 15-6 Investigation Findings: October 4, 2017, Enemy Contact Event in Tongo Tongo, Niger" (Memorandum for Commander, October 14, 2017), 3-4, accessed October 26, 2020, https://www.aclu.org/sites/default/files/field_document/34-5._exhibit_2.4_3.25.20.pdf.

[8] Ibid., 142.

[9] Ibid., 79.

The armed overwatch program received formal support from stakeholders within USSOCOM.[10] Moreover, numerous opinion articles were published in the wake of the Tongo Tongo incident and argued that a special operations armed overwatch aircraft for USSOCOM is valid and justified.[11] However, congressional concerns about the requirement's validity have jeopardized funding and the program's future. In both houses of Congress, US lawmakers raised questions in committee meetings regarding armed overwatch's overall value, rapid acquisition timeline, operation, sustainment costs, and potential negative impacts.[12] In particular, the Senate Armed Services Committee stipulated "an analysis to define the special operations-peculiar requirements for armed overwatch aircraft and determine whether the acquisition of a new special operations-peculiar platform is the most effective means of fulfilling such requirements."[13] Ultimately, a final bipartisan congressional committee expressly mandated more analysis regarding armed overwatch roles and responsibilities, doctrinal impacts, threats from the future operating environment, and potential materiel solutions.[14] The final passage of the National Defense Authorization Act (NDAA) in January 2021 restricted any funding until armed overwatch could be reviewed, validated, and certified.[15]

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[10] USSOCOM, *U.S. Special Operations Validation of Special Operations Rapid Requirements Document for Special Operations Forces Armed Overwatch* (Document received by author via email September 2, 2020), 1.

[11] Lt Gen John Mulholland, Lt Gen Tom Trask, Maj Gen Mark Clark, and Rear Adm Brian Hendrickson, "The Growing Need for a Modern Aircraft Platform for Special Forces," *The Hill (blog)*, July 2, 2020, accessed July 10, 2020, https://thehill.com/blogs/congress-blog/politics/505757-the-growing-need-for-a-modern-aircraft-platform-for-special.

[12] Rachel S. Cohen, "Congress Questions Need for New Armed Overwatch Planes for SOCOM," *Air Force Magazine*, July 1, 2020., accessed July 12, 2020, https://www.airforcemag.com/congress-questions-need-for-new-armed-overwatch-planes-for-socom/.

[13] Select Committee on Armed Services, Senate, National Defense Authorization Act for Fiscal Year 2021, 116th Cong., 2nd sess., January 2020, S. Rep. 116-236, sect. 176, 19.

[14] Select Committee on Armed Services, House, National Defense Authorization Act for Fiscal Year 2021, 116th Cong., 2nd sess., December 2020, HR Rep. 116-617, sect. 163, 1535-1536.

[15] US Congress, William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, 116th Cong., 2nd sess., January 2021, Public Law 116-283, sect. 163, 64.

Purpose

This monograph analyzes armed overwatch by examining its identity as charged by the 2021 NDAA. The questions below provide a structure for underwriting this primary research task:

1. What is armed overwatch, and what are its doctrinal roles and characteristics?
2. What does a dual framework of special operations unique missions and historical applications of armed overwatch suggest regarding its validity?
3. What is armed overwatch's role and responsibility in future threat environments amid an era of great power competition, and does this indicate a need to rethink alternatives?

Scope

Organizational theorist Karl Weick defines "sensemaking" as the process of "turning circumstances into a situation that is comprehended explicitly in words that serve as a springboard into action."[16] Tongo Tongo's circumstances give meaning to armed overwatch and help give the requirement an identity and a shared narrative. However, as Congress has indicated in the NDAA, more analysis is needed to answer the question of "what is the story of armed overwatch?"

Making sense of armed overwatch requires an understanding of clear roles, responsibilities, and characteristics. The first section of this monograph will examine armed overwatch through doctrine to determine its identity. The term armed overwatch is presently used interchangeably as a program, mission, and potential future aircraft. Armed overwatch's lack of exact meaning prevents common understanding and obstructs identity and narrative development crucial to gaining Congressional approval and funding. Doctrine is a helpful framework to

[16] Karl E. Weick and Kathleen M. Sutcliffe, "Organizing and the Process of Sensemaking," *Organization Science* 16, no. 4 (August 2005): 409.

develop a clear and shared understanding of armed overwatch and is valuable in determining a succinct identity and forming a crisp narrative.

Second, special operations activities as defined by US Title 10 law, coupled with historical case studies, provide another lens to analyze armed overwatch. Special reconnaissance (SR), direct action, and counter insurgency (COIN) represent three special operations activities that prove armed overwatch is valid because it is a historical aerial mission. Surprising examples from the American Civil War, early 20th century Marine Corps' expeditions, and Korean and Vietnam Wars illustrate a critical point: armed overwatch is not a new idea or unique to special operations but rather an enduring military phenomenon.

Finally, the character of warfare has changed substantially in recent years due to the shifting geopolitical environment. Armed overwatch must have a clearly defined role in the present era of great power competition. Despite the strategic focus and anticipation of potential major combat operations with Russia or China, conflict below the threshold of large-scale combat in non-permissive environments is likely to persist as a national security threat. A Cold War-era theory of warfare illustrates validity for a "low-end" armed overwatch requirement within a paradigm of peer or near-peer competition. Alternatively, in an entirely different scenario, armed overwatch must be mindful of the future threat environment, especially the semi or non-permissive one. To that end, a manned, fixed-wing armed overwatch platform tied to airfields and dependent on centralized logistics might be doctrinally and materially incompatible with a contested future battlespace.

USSOCOM is unique compared to the military services. It has prescribed express authority by Title 10 US law to pursue the "development and acquisition of special operations-peculiar" equipment and does so through either rapid or deliberate processes.[17] This monograph

does not seek to analyze armed overwatch procurement through the lens of the acquisition process. Nor does it "cherry-pick" past or current publications that aim to confirm or deny armed overwatch's validity. Finally, it does not seek to analyze the acquisition program from a financial perspective. The goal, instead, is to separate the "signal" of armed overwatch from the "noise" via an exploration of doctrine, historical revelations, and the future threat environment to discover prescriptive insights and "rethink" the identity of armed overwatch.

Doctrinal Foundations

> AO [armed overwatch] is a non-doctrinal, new term to describe the conduct of Close-Air Support (CAS), Armed Intelligence, Surveillance, and Reconnaissance, Strike Coordination & Reconnaissance, and Precision Strike in direct support of small, geographically isolated SOF units.
>
> —Vice Admiral Tim Szymanski, Deputy Commander, USSOCOM

Armed Overwatch

Doctrine offers fundamental principles for how our military employs its forces through coordinated action toward a common objective.[18] While directive in nature, it is not prescriptive yet provides a logical starting point for military capabilities and troops in warfare. Doctrine can help focus our awareness on what is essential because it is rooted in past lessons. Chairman of the Joint Chiefs of Staff Instruction 5705.01G, *Standardization of Military and Associated Terminology*, mandates military terminology standardization to improve communication and mutual understanding within the Department of Defense (DoD) federal agencies.[19]

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[17] A Joint Resolution Making Continuing Appropriations for The Fiscal Year 1987, and for Other Purposes, Public Law 99-500, title X, §1783-124, *Statutes at Large* (1986): 124, Unified combatant command for special operations forces, codified at *US Code* 10 (2018), §167(k).

[18] US Joint Staff, Joint Publication (JP) 1, *Doctrine for the Armed Forces of the United States* (Washington, DC: Government Publishing Office, 2017), 27.

[19] US Joint Staff, Chairman of the Joint Chiefs of Staff Instruction 5705.01G, *Standardization of Military and Associated Terminology* (Washington, DC: Government Publishing Office, 2020), 1.

According to the *DoD Dictionary of Military and Associated Terms*, armed overwatch is not a formally recognized doctrinal term.[20] Occasional armed overwatch references appear across joint and service-wide doctrine publications, but their usage is inconsistent and does not suggest an overall integrated idea.

An acquisition effort for a novel and potentially costly aircraft program without a joint doctrinal foundation requires a greater degree of explanation because it lacks shared understanding. A lack of doctrinal standardization leaves enormous room for interpretation across the joint force, notwithstanding limitations, integration, tactics, techniques, and procedures. USSOCOM acknowledges armed overwatch's mission void and submits that it is the unique combination of the missions of CAS, armed ISR, precision strike, and strike coordination and reconnaissance (SCAR).[21] However, instead of providing clarity, an analysis of these subordinate characteristics generates further misunderstanding through the friction caused by their forced composition. Rather than the emergence of synchronized, "X-centered" doctrine, the result is haphazard stitching together of like doctrines, the equivalent of "Franken-doctrine."

Current US military doctrine provides a minimal reference to armed overwatch. A 2008 military journal article written by current Air Force Deputy Chief of Staff for Strategy, Integration, and Requirements, Lieutenant General Clinton "Q" Hinote, defines armed overwatch as "not CAS, but not ISR either."[22] Joint Publication (JP) 3-05, *Special Operations*, revised and updated in September 2020, makes zero references to the term.[23] The multi-service manual for

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[20] US Joint Staff, *DoD Dictionary of Military and Associated Terms* (Washington, DC: Government Publishing Office, 2020).

[21] USSOCOM, *U.S. Special Operations Validation of Special Operations Rapid Requirements Document for Special Operations Forces Armed Overwatch*, 1.

[22] Lt Col Clint "Q" Hinote, "Military Operations in Urban Terrain: Armed Overwatch: Key to Successful COIN Operations in Urban Terrain," *Air Land Sea Bulletin* no. 2008-1 (January 2008): 9-11.

[23] US Joint Staff, JP 3-05, *Special Operations* (Washington, DC: Government Publishing Office, 2020).

the joint application of firepower, more commonly known as JFIRE, contains no armed overwatch definition.[24]

Because the term armed overwatch lacks definition, we must assign it meaning. Doctrinal gaps and voids offer virtually no foundation for understanding its character and nature and do little to determine its roles and responsibilities of a mission or suggest the program's validity and pursuit of a new aircraft. Therefore, one way of better understanding armed overwatch's identity is through an indirect analysis of its four proposed doctrinal mission characteristics.

Close Air Support

One common criticism of armed overwatch is that it is merely the mission of CAS by another name. The DoD Dictionary defines CAS as "Air action by aircraft against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces."[25] Likewise, joint doctrine defines CAS as the employment of "speed, range, maneuverability to attack targets that other supporting arms might not be able to engage due to limitations such as target type, range, terrain, or ground scheme of maneuver."[26] These definitions affirm the essence of what a special operations armed overwatch aircraft accomplish: air support to troops on the ground.

Current CAS doctrine does not differentiate between CAS and armed overwatch. JP 3-09.3, *Close Air Support*, references armed overwatch one time in the context of target marking.[27] Similarly, JP 3-30, *Joint Air Operations*, mentions armed overwatch one time regarding tasking

[24] Air Land Sea Application Center, JFIRE, *Multi-Service Tactics, Techniques, And Procedures for Joint Application of Firepower* (Langley AFB, VA: Government Publishing Office, 2019).

[25] US Joint Staff, *Department of Defense Dictionary of Military and Associated Terms*, 35.

[26] US Joint Staff, JP 3-09.3, *Close Air Support* (Washington, DC: Government Publishing Office, 2019), xii.

[27] Ibid., III-96.

of unmanned aerial systems.[28] Creating even more confusion, Air Force Doctrine Annex 3-03, *Counterland Operations*, defines armed overwatch as a "non-doctrinal" mission category within COIN to provide ground commanders full-motion video, situational awareness, and immediate CAS when necessary.[29] Annex 3-03 further elaborates that if a CAS situation does develop, then the armed overwatch mission should be considered CAS and "not a new or independent counter land mission area distinct from CAS."[30] This is the sense of many subject matter experts. According to Dr. David Neuenswander, Director of Army and Air Force Doctrine Integration (and former A-10 pilot): "If I am armed and in a position to support ground troops, this is close air support."[31] The relationship between CAS and armed overwatch and whether they are distinct is a critical question. The Air Force's A-10 Thunderbolt II, better known as the "Warthog," and the historical challenge of C2 of military aircraft provide a framework for analyzing this question more in-depth.

The A-10 was explicitly designed for CAS. In 2018, the A-10 fleet size was deemed inadequate to support the National Defense Strategy's (NDS) requirements.[32] The Department of the Air Force projected 249 A-10 in service in 2021 across the active-duty Air Force, Air National Guard, and Air Force Reserve.[33] However, the A-10 is plagued by the dilemma of age. Even with modern upgrades, the A-10 is nearly fifty years old, and in that span, the total fleet size has slowly eroded. Due in part to this challenge, the Air Force's OA-X Light Attack Aircraft

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[28] US Joint Staff, JP 3-30, *Joint Air Operations* (Washington, DC: Government Publishing Office, 2019), 85.

[29] US Department of the Air Force, Air Force Doctrine Annex 3-35, *Counterland Operations* (Maxwell AFB, AL: Government Publishing Office, 2020), 12.

[30] US Air Force, Annex 3-35, *Counterland Operations*, 12.

[31] Dr David M. Neuenswander "El Cid", e-mail message to author, February 4, 2021.

[32] Jeremiah Gertler, *Air Force OA-X Light Attack Aircraft Program* (Washington, DC: Congressional Research Service, November 2019), 1, accessed February 9, 2021, https://crsreports.congress.gov/product/pdf/IF/IF10954.

[33] US Department of the Air Force, *Department of the Air Force FY 2021 Budget Overview* (Washington, DC: Government Publishing Office, 2020), 42.

(LAA) initiative was intended to remedy this readiness imbalance by acquiring a new two-seat turboprop airplane designed for CAS operations in COIN operating environments. Since then, the LAA program has stagnated due to fiscal constraints, manpower limitations, and a national strategy shift toward great power competition. LAA and armed overwatch are mutually exclusive, and both programs will likely not be simultaneously funded. Today, the Air Force's LAA indecision is one reason that has given Congress pause for USSOCOM's separate but similar program. The 2021 NDAA explicitly prohibited the purchase of armed overwatch aircraft until the "Chief of Staff of the Air Force certifies the Air Force does not have the skill or capacity to provide CAS and armed overwatch at present."[34] This delay is necessary for the Air Force to analyze the OA-X program's state and explain to Congress why its current CAS aircraft inventory (A-10, AC-130, MQ-9, F-16, B-1, B-52, and F-15E) cannot meet the present USSOCOM CAS demands.

This illustrates a fundamental and historical C2 problem with CAS. The Air Force tenet of "centralized control, decentralized execution" is predicated on the philosophy that resource-scarce aircraft offer potentially operational and strategic effects.[35] In North Africa during World War II, Army Air Force fighter aircraft were placed directly into Army Corps echelons, and theater-level effectiveness was sacrificed for local effectiveness. Before long, it was realized that tactical airpower characteristics such as speed, flexibility, and range were more effective when centrally controlled at higher echelons.[36] The Air Force C2 model for airpower, allocated under a

[34] Select Committee on Armed Services, House, National Defense Authorization Act for Fiscal Year 2021, 116th Cong., 2nd sess., 2020, HR Rep. 116-617, sect. 163, 1539.

[35] US Department of the Air Force, Air Force Doctrine Volume 1, *Basic Doctrine* (Maxwell AFB, AL: Government Publishing Office, 2015), 67.

[36] Robert R. Leonhard, *Fighting by Minutes: Time and the Art of War* (self-pub., CreateSpace, 2017), 165.

single Airmen's authority based on the highest priorities rather than parceled out to subordinate echelons, continues to this day.[37]

JP 3-09.3 states CAS is planned and executed to support tactical ground units at a time and place where friendly forces are close to enemy forces.[38] Additionally, Air Force CAS doctrine considers both preplanned and immediate requests for CAS to allow greater flexibility in planning and Air Tasking Order execution.[39] Air Force doctrine also accounts for "on-call CAS," which "involves putting the aircraft on ground-based or airborne alert during a preplanned time period when the need for CAS is likely, but not guaranteed."[40] The Air Tasking Order can organize CAS as either GCAS (ground alert) or XCAS (airborne alert).[41] Two additional doctrinal methods subdivide On-Call CAS even further. 'Push-CAS' and 'Pull CAS' allow for even greater flexibility to accomplish planned and un-forecasted needs for CAS.[42] These types of requests, missions, and methods advance a shared CAS understanding through doctrine. However, this CAS doctrinal terminology does not comprehensively account for the entirety of an armed overwatch requirement.

An important finding from the AFRICOM Tongo Tongo investigation found that aircraft response time was hindered by "limited operational planning and procedures, and a lack of coordination and synchronization with US forces and partner nations."[43] This finding signals the heart of USSOCOM's request for CAS from an armed overwatch platform: the ability to assign perpetually dedicated CAS independent of centralized C2. XCAS, as a centrally controlled

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[37] US Air Force, Volume 1, *Basic Doctrine*, 67.

[38] US Joint Staff, JP 3-09.3, *Close Air Support*, xi.

[39] US Department of the Air Force, Air Force Doctrine Annex 3-03, *Counterland Operations* (Maxwell, AFB, AL: Government Publishing Office, 2020), 51.

[40] US Air Force, Annex 3-03, *Counterland Operations*, 52.

[41] Ibid.

[42] Ibid, 52-53.

[43] US Africa Command, "Army Regulation 15-6 Investigation Findings," 130.

function, cannot assure complete and comprehensive CAS coverage for special operations forces (SOF). Furthermore, XCAS and GCAS cannot guarantee direct support for SOF missions. Therefore, armed overwatch requires a distinctive type of dedicated CAS that is not wholly defined or articulated by the present Air Force CAS C2 doctrine and missions (Appendix C). In particular, the Air Force's CAS integration model is theoretically too centralized and not flexible enough to support SF teams like those operated in Niger. Geographically isolated SOF requires organic and dedicated CAS that provides direct support due to the unique geographical demand of operating in austere environments.

Present CAS doctrine is relatively incompatible with one of the chief requirements of armed overwatch: "direct support of small, geographically isolated SOF units."[44] If one imagines Air Force CAS doctrine and the various requests, missions, and methods as a Venn diagram, then armed overwatch is analogous to the center of this diagram in which present CAS doctrine converges, but no cumulative or independent criteria exist (see Appendix C and Appendix D). Alternatively, resourcing limitations will always persist due to the unique operational environments of SOF. The unique CAS requirement of tactical SOF echelons in the austere environments among unique SOF resourcing requirements illustrates two essential ideas. First, armed overwatch needs to be understood as a mission before a program. Second, a requirement for this type of mission can be filled by CAS capable aircraft but is limited by current CAS inventory, such as the A-10.

Armed Intelligence Surveillance and Reconnaissance

Armed Intelligence, Surveillance, and Reconnaissance also lacks a common joint doctrinal definition. JP 2-01, *Joint and National Intelligence Support to Military Operations*, defines ISR as:

[44] USSOCOM, *U.S. Special Operations Validation of Special Operations Rapid Requirements Document for Special Operations Forces Armed Overwatch*, 1.

> 1. An integrated operations and intelligence activity that synchronizes and integrates the planning and operation of sensors, assets, and processing, exploitation, and dissemination systems in direct support of current and future operations. 2. The organizations or assets conducting such activities.[45]

CAS and ISR's relationship is critical to understanding armed overwatch because they represent its two primary missions. Joint doctrine addresses the overlap of the two to a limited degree. JP 3-09.3 lists ISR as a consideration in troop support but not a primary role for CAS.[46] Likewise, CAS and strike platforms are doctrinally defined as "non-traditional" ISR assets that can provide ISR through capabilities such as ground-moving-target indicator tracker or full-motion video sensor data."[47] These sensors, however, are generally "limited in the field of view resolution, or scope of operations when compared to traditional [ISR] sources."[48] In their conduct of ISR, however, they "should only be considered on "an as-needed basis."[49] The doctrinal missions of CAS and ISR do not fully account for one another. Each mission can have varying degrees of the other capability, but a mission representing a fusion of the two doctrines does not presently exist. One could reason the fusion of CAS and ISR creates a void in which CAS and ISR do not account for the other's full doctrinal mission potential proves the legitimacy of an armed overwatch mission. The multi-mission MQ-9 *Reaper* unmanned aerial vehicle (UAV) is an example that illustrates this doctrinal overlap between ISR and CAS in a practical application.

The MQ-9 is an armed, multi-mission asset with an intelligence collection mission that can also perform limited CAS.[50] The special operations variants primarily conduct ISR in direct support of current and future SOF operations. To be sure, the MQ-9 does not match the CAS

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[45] US Joint Staff, JP 2-01, *Joint and National Intelligence Support to Military Operations* (Washington, DC: Government Publishing Office, 2017), GL-10.

[46] US Joint Staff, JP 3-09.3, *Close Air Support*, III-15.

[47] Ibid., III-16.

[48] Ibid.

[49] Ibid.

[50] Air Combat Command Public Affairs Office, "MQ-9 Reaper," Air Force Fact Sheet, September 23, 2015, accessed February 9, 2021, https://www.af.mil/About-Us/Fact-Sheets/Display/Article/104470/mq-9-reaper/.

capabilities of the A-10. It lacks armament because it is primarily an ISR mission with robust electro-optical sensors, advanced radio-communications suites, data-link capabilities, and the ability to transmit and deliver secure voice communications full-motion video. A multi-mission platform that combines CAS characteristics with the advanced suite of ISR sensors is a blend of functions that armed overwatch requires overhead the battlefield, and the present doctrine fails to account for entirely.

The A-10 lacks the multiple advanced ISR capabilities that a multi-mission MQ-9 can employ, while the MQ-9 lacks the considerable weapons complement of ordnance, forward-firing cannon, and CAS the A-10 delivers. Army assets, such as the MQ-1C *Gray Eagle*, the RQ-7B *Shadow*, and AH-64 *Apache*, provide varying degrees of organic ISR and CAS to support a ground force commander's objective.[51] However, even in these direct support roles, aircraft, by being a limited resource, face similar C2 challenges at the division and corps echelons as that of the centralized Air Force construct.

C2 issues that operationally limit CAS for USSOCOM under an Air Force system also affect ISR. USSOCOM has a military department's distinctive role, such as the Army or Air Force, and a geographic combatant command, assigned with "unique functions, responsibilities, and authorities" prescribed by US law.[52] ISR is a significant military demand for all combatant commands and exacerbated by the limited number of airborne ISR platforms and missions allocated to accomplish their intelligence-gathering demands. The cumulative requirement for global ISR demand exceeds capability by a wide margin and is a common geographic combatant

[51] US Department of the Army, FM 3-04, *Army Aviation* (Washington, DC: Government Publishing Office, 2017).

[52] US Department of Defense, DoD Directive 5100.01, *Functions of the Department of Defense and Its Major Components*, Change 1 (Washington, DC: Government Publishing Office, 2020), 3.

command challenge. A 2020 congressional committee noted the DoD could only meet 20 percent of worldwide ISR requirements.[53]

Presently, the Air Force utilizes most of its ISR platforms to prosecute national-level objectives and meet mission requirements.[54] These objectives usually are strategically oriented and generally do not prioritize special operations tactical mission requirements or goals. Air Force doctrine states, "timely detailed and global integrated ISR support is vital to special operations."[55] However, it is illogical to assume dedicated ISR allocated under the global ISR management planning process would receive prioritization, allocation, and decentralization under the purview of SOF, as joint doctrine suggests.[56]

A doctrinal gap exists between ISR and CAS that is not accounted for by current joint doctrine. This void justifies a new mission that more fully blends the doctrinal characteristics of both ISR and CAS. The full potential of both missions is not accounted for by doctrine nor a current multi-mission aircraft. This exclusion highlights the need for a new armed overwatch doctrinal mission and, ultimately, the program.

Precision Strike

In a now common theme, precision strike also has no DoD or joint publication definition. However, it is defined in Air Force Annex 3-05, *Special Operations*:

> Precision strike provides the joint force commander and the SOF operator with specialized capabilities to find, fix, track, target, engage, and assess (F2T2EA) targets. F2T2EA can use a single weapon system or a combination of systems to complete the kill chain. Precision strike missions include close air support, air interdiction, and armed reconnaissance. Attributes associated with precision strike include persistence, robust

[53] Select Committee on Armed Services, House, National Defense Authorization Act for Fiscal Year 2021, 116th Cong., 2nd sess., 2020, HR Rep. 116-442, sect. 176, 270.

[54] US Department of the Air Force, Air Force Doctrine Annex 2-0, *Global Integrated ISR* (Maxwell AFB, AL: Government Publishing Office, 2015), 4.

[55] US Air Force, Annex 2-0, *Global Integrated ISR*, 28.

[56] US Joint Staff, JP 2-01, *Joint and National Intelligence Support to Military Operations*, B-1.

communications, high situational awareness, precise target identification, lethality, and survivability, as required.[57]

US military UAVs' usage to conduct counterterrorism (CT) operations and hunt high-value targets utilizing precision strikes as part of the F2T2EA process had become widely synonymous with the Global War on Terror. Despite the well-publicized effects of precision strike across mainstream media, however, the term remains remarkably ill-defined. The absence within current US doctrine is even starker. The precision strike concept dates to the mid-1980s when Soviet military authors first characterized it as "a new family of highly accurate, precision-guided deliver systems for non-nuclear munitions."[58] Despite nearly forty years of theory, amidst the employment of drone strikes in US CT operations in Iraq and Afghanistan, an approved joint doctrinal definition for precision strike remains remarkably non-existent.

Former Air Force pilot and author Barry Watt provides a rich study of the evolution of precision strike and makes an essential observation of why the diffusion of precision strike doctrine has been relatively slow. Watt suggests that precision strikes, or what he also refers to as "reconnaissance strike," have not achieved a greater diffusion among allies and adversaries due to complexity and other nations' adoption.[59]

Air Force doctrine defines precision strike as capabilities to conduct F2T2EA via missions that include "close air support, air interdiction, and armed reconnaissance."[60] However, the absence of a formal precision strike definition from joint doctrine is puzzling but does not suggest that armed overwatch is an illegitimate requirement. Though poorly defined in joint doctrine, precision strike has a tremendous identity and shared understanding through its

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[57] US Department of the Air Force, Air Force Doctrine Annex 3-05, *Special Operations (*Maxwell AFB, AL: Government Publishing Office, 2020), 17.

[58] Notra Trulock, III, "Emerging Technologies and Future War: A Soviet View," in *The Future Security Environment, Report of the Future Security Environment Working Group submitted to the Commission on Integrated Long-Term Strategy* (Washington, DC: Pentagon, 1988), 98.

[59] Barry D. Watts, *The Evolution of Precision Strike* (Washington, DC: Center for Strategic and Budgetary Assessments, 2013), 11.

[60] US Air Force, Annex 3-05, *Joint and National Intelligence Support to Military Operations*, 17.

execution and application (not to mention its ubiquity across media like television shows). Absent clear joint doctrine, the Air Force doctrinal definition of a precision strike as a framework to understand precision strike suggests validity and legitimacy for armed overwatch. It is critical, though, that the precision strike doctrinal "knot" be untangled for the nature of armed overwatch to gain greater comprehensive meaning and clear understanding.

Strike Coordination and Reconnaissance (SCAR)

Ironically, the least familiar doctrinal characteristic of armed overwatch offers potentially the best doctrinal prescriptions for armed overwatch. The DoD dictionary defines SCAR as: "A mission flown for the purpose of detecting targets and coordinating or performing attack or reconnaissance on those targets."[61]

SCAR is codified in joint doctrine and governed by a multi-service publication sanctioned by the Army, Marine Corps, Navy, and Air Force.[62] The current SCAR doctrinal manual organizes SCAR by fundamentals, command and control, planning, execution, and incorporates examples of mission planning guides and even explains the relationship to joint doctrine.[63] Additionally, SCAR has numerous doctrinal examples within service-wide doctrine. Air Force Annex 3-03, *Counterland Operations*, establishes pertinent considerations for SCAR regarding C2, delineations from CAS, and authorities. Likewise, Marine Corps Training Pamphlet 3-20D, *Offensive Air Support*, lists similar essential planning considerations.[64] The level of doctrinal fidelity and resolution that SCAR provides is one possible way to codify and articulate armed overwatch. Also, it is noteworthy that there is no dedicated SCAR platform. Like

[61] US Joint Staff, *Department of Defense Dictionary of Military and Associated Terms*, 204.

[62] Air Land Sea Application Center, SCAR, *Multi-Service Tactics, Techniques, And Procedures for Strike Coordination and Reconnaissance* (Langley AFB, VA: Government Publishing Office, 2020).

[63] Ibid., vii.

[64] US Department of the Navy, Marine Corps Training Publication 3-20D, *Offensive Air Support* (Washington, DC: Government Publishing Office, 2018), 13.

CAS, it is a mission that numerous aircraft can conduct, rather than a dedicated platform-centric concept.

Summary

The “Franken-doctrine” approach to creating a new doctrinal mission for armed overwatch from four separate doctrinal missions comes up short. An analysis of present doctrine shows that armed overwatch presently lacks identity because a clear and explicit doctrine of its subordinate characteristics does not exist. An attempt to doctrinally isolate armed overwatch and characterize it is confusing because the components that form its whole are either likewise not defined or too similar. Additionally, CAS and ISR do not account for the unique requirements of C2 requirements suggested by armed overwatch. Armed ISR and precision strike are themselves doctrinally ill-defined and, although they have relative levels of shared understanding via their significant application in the previous two decades. However, using them as foundational reasoning for an entirely new doctrinal mission misses the mark. As the least well-known mission, SCAR prescribes the best doctrinal foundation and an independent model for how armed overwatch could be codified within the doctrine.

A doctrinal analysis proves that a new type of armed overwatch mission is both justified and legitimate, lending validity to the program's ambitions. However, there is considerable ambiguity surrounding the meaning of armed overwatch through the lens of doctrine. Meaning cannot be assigned to armed overwatch until it is better defined and develops a better identity through doctrine. Likewise, the arrangement of its four characteristics within one another is opaque. Complete doctrinal clarity is not a precursor to the fielding or justification of a new requirement. However, for armed overwatch to mature from its present ambiguous state, it must be codified in joint doctrine as a mission. Within the framework of present joint doctrine, armed overwatch makes the most sense as a subordinate mission of CAS.

Doctrine is just one way to form an identity and create a shared understanding. Fortunately, doctrine is relatively easy to create or modify to assign meaning. Historical examples and case studies provide another way to examine armed overwatch to inform its present identity.

Special Operations Core Activities and Historical Examples

> If the enemy is to be struck while he is most vulnerable, he must be attacked immediately by the air patrol, which discovers him.
>
> —United States Marine Corps, *Small Wars Manual,* 1940

USSOCOM's principal function is to prepare SOF to carry out assigned missions established by US law.[65] Title 10 US Code Section 167(k) lists (but does not define) nine special operations activities: direct action (DA), strategic reconnaissance, unconventional warfare, foreign internal defense, civil affairs, military information support operations, CT, humanitarian assistance, theater search and rescue and other activities that may be specified by the President or Secretary of Defense.[66] These missions, or "activities," are listed among DoD directives, joint doctrine and contain historical examples that provide a litmus test to evaluate the legitimacy of armed overwatch.

Unfortunately, these publications all exhibit minor variations of special operations activities. DoD Directive 5100.01, *Functions of the Departments of Defense and Its Major Components,* name twelve special operations activities to include security force assistance, counterproliferation of weapons of mass destruction, COIN, and information operations.[67] Notably, strategic reconnaissance is excluded and replaced by Special Reconnaissance. JP 3-05

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[65] *US Code* 10 (2018), §167(k).

[66] Ibid.

[67] US Department of Defense, DoD Directive 5100.01, *Functions of the Departments of Defense and Its Major Components,* Change 1 (Washington, DC: Government Publishing Office, 2020), 26-27.

comprises the same special operations activities as the DoD directive but adds Hostage Rescue and Recovery.[68] USSOCOM Publication 1, *Special Operations Doctrine,* adds five new missions while removing one.[69] Finally, Air Force and Army doctrine list nearly identical missions with slight differences. Appendix B summarizes the similarities and differences between these publications.

The lack of standardization between the special operations activities across doctrine is concerning and affects armed overwatch. The dissimilarities affect the potential justification and validity of armed overwatch because it is unclear which comprehensive mission-set is authoritative. Lack of clarity, again, breeds a lack of shared understanding. The absence of a unified list of special operations missions creates confusion regarding scale and scope not only for USSOCOM but externally for service department special operations components, such as Air Force Special Operations Command (AFSOC) or United States Army Special Operations Command.

In the absence of doctrinal clarity, history is the most helpful framework to assign an identity to armed overwatch. The special operations activities of SR, CT, and COIN contain relevant examples of armed overwatch in the earliest military aviation applications. Three examples of armed overwatch shape its identity and give it narrative by proving its historical function and a legitimate and valid requirement.

Special Reconnaissance

The DoD dictionary of military terms defines SR as: "Reconnaissance and surveillance actions conducted as a special operation in hostile, denied, or diplomatically and/or politically sensitive environments to collect or verify information of strategic or operational significance,

[68] US Joint Staff, JP 3-05, *Special Operations,* 30.

[69] USSOCOM, USSOCOM Publication 1, *Doctrine For Special Operations,* (MacDill AFB, FL, 2011), 20-27.

employing military capabilities not normally found in conventional forces."[70] JP 3-05 characterizes SR as a domain-agnostic mission and does not differentiate between airborne or ground domains. This is in error. There is a considerable application of airborne and illustrated through many historical examples. The neglected study of military balloons during the Civil War, the discouraging use of the first observation aircraft in the 1916 Mexican expedition, and the Marine Corps Nicaraguan expedition in the late 1920s provide early examples of SR that illustrate the perpetuity of armed overwatch as a historical function of SR.

Airborne SR visually observes or detects information about the enemy. This is just as true today as it was over two hundred years ago when military aviation was first introduced to the US during the American Civil War. Thaddeus S. C. Lowe, an early balloonist, manned a balloon multiple times in 1861 to support Union forces and become the first individual to direct artillery fire via a telegraph from a balloon.[71] The prospect of ballooning became so important during the Civil War that President Abraham Lincoln personally championed its use to General Winfield Scott, then commander in chief of the Union Army.[72] Although the military balloon never provided a decisive military advantage, Confederate rebels attempted to produce similar military balloons to compete with the Union. Most astounding, towards the end of the war, interest in heavier than air "air-machines" intended for observation and even bombing missions gained brief interest as well.[73] Aerial observation during the Civil War, literally the "first" application of US military aviation, was immediately identified as critical to warfighting. Union military balloons operated in sensitive areas apart from conventional forces to collect information concerning Confederate forces in much the same way that an MQ-9 would be tasked to collect ISR in the

[70] US Joint Staff, *Department of Defense Dictionary of Military and Associated Terms*, 200.

[71] Juliette A. Hennessy, *The United States Army Air Arm, April 1861 to April 1917* (Maxwell AFB, AL: USAF Historical Division, 1958), 5.

[72] Ibid.

[73] Hennessy, *The United States Army Air Arm, April 1861 to April 1917*, 11.

Middle East today. The Civil War ended in 1865, suspending further aerial observation innovation, and it would be another fifty years before Congress would enact legislation to create the first official United States aviation section.

Two years after Congress officially commissioned US Army aviation, the 1st Aero Squadron mobilized in Columbus, New Mexico. In 1916, Eight Curtiss JN-3 "Jenny" biplanes supported the US Army expedition under General John J. "Blackjack" Pershing to capture Pancho Villa in Mexico.[74] The JN-3 was developed and associated as an aerial observer to support ground forces. These "Jenny" aircraft were tasked with observation, reconnaissance, scouting, and other duties supporting ground troops, and the pilots and planes would serve as General Pershing's "eyes" to prevent any surprise attack.[75] Although aviation support in the Mexican Punitive Expedition was far from a success, it brought about public awareness that convinced "Congress to authorize over thirteen million dollars for military aviation."[76] The Congress of 100 years ago recognized the supreme importance of the role of aerial reconnaissance and continued to fund it despite its failures and because of the promise it offered. They did so because they recognized the tactical and operational advantages it could provide. The mandate for SOF and armed overwatch today is no different. A special operations aircraft conducting SR in the airborne domain proves armed overwatch is a legitimate and entrenched historical function.

Another early example of specialized airborne reconnaissance and the advent of CAS is Nicaragua's Marine Corps' occupation. In 1927, rebel Augusto Sandino fought against the American-backed government. A small team of Marine aviators was dispatched to fly biplanes in both reconnaissance and combat roles in a semi-permissive environment to support ground

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[74] James S. Corum and Wray R. Johnson, *Airpower in Small Wars: Fighting Insurgents and Terrorists* (Lawrence, KS: University Press of Kansas, 2003), 11.

[75] Max Boot, *The Savage Wars of Peace: Small Wars and the Rise of American Power*, rev. ed. (New York: Basic Books, 2014), 194.

[76] Corum and Johnson, *Airpower in Small Wars: Fighting Insurgents and Terrorists*, 11.

forces. The lessons learned from these aerial reconnaissance successes were captured in doctrine via the Marine Corps *Small Wars Manual*. The 1940 edition includes topics surprisingly relevant to armed overwatch, including: "general considerations, strategic reconnaissance, tactical (close) reconnaissance, infantry missions, and special combat missions."[77] Incredibly, this manual, dated eighty-years ago, states many appropriate prescriptions for armed overwatch today, such as: "it must be remembered that the primary mission of reconnaissance airplanes is not combat, but the procurement of information and the mere existence of offensive armament should not encourage their needless division to combat tasks."[78]

Reconnaissance is not just implied in the definition of SR; it is part of its name. JP 3-05 makes no distinction between ground-based or airborne SR, only mentioning that ISR is not confused with SR.[79] An *Air and Space Power Journal* essay acknowledges this inconsistency and submits that SR requires a formal distinction between air and ground domains.[80] It defines Aerial Special Reconnaissance, or ASR, as a separate and distinct function of SR conducted to fix the threat, visualize the terrain, and anticipate the enemy via functions that ground-based strategic reconnaissance cannot conduct.[81]

The separation of SR into air and ground domains lends additional justification to armed overwatch by giving it meaning through doctrine and a narrative. SOF are accustomed to operating in the deep battlefield as part of an Irregular Warfare (IW) campaign in small tactical echelons. Traditionally, they do not function in the same operational environments as

[77] US Marine Corps, *Small Wars Manual, United States Marine Corps 1940,* SWM 9-18.

[78] Ibid., 9-22.

[79] US Joint Staff, JP 3-05, *Special Operations*, II-5.

[80] Maj Nicholas T. G. Narbutovskih, "Minimum Force: Airborne Special Reconnaissance in War," *Air and Space Power Journal* 34, no. 3 (Fall 2020): 73-75, accessed February 10, 2021, https://www.airuniversity.af.edu/Portals/10/ASPJ/journals/Volume-34_Issue-3/V-Narbutovskih.pdf.

[81] Narbutovskih, "Minimum Force: Airborne Special Reconnaissance in War," 77.

conventional forces, and they employ SR and capabilities differently. The doctrinal definition of SR defines this capability, and early historical examples illustrate this concept.

Direct Action

The DoD dictionary defines direct action as: "Short duration strikes and other small-scale offensive actions conducted as a special operation in hostile, denied, or diplomatically sensitive environments and which employ specialized military capabilities to seize, destroy, capture, exploit, recover, or damage designated targets."[82] CAS is direct action from the air. The Korean War and the airborne Forward Air Controller (FAC(A)) exemplify direct action as a historical function of CAS and ultimately armed overwatch. Although informally executed during World War I and World War II through liaison and observation planes such as the L-5 Sentinel, the concept of FAC(A) gained significant traction during the Korean War due to ground controllers' inability to move far enough forward to control air strikes effectively.

As a result, the technique of "having a slower plane spot a target and call a jet in to attack" was developed and utilized to find enemy targets, control airstrikes, and enhance CAS due to a lack of artillery and direct army ground movement.[83] The propeller-driven T-6 trainer aircraft and their pilots, collectively known as "Mosquitos," made ideal "slow" FAC(A) aircraft. It was simple, durable, could average between five and six hours in the air per day, and its low stall speed enabled it to loiter and provide better observation of the ground.[84] The concept was operationally successful and received numerous accolades and military citations during and after the war. At the end of the Korean War, the Mosquito program was discontinued; however, no effort to formalize the doctrinal lessons learned occurred. At the time, many believed that future wars would utilize airborne controllers flying in high-performance and faster jet aircraft.

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[82] US Joint Staff, *Department of Defense Dictionary of Military and Associated Terms*, 64.

[83] Gary Lester, *Mosquitoes to Wolves: The Evolution of the Airborne Forward Air Controller* (Maxwell AFB, AL: Air University Press, 1997), 34.

[84] Ibid., 47.

Mosquito operations enabled direct action via CAS from other airborne assets by flying toward the enemy front to search for enemy targets and provide reconnaissance for friendly ground troops. This methodology, not doctrinally defined at the time, has considerable similarities to the present-day application of SCAR, a characteristic of armed overwatch. Thus, the slow FAC(A) aircraft actions embodied modern-day armed overwatch characteristics like CAS and ISR and proved their validity through their historical use. Unfortunately, many of these lessons were forgotten and not incorporated into doctrine. However, the slow-FAC(A) concept and associated armed overwatch mission would be revisited a few years later in the South East Asia theater.

Counterinsurgency

JP 3-24, *Counterinsurgency,* prescribes relevant approaches and considerations to counter an insurgency and discusses aspects for conducting missions. DoD dictionary defines COIN as "comprehensive civilian and military efforts designed to simultaneously defeat and contain insurgency and address its root causes."[85]

JP 3-24 also details aviation contributions to COIN as "CAS, precision strikes, armed overwatch, ISR" as an alternative to conventional aviation that permits freedom of movement for counterinsurgents in haven and rugged terrain.[86] The explicit mention of armed overwatch in COIN doctrine is crucial because it indicates armed overwatch already exists and has meaning and identity within COIN. Furthermore, COIN doctrine lists direct action and SR as the top two special operations activity considerations for its conduct.[87] The explicit mention of CAS, precision strike, ISR, and armed overwatch is striking and suggests a doctrinal synchronization of

[85] US Joint Staff, *Department of Defense Dictionary of Military and Associated Terms*, xiii.

[86] US Joint Staff, JP 3-24, *Counterinsurgency* (Washington, DC: Government Publishing Office, 2018), VII-30.

[87] US Joint Staff, JP 3-24, *Counterinsurgency*, VII-30.

armed overwatch together within COIN. The Vietnam War and the OV-10 "Bronco" provide another historical example of armed overwatch and its characteristics in practice.

The OV-10 was conceived by the Marine Corps and developed under a tri-service program and the Air Force and Navy as a twin-turboprop, multipurpose aircraft designed for COIN operations.[88] The OV-10 was extraordinarily versatile and configurable for observation, armed reconnaissance, gunfire spotting, limited ground attack, but most commonly used by the Air Force as a FAC-A.[89] The OV-10 was unique because it combined lessons from previous wars, including the success of CAS from low-performance aircraft during World War II and the maneuverability and observation of FAC(A) aircraft in Korea with new technology light level TV, to provide real-time video imagery. Additionally, it could be configured to carry rockets, missiles, and up to 3,000 pounds of ordnance.[90]

In 1968, six OV-10 were sent to Southeast Asia under the code name Combat Bronco as part of a task force to evaluate the use of a FAC-A.[91] The following year, as part of project Misty Bronco, a decision was made to experiment with the OV-10 in an armed FAC(A) role since its armament of forward-firing weapons and maximum ordnance load of 3,600 pounds made it ideal for providing "limited by highly responsive airstrike capability to support US Army forces requesting immediate close air support."[92] The results of the test were an overwhelming success. The armament of the OV-10 enhanced the FAC(A) with a "limited but highly responsive airstrike capability," and subsequently, all OV-10 FAC aircraft were armed to support "immediate strike

[88] US Department of the Navy, NATOPS Flight Manual, *Navy Model, OV-10A Aircraft*, Change 1 (Washington, DC: Department of the Navy, 1980), 1-1.

[89] US Department of the Air Force, "OV-10 Bronco" Air Force Fact Sheet, November 2014, accessed February 10, 2021, https://www.hurlburt.af.mil/About-Us/Fact-Sheets/Fact-Sheets/article/204576/ov-10-bronco/.

[90] US Department of the Navy, NATOPS Flight Manual, *Navy Model, OV-10A Aircraft*, 1-1.

[91] Captain Joseph V. Potter, "OV-10 Operations in SEAsia" (Project CHECO Report, Air Force Headquarters Pacific Air Forces, 1969), 1, document is now declassified.

[92] Potter, *OV-10 Operations in SEAsia*, 12.

response."[93] One FAC(A) pilot was asked in a 1969 interview to comment on future FAC(A) conflict compared to Southeast Asia. His response is illuminating: "I would say you would need an OV-10 type airplane, not necessarily the OV-10, but OV-10 characteristics: speed, range, ejection seat, and long-range visibility. Again, I think it should be a simple machine. Not the OV-10 exactly, but with the same characteristics."[94]

The success of the OV-10 and the resemblance of its characteristics with an armed overwatch mission extended beyond Vietnam. In 2012, DoD allocated $20 million toward the partial reactivation of the OV-10. In 2015, two planes deployed and saw combat missions to prosecute the Islamic State.[95] While the latest experiment mainly was a limited proof of concept, it illustrated a suitable alternative to the much more expensive to buy and maintain high-performance jets, which also frees other dedicated assets to train and prosecute peer or near-peer adversaries and targets.[96] Notably, the USSOCOM requirement for armed overwatch has prompted multiple defense contractors to team together to introduce a new variant of the OV-10 Bronco, the "Bronco II," to conduct "ISR, SCAR, CAS, FAC(A) and armed overwatch."[97] This prototype offers a promising next-generation materiel solution built on the successes of its predecessor in Vietnam.

Summary

From the military balloons of the Civil War through the Marine Corps expedition to Nicaragua to the slow FAC(A) in Korea and Vietnam, a persistent theme is clear: armed

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[93] Ibid., 15.

[94] Maj Lawrence L. Reed, interview by Maj Donald J. Moore (transcript, U.S. Air Force Oral History Interview Program, Eglin Air Force Base, FL, October 25, 1969), 21-22.

[95] David Axe, "Why Is America Using These Antique Planes to Fight ISIS?," *The Daily Beast*, March 9, 2016, accessed February 10, 2021, https://www.thedailybeast.com/articles/2016/03/09/why-is-america-using-these-antique-planes-to-fight-isis.

[96] Axe, "Why Is America Using These Antique Planes to Fight ISIS?."

[97] Bronco II, "A Revolution in the Skies," Bronco II, Team Leidos, accessed February 10, 2021, https://www.bronco-usa.com/bronco-ii/p/1.

overwatch characteristics were exhibited at various times in special operations unique settings in support of the special operation's unique activities. The justification of a new armed overwatch requirement to Congress nests within a historical mission has existed since Lincoln's presidency. Further, this galvanizes a vital point: the "means" that conduct armed overwatch (the aircraft) are a function of the mission.

Armed overwatch case studies from the Civil War, early and mid-twentieth century represent epochs that are not traditionally associated with SOF. However, the functions of ISR, CAS, and C2 from these periods prove that armed overwatch is equally suited for SOF today as it was in the past. ISR, CAS, and C2 may not have been doctrinal terms in the 1860s, but their character emerged, became realized, and their operational importance prized. A 150-year-old military balloon is wholly incapable of conducting armed overwatch over today's battlefield. Similarly, manned, fixed-wing aircraft employed in Korea, Vietnam, Iraq, and Afghanistan might be incompatible with the armed overwatch demands of future warfare. However, these case studies provide a fundamental and historical identity for armed overwatch as a mission.

A broad historical survey of armed overwatch in military aviation illustrates a rich tapestry of forgotten employment lessons, C2, and missions for an armed overwatch concept currently being re-imagined. The past offers numerous examples of concepts and aircraft to justify special operations armed overwatch and its characteristics that recall historical precedent and prove validity. In contrast to the past, however, a look into the future carries its own unique set of trends and challenges to analyze armed overwatch further.

Future Threat Environment

> Victory smiles upon those who anticipate the change in the character of war, not upon those who wait to adapt themselves after the changes occur.
>
> —Giulio Douhet, *The Command of the Air*

Making sense of armed overwatch's identity involves rethinking and anticipating its role and responsibility in the future. The 2021 NDAA specified armed overwatch must analyze "the

future threat environment and impacts to concept survivability."[98] Armed overwatch's role in the future operating environment poses an important question, especially amidst warfare's changing character in an era of great power competition. US strategic guidance, a theory of grey zone warfare, a DOTmLPF-P doctrinal concept, and materiel solution alternatives provide a cumulative framework to make sense of armed overwatch's role and responsibility in the future threat environment.[99]

Roles and Responsibility

According to the 2017 National Security Strategy (NSS), US foreign policy has shifted its focus to compete with Russia and China.[100] For special operations, this change represented an abrupt departure from the paradigm of IW and countering violent extremist organizations (CVEO) since 9/11. Missions like CT, COIN, and foreign internal defense, where US forces-controlled tempo and timing across, especially in the air, were suddenly no longer the priority.[101]

The NDS's Irregular Warfare Annex acknowledged this transition and stated the new strategic priority of great power competition while noting that CVEO remains a persistent threat.[102] Most importantly, it established an inextricable link between unified action and IW that

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[98] Select Committee on Armed Services, House, National Defense Authorization Act for Fiscal Year 2021, 116th Cong., 2nd sess., 2020, HR Rep. 116-617, sect. 163, 1536.

[99] DOTmLPF-P stands for Doctrine, Organization, Training, materiel, Leadership and Education, Personnel, Facilities, and Policy. It is the US DoD's mechanism for introducing and implementing change recommendations within the U.S and is governed by CJCSI 5123.01H (31 Aug 2018) and the Manual For the Operational of the Joint Capabilities Integration and Development System dated August 31, 2018. The "little m" represents a materiel DOTmLPF-P consideration for everything necessary to equip DoD forces to operate effectively. The letter "m" in the acronym is usually lower case and spelled "materiel".

[100] White House, *National Security Strategy of the United States of America* (Washington, DC: Government Publishing Office, 2017), 2.

[101] John R. Hoehn and Nishawn S. Smagh, *Intelligence, Surveillance, and Reconnaissance Design for Great Power Competition* (Washington, DC: Congressional Research Service, June 2020), 17, accessed July 16, 2020, https://crsreports.congress.gov/product/pdf/R/R46389.

[102] US Department of Defense, *Summary of the IW Annex to the National Defense Strategy 2020* (Washington, DC: Government Publishing Office, 2020), 7, accessed October 3, 2020, https://media.defense.gov/2020/Oct/02/2002510472/-1/-1/0/Irregular-Warfare-Annex-to-the-National-Defense-Strategy-Summary.PDF.

connects conventional forces and SOF:[103] This is paramount because it mandates the joint force must institutionalize IW.[104] It also demonstrates a basic logic for SOF and armed overwatch: IW and great power competition are not mutually exclusive but mutually supporting.[105] A Cold-War era theory of warfare from the 1950s provides a structure to understand this logic further and creates a foundation for armed overwatch roles and responsibilities amidst a national strategy of great power competition.

Thomas Finletter, a former Secretary of the Air Force and North Atlantic Treaty Organization (NATO) ambassador, originally described what is referred to as "grey zone" in 1954 as "countries outside of NATO or nearly so with Russia and China."[106] Since then, grey zone warfare has re-emerged as relevant in the contemporary international environment. A 2019 RAND Corporation report stated the United States should expect competition with Russia and China to be "played out primarily below the threshold of armed conflict . . . in the grey zone between peace and war."[107] Furthermore, the 2021 Interim NSS states: "We will maintain the proficiency of special operations forces to focus on crisis response and priority counterterrorism and unconventional warfare missions. Moreover, we will develop capabilities to compete better and deter grey zone actions."[108] Today, grey zone warfare suggests that although competition with Russia or China *might* occur at or above a threshold of armed conflict, it is far more likely to

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[103] US Department of Defense, *Summary of the IW Annex to the National Defense Strategy 2020*, 4

[104] Ibid., 5.

[105] Ibid.

[106] Thomas K. Finletter, *Power and Policy: US Foreign and Military Policy in the Hydrogen Age* (New York: Harcourt, Brace, 1954), 84-85.

[107] Lyle J. Morris, Michael J. Mazarr, Jeffrey W. Hornng, Stephanie Pezard, Anika Binnendijk, and Marta Keep, *Gaining Competitive Advantage in the Gray Zone* (Santa Monica, CA: RAND Corporation, 2019), 2, accessed July 16, 2020, https://www.rand.org/pubs/research_reports/RR2942.html.

[108] White House, *Interim National Security Strategy of the United States of America* (Washington, DC: Government Publishing Office, 2021), 14.

exist on the conflict continuum below that of large-scale or major combat operations (Appendix E). According to a bi-partisan House Armed Services Committee report on the future of defense, Russia has used private military corporations in Ukraine, Venezuela, Syria, and Libya.[109] Thus, it is reasonable to conclude future indirect challenges from Russia and China proxy forces in the gray zone, especially in parts of the Middle East, Africa, and South America in which SOF have operated in the past in support of CVEO. This manifestation of grey zone warfare in practice, coupled with the 2021 interim NSS, is critical because it gives SOF a mandate to not depart significantly from its execution and support of special operations activities and creates a foundational role for armed overwatch in an era of great power competition.

Great power competition is not synonymous with large-scale or major combat operations. While they exist on a spectrum, by definition, competition, conflict, and confrontation are distinct. Also, great power competition does not equate to high-end major combat or large-scale combat operations. Therefore, the military conflict continuum requires "low-end" missions that are arguably more likely to occur in the grey zone than towards the higher end of the conflict continuum involving large-scale combat operations. Armed overwatch conceptually supports great power competition precisely because it is not a "high-end" mission conducted as part of large-scale combat operations but rather one that supports the rest of the military competition continuum. This logic provides clarity for armed overwatch in great power competition. However, it accounts for only one potential scenario in the future operating threat environment and does not address the dilemma of a contested or denied environment.

The requirement to gain access and then operate in contested domains with degraded systems is a significant military challenge. Senior DoD officials indicated that military conflict with Russia or China, whether it be direct or indirect, would severely challenge and strain the ISR

[109] House, Committee on Armed Service, *Future of Defense Task Force Report 2020* (Washington DC: Government Publishing Office, 2020), 25, accessed September 24, 2020, https://armedservices.house.gov/2020/9/future-of-defense-task-force-releases-final-report.

enterprise in a highly contested environment.[110] Since 9/11, SOF aviation has enjoyed relative freedom of access into and within a permissive operating environment. Armed overwatch cannot assume that future conflicts will have unilateral permissive movement and maneuver in the air. While a requirement for armed overwatch amidst permissive environments may persist, this might not always be the case. Therefore, the permissive maneuver assumption comes at the expense and potential risk of future relevancy in a contested environment.

Across permissive environments such as Africa, armed overwatch underwrites a national strategy of great power competition by accounting for the military conflict continuum below the threshold of major combat operations.[111] Alternatively, the future threat environment is likely to be a "sophisticated, highly contested, A2/AD environment" that will be "won by the side with an information advantage, enabling the ability to outpace, outthink, and outmaneuver adversaries across multiple domains."[112] This question of the contested environment presents two very different future scenarios. Armed overwatch must determine its role in exclusive support of low-end missions in a permissive environment versus an alternative future. This includes potential escalation to a non-permissive or even denied environment amidst Access/Area Denial (A2/AD) threats.

Armed overwatch must overcome the contested environment's dilemma if it is meant to account for joint force integration. An emergent all-domain operations joint warfighting doctrine enhanced by future emerging technologies such as artificial intelligence (AI) and autonomous systems provides a doctrinal approach to nest within.

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[110] Mark Pomerleau, "What the New 16th Air Force Means for Information Warfare," *C4ISRNET*, October 13, 2019, accessed February 11, 2021, https://www.c4isrnet.com/dod/air-force/2019/10/14/what-the-new-16th-air-force-means-for-information-warfare/.

[111] Valerie Insinna, "Special ops still bullish on new armed overwatch plane," *Defense News*, February 16, 2021, accessed March 17, 2021, https://www.defensenews.com/air/2021/02/16/special-ops-still-bullish-on-new-armed-overwatch-plane/.

[112] Brig General Chance Saltzman, "MDC2 Overview" (Presentation, 2018 C2 Summit, Washington DC, July 18-20, 2018), accessed January 9, 2020, https://www.mitre.org/sites/default/files/ publications/Special-Presentation-Gen%20Chance-Saltzman%20MDC2%20Overview%20for%20MITRE-June2018.pdf.

DOTmLPF-P: Doctrine

The 2018 National Military Strategy highlights the "diffusion, competition, and new threats" of technology as likely future security trends.[113] A2/AD, robotics, drone swarms, AI, lethal autonomous weapons, and hypersonic weapons are just a few examples of emergent US technologies in the so-called present "Era of Accelerated Human Progress."[114] Meanwhile, US strategic competitors have also invested in, adapted, and incorporate new technologies to exploit weaknesses and gain relative advantage or superiority across physical and non-physical domains. These emerging "high-end" technologies are relevant for armed overwatch because they point to an integrated technological approach for the joint force within the DoD's technology culture that armed overwatch cannot ignore and must exist within. It is essential for armed overwatch nest conceptually within this new all-domain joint warfighting concept if it is meant to be relevant amidst the contested environment.

A joint warfighting organizational concept for the US military provides overwatching guidance for how the joint force collectively fights. The idea of a joint warfighting concept is not novel and, coincidentally, has precedent in the air and ground domains. General Donn A. Starry, then commander of US Army Training and Doctrine Command, authored a 1981 essay to promote the concept of "extended battlefield," which led to the Air-Land battle doctrine between the Army and Air Force.[115] With the rise of great power competition against the backdrop of emerging technologies in the cyber and space domains, especially A2/AD, a new joint warfighting concept is now necessary. According to the Vice Chairman of the Joint Chiefs of

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[113] US Joint Staff, *Description of the National Military Strategy 2018* (Washington, DC: Government Publishing Office, 2018), 2.

[114] US Army Training and Doctrine Command, *The Operational Environment and the Changing Character of Warfare* (Fort Eustis, VA: Government Publishing Office, 2019), 19.

[115] General Donn A. Starry, "Extending the Battlefield," *Military Review* 61, no. 3 (March 1981): 31-50, accessed January 10, 2021, https://www.armyupress.army.mil/Portals/7/online-publications/documents/1981-mr-donn-starry-extending-the-battlefield.pdf.

Staff", the new joint warfighting concept will utilize future all-domain capabilities to overcome the traditional battlefield lines and integrate “fires from all domains, including space and cyber.”[116] This means future capabilities, such as armed overwatch, will connect ISR sensors and fire capabilities in real-time via a more extensive integrated network and across contested or degraded environments.

Armed overwatch must integrate more fully in this doctrine and its future network-centric battlefield under a new future C2 model if it is meant to operate in a semi or non-permissive environment. Joint All-Domain Command and Control (JADC2) is a conceptual solution to operationally connect C2 “sensors-to-shooters” into a single organizational network that uses a typical data architecture. A JADC2 integrated armed overwatch platform could potentially share ISR sensor data in real-time with not just a ground-based SF unit but also long-range artillery, cyber, or space-based assets. To be sure, current manned and unmanned special operations aircraft, such as the MQ-9, already exhibit a partial degree of this capability at the tactical level in the competition space below the armed conflict threshold. The benefits of JADC2, however, primarily emerge at the operational level of war. The following example illustrates a practical example of potential armed overwatch integration with JADC2 at the operational level of war.

Project Convergence is the Army’s modernization strategy to enable multi-domain operations and integrate into JADC2 by creating simultaneous effects from all domains faster than the enemy.[117] In an integrated multi-domain “close fight” scenario, an MQ-1C “Grey Eagle” could integrate with a multipurpose helicopter within a JADC2 network to simultaneously

[116] Mark Gunzinger, “A Consensus-Driven Joint Concept for All-Domain Warfare Will Fall Short,” *Defense News*, September 18, 2020, accessed January 28, 2021, https://www.defensenews.com /opinion/commentary/2020/09/22/a-consensus-driven-joint-concept-for-all-domain-warfare-will-fall-short/.

[117] Tom Greenwood and Pat Savage, “In Search of a 21st-Century Joint Warfighting Concept,” *War on the Rocks*, September 12, 2019, accessed January 28, 2021, https://warontherocks.com/2019/09/in-search-of-a-21st-century-joint-warfighting-concept/.

incorporate low-earth-orbit satellites to find a ground-based target, sense air targets, and communicate with a ground-based artillery system to destroy the objective.

The preceding scenario is not from the distant future; it occurred in September 2020. More astonishing, the entire sequence took twenty seconds.[118] It demonstrated the revolutionary potential of JADC2: autonomy. Semi-autonomous military operations with a "human in the loop" are not optimized for non-permissive threats in which the speed of the decision is critical. "Human-on-the-loop" operations, enabled through JADC2, could potentially leverage a degree of autonomy where rapid observation, orientation, decision, and action deliver much fast and synchronized effects.[119] JADC2 is the means to enable decentralized execution, rather than vice versa.[120] Mission command through decentralized execution is a hallmark of SOF, and armed overwatch within a JADC2 architecture in a future threat environment amid potential degradation supports that idea by enhancing the operational decision.[121]

The future threat environment requires an operational organization that leverages decision speed to create opportunities and presents multiple dilemmas for the enemy. Expanding decision space is a salient theme of all-domain operations and JADC2, and armed overwatch must nest within this operational logic if it is meant to be relevant in a contested environment. Armed overwatch within an all-domain warfighting concept connects SOF, through mission command, to enhance decision. Enhanced operational agility across multiple domains, enabled by armed overwatch, has the potential to create more opportunities and options for SOF commanders

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[118] Andrew Feickert, *The Army's Project Convergence* (Washington, DC: Congressional Research Service, October 2020), 1, accessed January 28, 2020, https://crsreports.congress.gov/product /pdf/IF/IF11654.

[119] Paul Scharre, *Army of None: Autonomous Weapons and the Future of War* (New York: W. W. Norton, 2018), 29.

[120] US Department of the Air Force, Air Force Doctrine Annex 3-99, *Department of the Air Force Role in Joint All-Domain Operations (JADO)* (Maxwell AFB, AL: Government Publishing Office, 2020), 12.

[121] US Air Force, Annex 3-99, *Department of the Air Force Role in Joint All-Domain Operations (JADO),* 12.

and their teams against the enemy.

The above section made a case for the validity, necessity, and requirement of a legacy-based armed overwatch capability to support SOF amidst the fringes of great power in a permissive or contested environment. Meanwhile, the 20th-century paradigm of a low-end, manned, fixed-wing airplane supporting SOF troops in either environment might be altogether incompatible with future warfare trends and threats. These scenarios present two possible futures for the roles and responsibilities of armed overwatch. Senior military leaders and Congress must determine the final way forward. Alternatively, small, unmanned aircraft systems (sUAS) technology paired with AI autonomy and a recent military conflict in the Lower Caucasus might offer a hybrid of both armed overwatch future scenarios and account for both contested and permissive environments.

DOTmLPF-P: materiel

USSOCOM SOF Truth 1 states: "Humans are more important than hardware."[122] This maxim seems fundamentally at odds with the trend of emerging technology on and above the future battlefield and the operating concepts that aim to deepen battlefield dependence on networked technology under JADC2. For that reason, it must be addressed. In *Army of None*, author Paul Scharre provides a structure for analyzing the paradox of technological means and SOF ethos via different degrees of autonomy.

Scharre states in "human-in-the-loop" autonomy, a machine performs a task before querying a human before taking action.[123] "Human-on-the-loop" empowers a machine with the abilities of sensemaking, decision, and action, with a human supervisor capable of intervening, if

[122] USSOCOM, "SOF Truths," accessed January 30, 2021, https://www.socom.mil/about/SOF-truths.

[123] Scharre, *Army of None*, 29.

necessary.[124] Finally, in "human-out-of-the-loop" operations, a machine is given complete autonomy independent of human action.[125] As robotics, machine learning, and AI continue to advance rapidly, armed overwatch must co-evolve within the present and future technological climate to accommodate these trends to be relevant in the future contested threat environment. For the present and foreseeable future, out-of-the-loop autonomy remains morally and ethically murky at best. However, in the case of armed overwatch, a materiel solution must strike a balance between the requirements of the present versus the anticipated trends of the future battlefield. sUAS offers a 21st-century alternative to the 20th-century aircraft paradigm of a manned, fixed-wing, legacy aircraft.

A key finding from a 2019 RAND study on distrusted air operations in a future battlespace was that the current force presentation model is incompatible with the future contested environment.[126] sUAS offer one way to mitigate this risk through an alternative to a manned aircraft. An sUAS armed overwatch capability is not bound by limitations such as austere forward arming and refueling points or airfields like a legacy fixed-wing aircraft.

sUAS provides cost-effective, persistent surveillance and reconnaissance capability for collection deep in enemy territory.[127] sUAS can also be transported organically with an SF team, such as the one that operated in Tongo Tongo with a low profile. This is precisely the location on the battlefield where special operations forces are likely to operate: in-depth. sUAS, unlike a legacy fixed-wing aircraft, does not have to fight its way past A2/AD into a non or semi-permissive environment like a legacy aircraft. Instead, its portability allows it to be transported,

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[124] Ibid.

[125] Ibid.

[126] Miranda Priebe, Alan J. Vick, Jacob L. Heim, and Meagan L. Smith, *Operations in a Contested Environment: Implications for USAF Force Presentation* (Santa Monica, CA: RAND Corporation, 2019), viii, accessed February 24, 2021, https://www.rand.org/pubs/research_reports/RR2959.html.

[127] US Marine Corps Aviation, "2019 Marine Corps Aviation Plan," last modified November 2019, accessed February 11, 2021, https://www.aviation.marines.mil/portals/11/2019%20avplan.pdf.

configured, and launched by an operator. sUAS can be quickly configured or launched to conduct ISR and a limited degree of CAS or precision strike to alert or protect ground forces.

sUAS is not without its limitations. To be sure, sUAS significantly lacks the full complement of capabilities and effects a larger aircraft could provide, such as offensive armament and loiter time. However, sUAS technology will only continue to develop and accelerate. An SF team equipped with sUAS has a limited range of ISR or CAS. Some sUAS require a significant amount of manpower. For example, an eleven personnel team operates the Army's "Scan Eagle" UAV.[128] Also, as drone technology advances, so does counter-drone technology. Electronic attacks and cyber capabilities are two of the most obvious ways to neutralize drones, rendering their ISR, communication, data, and weapons combat ineffective. Technology to "harden" drones to function against these threats will continue to advance to mitigate these threats, but it is folly to envision every vulnerability can be protected in every instance. The robotics revolution, led by cutting-edge defense organizations such as Defense Advanced Research Project Agency, offers continued promise through technology that enables "swarm tactics" and incorporates varying degrees of coordination and redundancy amongst many lightweight drones.[129]

As previously stated, SOF may not always operate in austere and isolated environments independently of conventional forces as they have in the previous two decades. Chairman of the Joint Chiefs of Staff, GEN Mark Milley, stated: "In the future, I can say with very high degrees of confidence, the American Army is probably going to be fighting in urban areas."[130] One future scenario offers a much different alternative to the operational environments of deserts in Africa or mountains in Afghanistan. A military conflict in the Southern Caucasus provides an unlikely

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[128] Jon Harper, "Special Operations Drones Face Obsolescence," *National Defense Magazine*, May 17, 2020, accessed February 11, 2021, https://www.nationaldefensemagazine.org/articles/2017/5/17/special-operations-officials-are-worried-that-their-drones-are-becoming-obsolete.

[129] Scharre, *Army of None*, 20-21.

[130] Paul McLeary, "Special Ops Command to Hold Flyoff of Tiny Drones," *Breaking Defense*, August 23, 2018, accessed January 30, 2021, https://breakingdefense.com/2018/08/special-ops-command-to-hold-flyoff-of-tiny-drones/.

glimpse into one potential future scenario relevant for armed overwatch in which the "old" way of conventional warfare involving armored warfare and artillery was blended with the contemporary use of sUAS.

The use of sUAS in a modern military conflict, in which SOF and conventional forces operate in tandem, offers insights into the future of war that must be considered for an sUAS armed overwatch capability to operate in a non-permissive environment. The six-week conflict in the Southern Caucasus between Armenia and Azerbaijan in 2020 involved small, lightweight, and relatively inexpensive sUAS. Azerbaijan employed an arsenal of Israeli and Turkish drones to destroy "up to 100 Armenian tanks and armored vehicles, 100 artillery pieces, 150 vehicles, and 60 air defense assets."[131] Heavy losses were inflicted upon Armenian armored forces due to Azerbaijan sUAS drones purchased from Israel and Turkey.[132]

Furthermore, Azerbaijan forces employed the lightweight "Orbiter 1K" (Appendix F) as a "kamikaze drone" in which it flew like a cruise missile into a target and self-destructed.[133] In a first in warfare, the drone attack video was circulated almost immediately afterward across social media platforms. "Cheap airpower" drones indicate a future battlefield trend that incorporates airpower and armed overwatch elements that have applications for both conventional and special operations warfare. These applications allude to a potential future where SOF and conventional forces integrate across the future battlefield, an idea nested with IW guidance.

sUAS, such as the lightweight PC-1 multipurpose quadcopter, offers a materiel solution that provides an alternative worthy of analysis for an armed overwatch program. The PC-1 quadcopter (Appendix H), manufactured by Ukraine, is a vertical take-off and landing multi-role

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[131] Zeeshan Ahmad, "The Second Drone Age," *The Express Tribune*, February 15, 2021, accessed February 15, 2021, http://tribune.com.pk/story/2284243/the-second-drone-age.

[132] Seth J. Frantzman, "Israeli Drones in Azerbaijan Raise Questions on Use in the Battlefield," *The Jerusalem Post*, October 1, 2020, accessed January 30, 2021, https://www.jpost.com/middle-east/israeli-drones-in-azerbaijan-raise-questions-on-use-in-the-battlefied-644161.

[133] Frantzman, "Israeli Drones in Azerbaijan Raise Questions on Use in the Battlefield."

helicopter that can carry a variety of payloads, can be configured for multiple ISR sensors, and can be equipped for a variety of missions such as "ISR, detection, and tracking of ground targets, and search and rescue."[134] It can be set-up in two minutes, can operate up to an altitude of about 3,000 ft. to transmit video and telemetry data up to five kilometers, and fits inside a backpack.[135] The downside of this technology comes with certain limitations and is not perfect. Radio and video communications are susceptible to interference such as jamming and are limited by range and line of sight. Although it can only stay airborne for up to thirty-eight minutes, that time is sure to improve as battery technology improves.

Summary

US national strategy indicates a new approach to the American way of war in an era of great power competition. For armed overwatch, the future threat environment poses challenges such as the contested operating environment. Simultaneously, a new joint warfighting concept driven by emerging technology aims to synergize military services and capabilities across all battlefield domains. Today's grey zone presents many of the same fundamental missions of the previous two decades, accompanied by technology's emergent challenges. In an era of great power competition, all-domain operations, and sUAS alternatives to warfare, armed overwatch cannot exist in a special operations silo and must account for these hybrid operations alongside conventional forces. Drones such as the PC-1 and others' applications in recent warfare suggest trends in the future operational environment such as AI that cannot be ignored. To be sure, the technology has not yet advanced to the point where it can fully meet the operational demands that can presently satisfy the required characteristics of armed overwatch. However, the technological gap is closing, and this will not always be the case. For this reason, armed overwatch must be conscious of the future threat environment and integrate emerging technology.

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[134] Air Force Technology, "PC-1 Multipurpose Quadcopter," Projects, accessed February 15, 2021, https://www.airforce-technology.com/projects/pc-1-multipurpose-quadcopter/.

[135] Ibid.

Findings, Recommendations, and Conclusion

The purpose of this monograph was to apply frameworks of doctrine, history, and the future operating environment to make sense of and "rethink" armed overwatch. Armed overwatch means something different to everyone (doctrine, concept, mission, aircraft, program, tactic) because it lacks shared understanding. Although doctrine cannot (and should not) prohibit the execution of a mission or acquire a new requirement, it is a tool to explain what is likely to work as the best way to accomplish a task.

Armed overwatch is presently a topical subject within both AFSOC, USSOCOM, and Congress. The findings and recommendations are offered as pragmatic recommendations for staff and leaders associated with the armed overwatch program.

Findings and Recommendations

Finding/Recommendation 1 – Armed overwatch is a mission and must be codified into doctrine. Doctrine can formally define the roles and responsibilities of armed overwatch and describe its nuances, especially between CAS and ISR. JP 3-05, *Special Operations* is an ideal doctrinal publication to explain armed overwatch and specify its unique nuances of CAS, C2, ISR, precision strike, and SCAR. Fully accepting armed overwatch as doctrinal is not the primary barrier to validating armed overwatch as a requirement. However, recognizing the voids and nuances between its doctrinal concepts further legitimizes a mission not fully accounted for by present ISR and CAS technology and capabilities.

Finding/Recommendation 2 – Armed overwatch makes the most sense as a subordinate doctrinal mission of CAS. CAS is most effective when equipped with a premier sensing ability. Integration of armed overwatch into a joint doctrine as an independent doctrinal mission is a challenging approach that requires joint-service support and endorsement. The fastest way to get

armed overwatch codified into doctrine is via an annex or appendix to the JFIRE.[136] The Air Land Sea Application Center, located at Langley Air Force Base, is "a multi-service (Joint) organization which produces Multi-Service Tactics Techniques and Procedures.[137] Armed overwatch could also be incorporated much faster as a doctrinal "tactic" and explained as a multi-service tactic, technique, procedure.

Finding/Recommendation 3 – The requirement for armed overwatch is primarily a problem of resourcing. Without armed overwatch, SF teams like in Tongo Tongo are at the mercy of democratizing theater resources that could alert, enable, or protect them. CAS and ISR aircraft are limited resources that are centrally controlled, allocated, and apportioned. As such, they are unlikely to be provided in direct support for SF teams. This is evidenced by the absence of a dedicated US CAS asset at Tongo Tongo. Therefore, the identity and narrative for an armed overwatch requirement at its core is a requirement for a dedicated CAS/ISR hybrid capability for USSOCOM.

Finding/Recommendation 4 – Armed overwatch special operations activities. The special operations activities provide a framework within the mandate of US law to justify armed overwatch. As illustrated, armed overwatch supports SR, direct action, and COIN special operations missions. This list, not all-inclusive, justifies armed overwatch as charged by the 2021 NDAA because it demonstrates to Congress that it supports the very law they had previously passed. However, the lack of standardization of the special operations activities across doctrine is a notable concern outside the monograph's scope and warrants additional attention.

Finding/Recommendation 5 – Armed overwatch is unquestionably a historical function of US military aviation. Rather than illustrate examples of armed overwatch in the eras of

[136] Lt Col Nathan L. "Booster" Owens, telephone interview with author, February 16, 2021.

[137] Air Land Sea Application Center, "Air Land Sea Application Center Point/White Paper," December 2016, accessed February 10, 2021, https://www.alsa.mil/Portals/9/Documents /alsapoint.pdf?ver=2016-12-02-094123-783.

USSOCOM and AFSOC, historical examples of armed overwatch that predate these institutions provide richer meaning and prove it is a historical and enduring mission. Indeed, the IW Annex to the current NDS states that "IW is an enduring mission and core competency. It is "a persistent and enduring operational reality employed by non-state actors and increasingly state actors with the United States."[138] Civil War ISR, early 20th century CAS, and Korean and Vietnam War SCAR suggest armed overwatch is a historically entrenched aviation mission, albeit by different names.

Finding/Recommendation 6 – Armed overwatch is a topical issue for Air Force Special Operations Command. According to the AFSOC guidance strategy from 2020, the fielding of a cost-effective multi-role armed overwatch platform is a strategic focus area.[139] One major challenge for AFSOC regarding armed overwatch is to reconcile armed overwatch within a great power competition strategy while also being clear-eyed about present operational demands.

In permissive environments, armed overwatch represents a crucial currency in underwriting great power competition, especially in the gray zone. However, a significant question of identity and roles and responsibilities persists, requiring senior leader and probable congressional discernment. One armed overwatch narrative envisions a future in which armed overwatch exclusively supports SOF across austere and permissive environments as a "low-end" mission. These gray zones represent seams in great power competition that asymmetrically benefit United States strategic interests. This armed overwatch future scenario foresees strategic support of great power competition along the geographical fringes against proxies and in support of missions like CT, COIN, and CVEO. Although China has emerged as the pacing threat for the DoD, the need to compete along the competition continuum below the armed conflict threshold

[138] US Department of Defense, *Summary of the IW Annex to the National Defense Strategy 2020,* 2.

[139] Air Force Special Operations Command, AFSOC Strategic Guidance, May 26, 2020, 9, accessed March 17, 2021, https://media.defense.gov/2020/May/26/2002305551/-1/-1/1/AFSOC%20STRATEGIC%20GUIDANCE.PDF.

remains necessary and is unlikely to end soon. In this scenario, armed overwatch supports the special operations activities. It underwrites great power competition by fulfilling a persistent requirement across the military conflict continuum to support missions other than major war.

This first scenario assumes that armed overwatch will primarily operate in an austere environment that will always remain generally permissive or uncontested. Alternatively, a second future scenario and an essential question for armed overwatch remain its role, if any, in a contested environment. SOF are likely to play a significant role in Africa or similar environments should competition with China or Russia escalates horizontally or vertically. If great power competition does escalate, Russian and Chinese organic or proxy forces in low-end armed conflict across Africa, Middle East, Asia, and South America may rapidly intensify their involvement resulting in a contested environment and present A2/AD challenges that a low-end armed overwatch capability or asset may be unprepared to adapt within.

Finding/Recommendation 7 – Armed overwatch must consider future warfare characteristics and cannot ignore the challenge of contested environments. sUAS offers the ability to operate in contested airspace or a permissive environment. The use of small, lightweight drones in warfare as recent as the 2020 conflict between Armenia and Azerbaijan indicates a future warfare technological trend that suggests an alternative to present armed overwatch acquisition considerations.

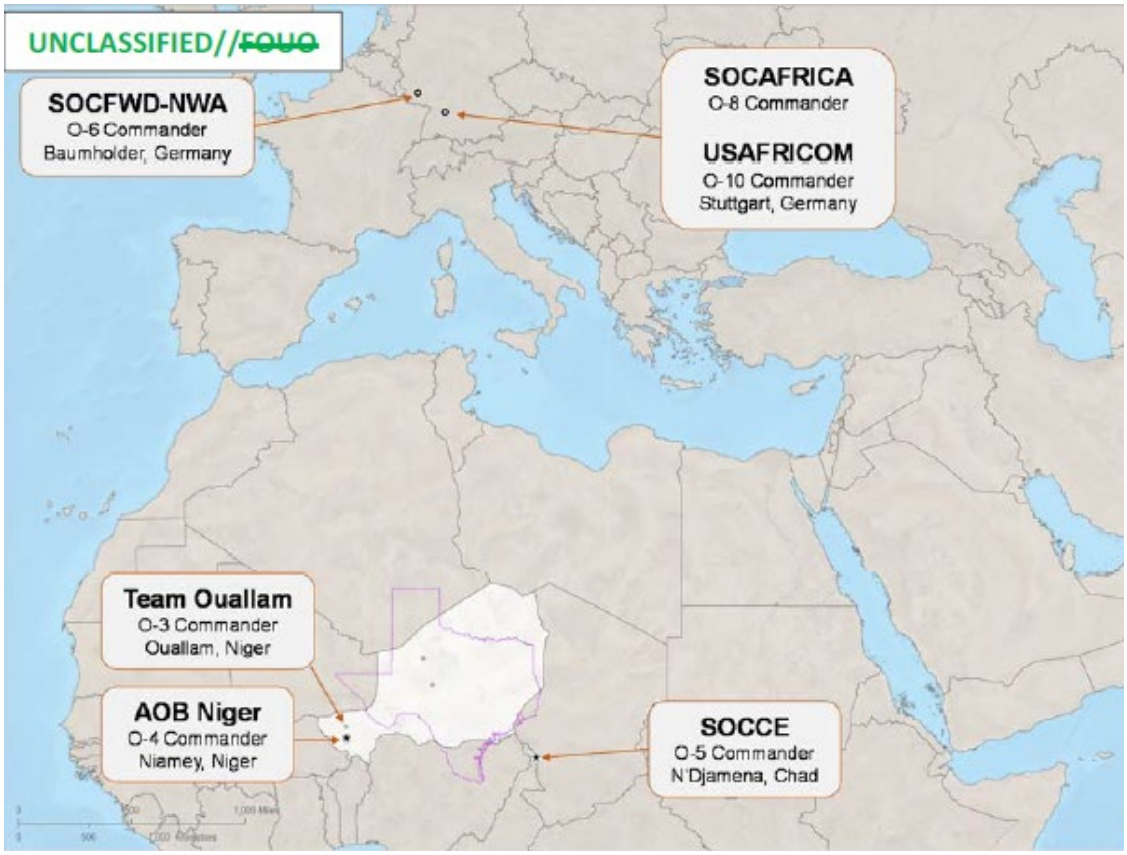
Conclusion: Special Operations Armed Overwatch Re-thought

Armed overwatch has problems related to policy decisions, resourcing, and technology challenges that require senior military leaders and Congressional resolution. Additionally, current trends on and above the battlefield point toward a new age of warfare characterized by irregular adversaries relying on technology-driven capabilities. Without a nearly constant and locally capable armed overwatch capability, today's SOF cannot survive to build access in permissive, semi-permissive, or non-permissive operational footprints. This scenario jeopardizes the US's

ability to develop and deepen alliances with partners and gain or sustain access to environments necessary to compete in great power competition.

It is challenging to assign narrative in the absence of shared understanding. Doctrine, history, and the future threat environment lend legitimacy to armed overwatch by rethinking its identity and nuances. A scenario is one way to promote shared understanding and provide a straightforward narrative for armed overwatch. In one respect, this already exists. Tongo Tongo creates a baseline to understand armed overwatch as a mission in which an airborne capability provides dedicated effects of responsive CAS, ISR, precision strike, and SCAR. Likewise, past and present doctrine, the special operations activities, examples from military aviation, and the future threat environment provide prescriptive insights into armed overwatch to rethink its identity, sharpen its narrative and promote a shared understanding.

Appendix A
Force Laydown and C2 Structure in Africa



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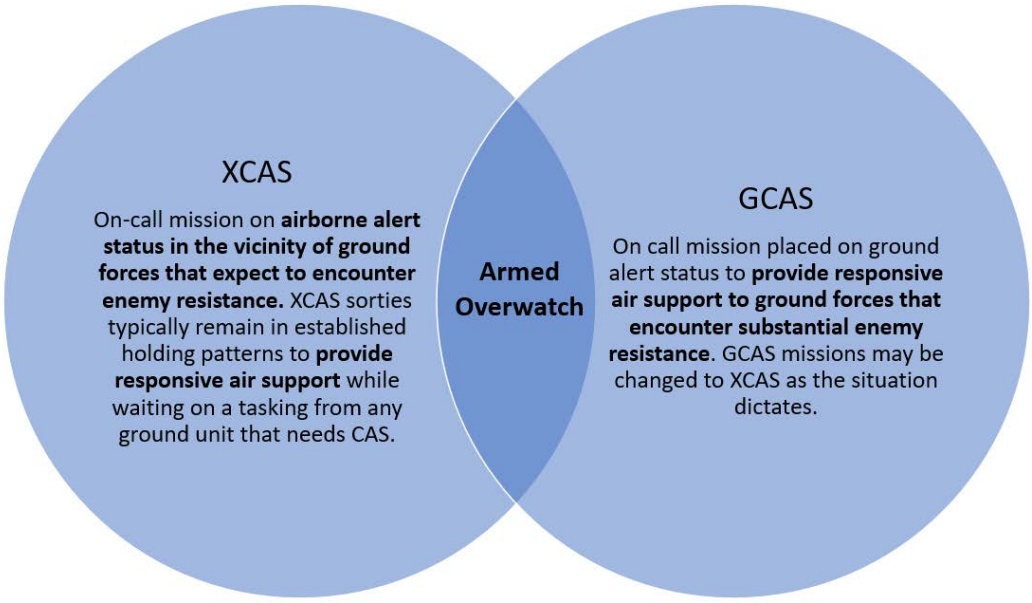
Appendix B
Doctrinal Comparison of the Special Operations Activities

TITLE 10 USC §167(k) 10-Nov-20	DoDD 5100.01 - CH1 17-Sep-20	JP 3-05 16-Jul-14	USSOCOM Pub 1 5-Aug-11	ADP 3-05 31-Jul-19	AF 3-05 1-Feb-20
DA	DA	DA	DA	DA	DA
Strategic Reconaissance					
UW	UW	UW	UW	UW	UW
FID	FID	FID	FID	FID	FID
Civil Affairs	CAO	CAO	CAO	CAO	CAO
MISO	MISO	MISO	MISO	MISO	MISO
CT	CT	CT	CT	CT	Counterterrorism
Humanitarian Assistance				FHA	FHA
Theater Search and Rescue					
Such other activities as may be specified by the President or Secretary of Defense	Such other activities as may be specified by the President or Secretary of Defense				
	SFA	SFA	SFA	SFA	SFA
	CWMD	CWMD	CWMD	CWMD	CWMD
	COIN	COIN	COIN	COIN	COIN
	SR	SR	SR	SR	Special Reconaissance
	IO	IO			
			Stability Operations		
			Support to Major Operations and Campaigns		
		Hostage Rescue and Recovery	Hostage Rescue and Recovery	Hostage Rescue and Recovery	Hostage Rescue and Recovery
			Interdiction and Offensive Weapons of Mass Destruction Operations		
			Preparation of the Environment	Preparation of the Environment	
			SOF Combat Support and Combat Service Support		

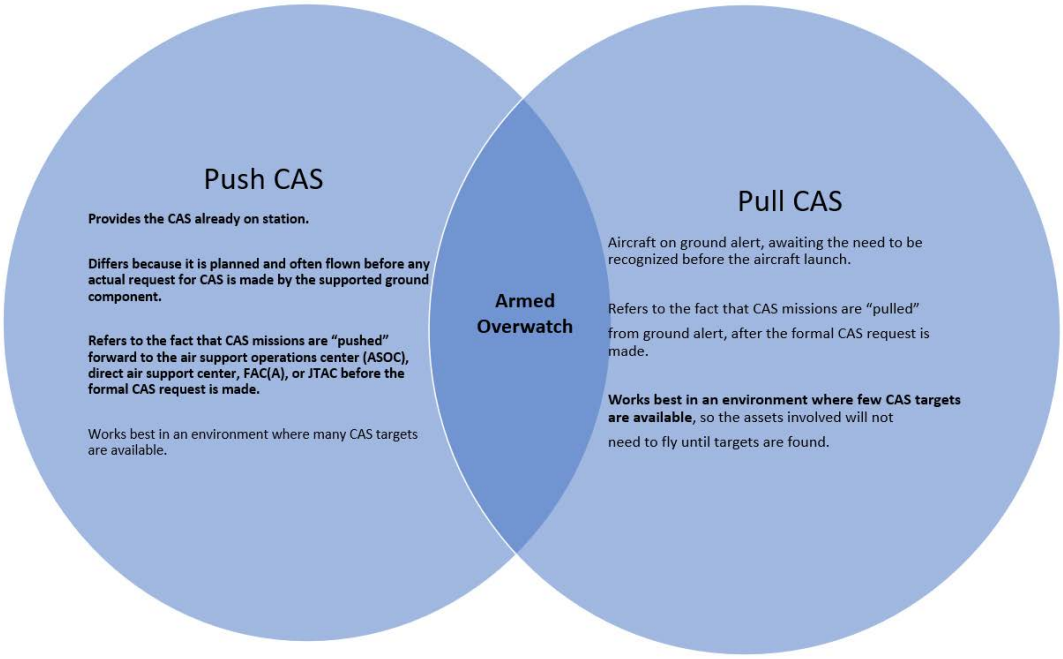
LEGEND	
DA	Direct Action
UW	Unconventional Warfare
FID	Foreign Internal Defense
CAO	Civil Affairs (Operations)
MISO	Military Information Support Operations
CT	Counterterrorism
SFA	Security force Assistance
CWMD	Counterproliferation of Weapons of Mass Destruction
COIN	Counterinsurgency
SR	Special Reconaissance
IO	Information Operations

Title 10, *US Code* §167(k), November 2020; US Department of Defense, DoD Directive 5100.01, *Functions of the Department of Defense and Its Major Components*, Change 1 (Washington, DC: Government Publishing Office, 2020); US Department of Defense, Joint Staff, Joint Publication (JP) 3-05, *Special Operations* (Washington, DC: Government Publishing Office, 2020); US Department of the Army, Army Doctrine Publication (ADP) 3-05, *Army Special Operations* (Washington, DC: Government Publishing Office, 2019); US Department of the Air Force, Air Force Doctrine Annex 3-05, *Special Operations* (Maxwell AFB, AL: Government Publishing Office, 2020).

Appendix C
Types of CAS Missions: XCAS vs. GCAS

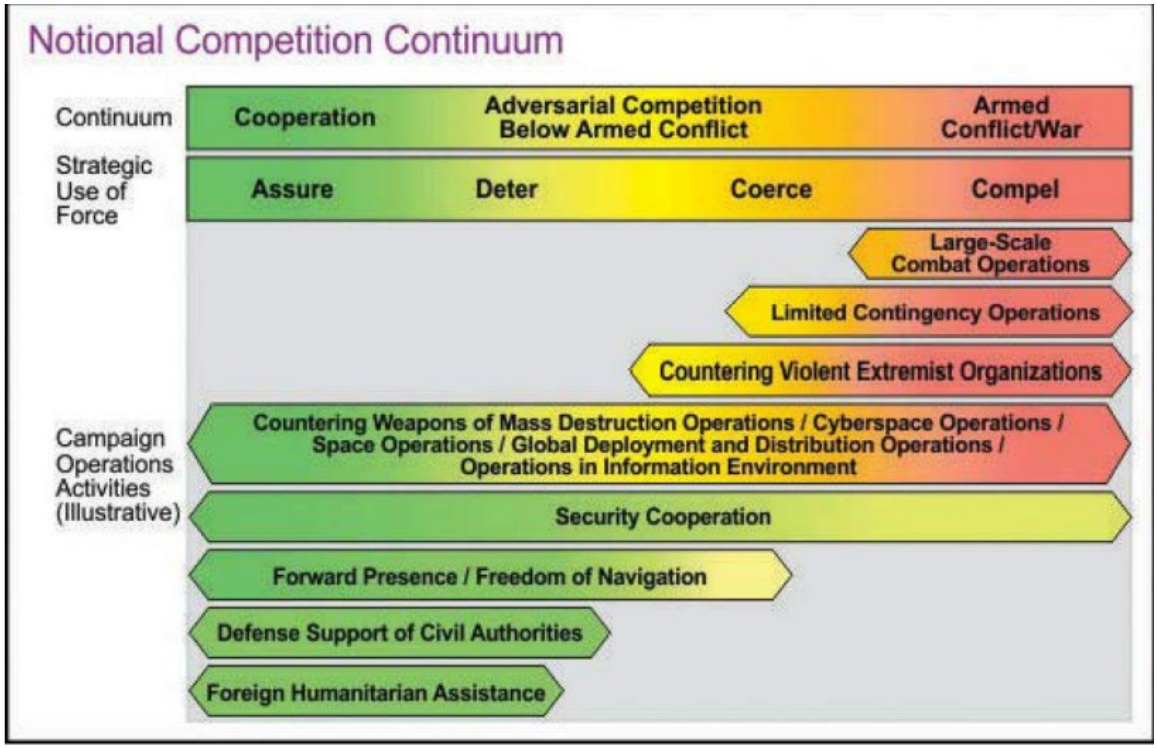


Appendix D
Types of CAS Methods: Push vs. Pull CAS



US Department of the Air Force, Air Force Doctrine Annex 3-03, *Counterland Operations* (Maxwell, AFB, AL: Government Publishing Office, 2020), 52-53.

Appendix E
Notional Competition Continuum



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PC-1 Multipurpose Quadcopter

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