



Airmen from the 919th Special Operations Maintenance Group perform maintenance on a 919th Special Operations Wing aircraft engine at Duke Field, Florida.
Photo by U.S. Air Force/Technical Sergeant Sam King.

The *JSOU Special Operations Research Topics 2018* publication, newly revised for academic year 2019, highlights a wide range of topics collaboratively developed and prioritized by experts from across the SOF community. As with the previous versions of this publication, this list is tailored to address command priorities. The topics in these pages are intended to guide research projects for professional military education (PME) students, JSOU faculty, fellows and students, and others writing about special operations during this academic year. This research will provide a better understanding of the complex issues and opportunities affecting the strategic and operational planning needs of SOF. This revised edition includes 11 new topics of interest.

Joint Special Operations University
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Special Operations Research Topics 2018 (Revised)

JOINT SPECIAL OPERATIONS UNIVERSITY



Special Operations Research Topics 2018

Revised Edition for Academic Year 2019



Joint Special Operations University and the Center for Strategic Studies

The Joint Special Operations University (JSOU) provides its publications to contribute toward expanding the body of knowledge about joint special operations. JSOU publications advance the insights and recommendations of national security professionals and the Special Operations Forces (SOF) students and leaders for consideration by the SOF community and defense leadership.

JSOU is the educational component of the United States Special Operations Command (USSOCOM), MacDill Air Force Base, Florida. The JSOU mission is to prepare SOF to shape the future strategic environment by providing specialized joint professional military education, developing SOF-specific undergraduate and graduate level curriculum and by fostering special operations research, analysis and outreach in support of USSOCOM objectives.

JSOU conducts research through its Center for Strategic Studies (CSS) where efforts center upon the USSOCOM mission:

USSOCOM mission. USSOCOM synchronizes the planning of Special Operations and provides Special Operations Forces to support persistent, networked, and distributed Geographic Combatant Command operations in order to protect and advance our Nation's interests.

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The JSOU Center for Strategic Studies (CSS) is currently accepting written works relevant to special operations for potential publication. For more information, please contact the CSS Director at jsou_research@socom.mil. Thank you for your interest in the JSOU Press.

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On the cover. Philippine, U.S., and Australian Special Operations Forces (SOF) conduct a hook and climb from a Rigid Hull Inflatable Boat (RHIB) onto a ship while conducting a boat assault training event during exercise Balikatan 2016 at Oyster Bay, Philippines on 12 April 2016. U.S. Marine Corps photo by Sergeant Ethan T. Johnson.

Back cover. Airmen from the 919th Special Operations Maintenance Group perform maintenance on a 919th Special Operations Wing aircraft engine at Duke Field, Florida. U.S. Air Force photo by Technical Sergeant Sam King.

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* **Editor’s note on this new edition.** Newly revised for academic year 2019, *Special Operations Research Topics 2018* remains the go-to resource for academic researchers and professional military education students interested in the pursuit of research that will advance the mission of U.S. Special Operations Forces. JSOU is pleased to include new topics of importance, topics that were submitted from throughout the special operations community. These topics are added to the end of sections B (Win), C (Transform), and D (People). Thank you for your interest in special operations relevant research. If you do complete research on one of these topics, please contact us at jsou_research@socom.mil.

Foreword

Our mission is to develop the United States Special Operations Command's (USSOCOM) most precious asset, the Special Operations Forces (SOF) operators and support personnel who provide the United States with decisive military options that ensure the security of our nation and its allies. Through high-quality education, our personnel develop the cognitive agility to successfully execute the challenges of current and future special operations missions. An important part in the development of that intellect and agility is accomplished through research where the SOF enterprise is both producer and consumer.

The Joint Special Operations University (JSOU) *Special Operations Research Topics 2018* publication, newly revised for academic year 2019, highlights a wide range of topics collaboratively developed and prioritized by experts from across the SOF community. The topics in these pages are intended to guide research projects for professional military education (PME) students, JSOU faculty, fellows and students, and others writing about special operations. This research will provide a better understanding of the complex issues and opportunities affecting the strategic and operational planning needs of SOF.

Our research topics are organized to support the USSOCOM Commander's three SOF priorities: win, transform, and people. To develop this list of topics, recommendations were solicited from the USSOCOM headquarters staff, the theater special operations commands (TSOCs), component commands, SOF chairs from the war colleges, and select research centers and think tanks. The topic submissions were then reviewed, revised, rated, and ranked at the annual Special Operations Research Topics Workshop. That workshop produced the first draft of this comprehensive list of issues and challenges of concern to the greater SOF community. The list was reviewed and vetted by the headquarters, TSOCs, and component commands prior to publication.

I encourage SOF personnel to contribute their experiences and ideas to the SOF community by submitting your completed research on these topics to JSOU Press. If you have any questions about this document or ideas for future topics, contact the Director, Center for Strategic Studies via e-mail at jsou_research@socom.mil.

Brian A. Maher, SES
President

Introduction

The JSOU *Special Operations Research Topics 2018* publication, newly revised for academic year 2019 with 11 new topics, represents a list of SOF-related topics that are recommended for research by those who desire to provide insight and recommendations on issues and challenges facing the SOF enterprise. As with the previous topics publications, this list is tailored to address command priorities. The five areas include the three USSOCOM priorities of win, transform, and people, as well as two additional topic areas: networking and relationships (e.g., interagency and international partners), and technology and resources (e.g., enabling mechanisms).

SOF PME students research and write on timely, relevant, SOF-related topics. Such activity develops the individual's intellect and provides a professional and practical perspective that broadens and frames the insights of other analysts and researchers in regard to these topics. This list and the accompanying topic descriptions are a guide to stimulate interest and thinking. Topics may be narrowed or otherwise modified as deemed necessary (e.g., to suit school writing requirements or maximize individual interests and experiences). The researcher should explore and identify doctrine, capabilities, techniques, and procedures that will increase SOF efficacy in addressing them. At the same time, the research on these topics should be used to inform policymakers, the larger military profession, and the public of the issues and challenges facing the SOF enterprise.

Section A (priority topics), unchanged for this revised edition, identifies topics of particular importance. Sections B, C, D, E, and F each reflect a consensus of the SOF experts who participated in the JSOU Research Topics Workshop as being particularly worthwhile in addressing immediate SOF needs and in building future capacity for emerging challenges. The 40 participants included representatives from each of the components, HQ directorates, international officer representation from USSOCOM J3-International Division, and select academic organizations to include National Defense University, the School for Advanced Military Studies, Joint Forces Staff College, and the civilian think tank Center for Strategic and Budgetary Assessments. The topics have been vetted through the USSOCOM headquarters, TSOCs, and components prior to publication.

A Note on the Relevance of Previous Years' Topics Lists

Previous years' research topics lists provide a repository of issues that may continue to have research relevance—especially the prior year's list. Previous editions of these publications (2009 through 2018) are available on the JSOU library public website on the JSOU Press publications page located at: <https://jsou.libguides.com/jsoupublications>.

Please share this reference with fellow researchers, thesis advisors, and other colleagues, and feel free to submit additional topics for consideration in future research topics publications. You may also visit our library website to see if JSOU has a publication that relates to your area of interest. We encourage you to send us your completed research on these topics.

The USSOCOM Priorities

Win

USSOCOM must win the current fight against the expanding influence of Violent Extremist Organizations (VEOs) and support Department of Defense (DOD) and United States Government (USG) efforts in confronting a subversive Iran; the resurgence of Russia; the unpredictable state of North Korea; and expansionist China while ensuring the security of our Homeland. To do this, we focus on sustaining and expanding the SOF enterprise and continue to foster international partnerships with allies to counter weapons of mass destruction and transregional threats.

- Win the current fight
- Be relevant across all five DOD challenges
- Operationalize SOCOM Headquarters
- Sustain the SOF enterprise

Transform

In an effort to meet the requirements necessary to win future conflicts, USSOCOM's unique capability to acquire, develop technology, and provide logistics through bottom up, operator driven innovation, allows empowered SOF units and individuals to solve problems and implement solutions at the point of need. The real value to the SOF enterprise is pivot speed, which drives experimentation to transform our structure to be better postured for tomorrow's conflicts.

- Transform current capabilities and equipment for future wars
- Bottom up, operator driven innovation which drives experimentation during exercises
- Transform our structure to be better postured for tomorrow's conflicts

People

People are the most important assets of the SOF enterprise. Succeeding through the 'Talent of People' is one of the fundamental concepts of USSOCOM. It is important to recruit, assess, and train the right people while

providing support and opportunities for our families. Focused Preservation of the Force and Family (POTFF) program efforts result in a return on investment for our operators and families. We sustain our force by empowering SOF, managing our talent, and providing active mentorship to build the force of the future. SOCOM's most precious asset: our comparative, competitive, and decisive advantage.

- Manage talent early
- Active mentorship to build the force of the future
- Focus POTFF efforts on a return on investment for our operators and families

Supporting Topic Areas

Networking and Relationships

This topic area fully supports all three of the USSOCOM priorities. Because of the complexity and the effort required to maintain and further develop the SOF network, along with the relationships that make that possible, the workshop group devoted a separate session to focus on this area. This SOF network includes support from the Services and collaboration with joint, interagency, intergovernmental, and multinational partners. The goal of the topics in this section is to challenge researchers to propose ways to integrate SOF partners at every level while increasing transparency, collaboration, and synchronization.

Technology and Resources

This topic area also fully supports all three of the USSOCOM priorities, but the group addressed these specific issues in a separate session. This area concentrated on the challenges of fiscal realities and the requirement to support SOF operators with timely development, acquisition, and sustainment of service-provided and special operations–peculiar equipment and capabilities.

A. Priority Topics

Topic Titles

Win

- A1. Measuring the effectiveness of SOF campaigning: Converting tactical effects into strategic impacts
- A2. Operationalizing the SOF role in cyberspace
- A3. Countering enemy lessons learned to exploit vulnerabilities, block remediation efforts, and advise strategy

Transform

- A4. Challenges to the third offset strategy

People

- A5. Capabilities management of SOF
- A6. Educating SOF for 21st century unconventional warfare (UW) and countering UW

Networking and Relationships

- A7. Identity narratives shaping interstate relations in the Gray Zone
- A8. State-Society relationships: How domestic politics shape or are shaped by international relations in the Gray Zone

Technology and Resources

- A9. Precision targeting operations: Command, Control, Communications, Computers and Intelligence (C4I) and Counter-Unmanned Aircraft Systems
- A10. Contemporary UW
- A11. Operational utilization of cyber technologies
- A12. Big data and the operational force

Topic Descriptions

WIN

A1. Measuring the effectiveness of SOF campaigning: Converting tactical effects into strategic impacts

The purpose of this research is two-fold: (1) determine how the United States can achieve strategic success against violent Islamic terrorists and other VEOs that threaten important national interests, and (2) determine how the Joint Special Operations Command (JSOC) and other organizations can better connect their tactical successes to the nation's strategic goals.

Fifteen years into the Global War on Terrorism (GWOT), the United States' counterterrorism efforts have achieved many tactical successes. A case could even be made that America has realized positive gains at the operational level by degrading al-Qaeda and the Islamic State in Iraq and Syria. However, success at the strategic level has proven elusive. Military leaders often claim that: "The nation will not kill its way out of this fight." Yet, efforts by the armed forces—and Special Operations Forces in particular—remain the primary mechanism policymakers employ against counterterrorism threats. When other elements of national power are utilized, the objective is often couched in democracy promotion terms. That approach has led to robust nation building endeavors such as those undertaken in Iraq and Afghanistan. Those efforts, like the other components of the GWOT, have yet to accomplish their policy objectives. Iraq and Afghanistan are unable to defend themselves, secure their borders, govern their people well, serve as an example of democracy regionally, or be significant partners in the GWOT. The question, then, is how to achieve strategic success. Although sponsored by JSOC, discussion on this topic involved the breadth of SOF missions, from surgical strike to special warfare, and included such topics as:

1. Measures of effectiveness and lasting behavioral change. How soon can behavioral change be implemented and how long will it last?
2. The "indigenous approach" and measuring the effect of SOF operations. What metrics are relevant for operations in the

human domain? How do we measure the effectiveness of security cooperation activities such as building partnership capacity (BPC)?

3. Determining the progress and sustainability of lessons learned versus lessons forgotten. What progress has the SOF community made in learning lessons during the last 15 years?

A2. Operationalizing the SOF role in cyberspace

Today, stakeholders are engaged in cyber activities; however, there is little guidance and much confusion. As an example, there is no consensus on universal/international laws applicable to cyber warfare. Additionally, regulations and guidelines governing nation-state actions within the domain of cyber warfare have not yet matured and are still evolving. Cyber analysts, operators, and planners question how SOF can better leverage cyberspace for its operations, but confusion exists over the authorities and responsibilities. What cyber doctrine, policy, strategy, planning, etc., do we need to make SOF successful in cyber? What are the implications of ungoverned actions in the cyber domain? What actions should be taken to regulate cyberspace and to define acts of war? How do other countries interpret or exploit the laws of war to further their cyber operations? What and where are the boundaries that delineate peace and war within the realm of cyber warfare similar to Article 5 of the North Atlantic Treaty that primarily refers to conventional warfare? Generally, how can SOF be better prepared for cyber-enabled operations?

A3. Countering enemy lessons learned to exploit vulnerabilities, block remediation efforts, and advise strategy

In 2006, the United States Military Academy's Combating Terrorism Center published a study, *Harmony and Disharmony: Exploiting al-Qa'ida's Organizational Vulnerabilities*¹, which examined senior Salafi jihadi ideologues' internal assessments of lessons learned from their efforts during the 1970s. The enemies' "after action reports" (AARs) provided insights into Salafi jihadi macro-strategy. The study noted striking parallels of jihadi experiences in Syria in the 1970s to al-Qaeda sponsored operations in Iraq in 2006. The current transregional violent extremist effort demonstrates both the Salafi jihadists'

successful adaptations and their continued struggles to address specific lessons learned. For example, Abu Mus'ab Al Suri's account of Muslim Brotherhood operations in Syria over 35 years ago provides considerable insight into their operations. Contemporary Salafi jihadists appear to have learned from Al Suri's "AAR," including lessons on the importance of an advanced comprehensive strategy, self-sufficiency, strong internal and external public relations, a well-crafted media campaign, and benefiting from previous experiences. What lessons are today's transregional violent extremists learning that will apply to the strategies of the fifth, sixth, seventh, and subsequent generations of Salafi jihadists? How can U.S. and partner nation SOF identify and exploit the enemies' lessons learned and preempt their strategic adjustments and adaptation?

TRANSFORM

A4. Challenges to the third offset strategy

The third offset is meant to give U.S. forces technological overmatch of its adversaries. Possible examples of this new offset include robotics, autonomy, miniaturization, 3-D printing, and/or big data. While the costs of developing new technologies continue to limit the number of immediate peer competitors, the costs of imitation appear to be declining over time. Nor is it clear that the technologies being developed are contributing to a larger unified operating concept or that the technological edge will extend the era of U.S. offensive power dominance.

What capabilities and/or advances in technologies need to occur to ensure SOF maintain a technological advantage over adversaries? How can SOF capitalize on the third offset? How can SOF benefit from these same technologies for operators' safety and effectiveness? How can SOF use recent technological advances to sustain a force in austere environments, or decrease the footprint of a force in a situation that demands low visibility?

Are the basic assumptions of the third offset valid? Can the third offset strategy be successful without a unifying concept on how to employ military forces? What is the low-end of the third offset? What

is the poor man's version (e.g., 3-D printer-enabled weapon manufacture)? Does DOD's pursuit of technological third offsets undermine efforts to build mil-to-mil relationships with less advanced partners?

Are SOF pursuing advances that so outpace allies and partners that it could isolate itself militarily? What are the future technology-based threats to SOF operators across the range of military and special operations? Can SOF overcome these threats? Are performance enhancing drugs a third offset capability? Advanced technologies may make the human-machine interface even more complex as the human side must recognize when the machine side is out of tolerance. Will that complexity outpace the education and training of the force? What are the legal, moral, and ethical issues associated with advanced technology concepts such as autonomous machines and machine-assisted decision making?

PEOPLE

A5. Capabilities management of SOF

USSOCOM selects extremely capable individuals from different backgrounds and experiences, with a wide array of skills and talents. Once selected, it is difficult to identify and track specific skills and talents within the command so that each member can achieve his or her full potential. How can USSOCOM improve its capability to identify, track, and capture personnel capabilities? Does utilization of specific skills and talents lead to improvements in turnover, productivity, and morale? What can USSOCOM do to better manage the career progression and lifecycle of SOF operators and enablers in the future to better sustainably meet operational and enterprise requirements? What existing research or models should underpin SOF talent development and talent management? What methods can be used to vet, prioritize, and assign projects without overly taxing individuals? How can this be managed properly? Does today's selection and assessment process give us the operator of the future as detailed in the USSOCOM SOF Future Operator Concept and the Global Scout as outlined in the Congressional Posture Statement of 2016? Are there ways to enhance aptitude assessment and optimize personnel selection and matching processes across the SOF enterprise? How can

USSOCOM and its components ensure that needed capabilities are acquired rapidly and efficiently? Can the use of predictive genetic and biological markers be used to vet SOF candidates, operators, and leadership?

A6. Educating SOF for 21st century unconventional warfare (UW) and countering UW

The Joint Requirements Oversight Council issued memorandum 098-11 concerning UW. Task 9 from that memorandum tasked USSOCOM to assess UW education. The USSOCOM assessment found there was a need for providing UW education to senior leaders and all personnel within the DOD. What have numerous conflicts and wars taught the United States about UW? Is the doctrinal definition of UW still viable in the contemporary strategic environment? Is UW a viable strategic option for the United States in addressing future national security situations? Does UW expertise provide the intellectual foundation to develop strategies and campaign plans for countering enemy UW strategies and operations? What does UW education look like? How do we measure it? Who needs it? To what degree? Are SOF trained and equipped to capitalize on opportunities and enable resistance operations in times and locations of choice as approved by U.S. authorities? Should UW and counter UW be exclusive to SOF?

NETWORKING AND RELATIONSHIPS

- A7. Identity narratives shaping interstate relations in the Gray Zone**
Modifying USSOCOM 2017 Research Topics D5: “Unraveling Identity: Assessing Multiple Levels of Personal and Communal Identity and the Overlaps Within Them.” Evaluate the meaning and definition of identity as it relates to challenges within the operating environment. How can the U.S. operationalize identity? Within the human domain, what are the boundaries of influence operations, social norms, cognition, and narratives? Consider the strengths/weaknesses for beliefs and what makes them that way. What kinds of internal/external actors have the potential to shape beliefs and motivate actions? What are the costs/benefits for USSOCOM in challenges that

involve identity? Evaluate strategies and tactical/operational mechanisms available currently and those that would need to be developed.

How does the geopolitical identity of a state affect the USG's understanding of the human terrain? Discuss potential concerns associated with assigning identity to groups or individuals. Consider problems that could arise from those labels. How does Russia's geopolitical identity affect the USG's understanding of Russian human terrain and of U.S.–Russia relations? How does Russian subversion in the 21st century differ from Soviet Cold War subversion campaigns? How did the Soviet subversion from the 1940s to the 1950s affect American identity? What are parallels to those actions today?

How should the USG manage and prioritize research and studies on issues of identity to enhance understanding of military/security matters? What sources or methods (e.g., historical records [U.S. or Russian], political polls, open-source materials, memberships in ideological organizations) are required to study these questions? What are the ethical considerations for these studies?

A8. State-Society Relationships: How domestic politics shape or are shaped by international relations in the Gray Zone

There are strategic implications in the interplay between domestic politics and international relations in the state-society relationship. Economic, political, social, and other factors impact how states and their respective bureaucracies operate. As the USG seeks to influence these dynamics, what authorities or boundaries should be amended or created to support these activities more effectively? How can the USG encourage domestic and international support, and possibly funding, for a unified regional strategy? Which domestic policies or limitations prevent the USG from countering Russian influence in Eastern Europe? How does the USG gain international consensus on what the threat is? How does the USG become proactive rather than reactive in the Gray Zone? How does the USG develop a framework from which to identify Gray Zone challenges? Can the USG determine an algorithm to identify Gray Zone threats? Where are future Gray Zone threats likely to emerge? How does the USG identify potential Gray Zone threats? Is an actor's former superpower status relevant? Which geographical region is most vulnerable to Gray Zone

threats or susceptible to Gray Zone activities? How can nationalism be leveraged throughout Eastern Europe to promote U.S. interests and counter Russian influence in the Gray Zone?

TECHNOLOGY AND RESOURCES

A9. Precision targeting operations: Command, Control, Communications, Computers, and Intelligence (C4I) and Counter-Unmanned Aircraft Systems

Precision targeting operations involve direct action and counter-network activities enabled by SOF unique intelligence, technology, and targeting capabilities and processes. While every support and staff section has critical operating costs, funding for C4I is commonly the most expensive and pervasive of any budget. How can DOD anticipate and decrease information technology costs in an increasingly digital operating environment? What technological solutions are needed to deter/deny/destroy adversary unmanned aircraft systems (to include commercial, off-the-shelf solutions) in permissive and non-permissive environments? How can USSOCOM leverage partnerships with both government and civilian agencies/companies to improve precision targeting operations capability development and fielding?

A10. Contemporary UW

Rapidly improving anti-access area denial (A2/AD) adversary capabilities pose a high risk to SOF personnel conducting UW missions. Notably, these missions specifically require SOF to operate for extended periods of time in denied or contested environments. How are VEOs maximizing A2/AD against SOF UW efforts? How could SOF potentially leverage existing technology to remotely train, advise, and assist resistance forces as part of a joint UW campaign? What risks would alternate UW approaches present from a force protection and/or operations security perspective?

A11. Operational utilization of cyber technologies

Numerous advances in artificial intelligence (AI) over the past several years could dramatically affect the operational and strategic effectiveness of USSOF (and the Joint Force). Still, very few—if any—AI

capabilities are fielded for operational use. What various artificial intelligence capabilities exist with potential military utility? Which AI capabilities should be adapted for immediate use and/or warrant further investment? What are the risks versus rewards of fully autonomous systems? Similarly, how can and should AI and machine learning be used to better detect, configure, and catalog computer network hardware and software? Finally, what are ways new visualization and analytics tools could improve SOF threat awareness and intelligence processes?

A12. Big data and the operational force

Big data methods and systems create unprecedented ability to consolidate and analyze information from an array of sources. How can TSOCs and other operational headquarters enhance analytical capabilities through real-time application of big data technologies and techniques? What best practices in big data application could be applied to the USSOCOM enterprise, notably when conducting SOF command and control (C2)? What are the acquisition, sustainment, and personnel requirements for operational big data processing and analyses? What big data driven methods are adversaries using and/or likely to use in the future against USSOF and partner forces?

B. Win

Topic Titles

- B1. Case study: The integration of SOF and conventional forces (CF) in building the Afghan Local Police (ALP) program—is that approach applicable to building the capacity of local police forces in other theaters/Geographic Combatant Commands (GCCs)?
- B2. How can the DOD (primarily SOF) tie BPC efforts into combating human smuggling networks?
- B3. The future of SOF infiltration in 2035
- B4. SOF in an A2/AD environment
- B5. Techniques used by SOF to exploit publicly available information (PAI) as a method for follow-on operations
- B6. SOF Fusion Centers: The success of ad hoc SOF Fusion Centers for coalition/partner operations demands the development of a doctrinal (or standardized) Fusion Center concept for future operations
- B7. Coalition operations in the Gray Zone
- B8. How can/should SOF capabilities be used to address or counter messaging from the virtual caliphate specifically and adversary virtual networks generally?
- B9. Conflict deterrence and prevention
- B10. Tracing the evolution of SOF and defining its future utility

Topics added for this revision

- B11. Operationalizing polling: Applying common political messaging techniques to the fight against terror networks
- B12. Leveraging geospatial capabilities for the SOF Common Operational Picture (COP)
- B13. Understanding partnering limitations and challenges
- B14. Is there a sixth SOF truth—SOF operations are most effective with partner nation support?
- B15. Civil affairs operations (CAO) and military information support operations (MISO) support to SOF direct action mission effectiveness in the human domain

- B16. The evolution of cryptocurrency: Future challenges and opportunities for SOF

Topic Descriptions

- B1. Case study: The integration of SOF and conventional forces (CF) in building the Afghan Local Police (ALP) program—is that approach applicable to building the capacity of local police forces in other theaters/Geographic Combatant Commands (GCCs)?**

The ALP program was started in 2010 by SOF to develop local, community-based security forces to defend against the Taliban. The ALP program was part of the Village Stability Operations (VSO) program, another initiative by the special operations community to develop a comprehensive structure for security, governance, and economic development in select and willing communities. In most cases, people refer to ALP within the context of VSO, that is, VSO/ALP with ALP providing the security aspect of VSO. The program has been compared to the Civilian Irregular Defense Group program in Vietnam—a counterinsurgency program initially developed by the Central Intelligence Agency and U.S. Army Special Forces to secure villages in the Central Highlands of South Vietnam and cut off the enemy’s link to the people of the region, hence their access to intelligence, manpower, and logistics. Participants also referenced SHADOW WARRIOR 16-3 wargames that looked at failed states and how a VSO/ALP program might be applied.

The purpose of this research is to document the program, including the integration of SOF and CF in developing the program and building the capacity of those local forces. Generally, is that approach applicable in other regions? Specifically, what were the successes and failures of the program? Provide examples of SOF/CF integration and lessons from that integration. What other regions might this initiative support?

- B2. How can the DOD (primarily SOF) tie BPC efforts into combating human smuggling networks?**

Special Interest Aliens (SIA) pose a significant threat to our homeland. Since 9/11, homeland security has paid increased attention to

SIA, those individuals from “Special Interest Countries” that have ties to terrorism, such as Iraq, Afghanistan, Iran, Pakistan, and others.² As part of the process, human smuggling networks offer these SIA and their sponsoring Special Interest Countries a more efficient and organized approach to evading homeland defense systems.

BPC efforts are routinely conducted alongside other interagency organizations (such as Department of State, Department of Homeland Security, and Department of Justice agencies) in partner nations. In order to bolster regional security and combat human smuggling networks, DOD will identify threats and provide early warning of mechanisms to capitalize on illicit pathways. What are the illicit mechanisms and pathways used by SIA to gain entrance to the United States? What agencies and in what countries should USSOCOM engage as potential partners in combating the SIA networks and initiatives? How can USSOCOM best integrate BPC efforts into integrated campaign plans?

B3. The future of SOF infiltration in 2035

As both civilian and military communication and detection systems continue to improve, what is the future of traditional infiltration methods for SOF operations? Personal electronics are especially important given the ubiquity of Twitter and so-called “citizen journalists” and, more importantly, non-traditional agents of influence such as Instagram “influencers.” How do traditional infiltration techniques and methods evolve to remain relevant and effective? In addition, the world population continues to grow, leaving less and less undeveloped space to conduct operations. Is the aerial platform model of SOF infiltration still relevant in light of the explosion in personal communication devices enabling instantaneous notification of any foreign military presence? Are modern military air defense systems so advanced that infiltrating a marginally contested environment becomes virtually impossible? Do both of these factors together enable adversaries and peer competitors to negate traditional infiltration methods? What are some of the other methods of infiltration, such as maritime, and how are they affected? How feasible are future platforms capitalizing on next generation technology such as hypersonic and space-based?

B4. SOF in an A2/AD environment

China and Russia pursue low cost A2/AD solutions to counter U.S. high cost infiltration capabilities and methodologies in times of crisis and conflict. Unfortunately, SOF is lagging behind in terms of understanding and articulating its purpose with regards to A2/AD. The United States Naval Special Warfare Command (NAVSPECWARCOM) commissioned a study by the Center of Naval Analysis on how SOF naval forces can contribute and/or enable infiltration. NAVSPECWARCOM is also exploring this problem along two avenues: (1) How can SOF exploit its tactical mobility to provide access for special operations, actions, and activities, and (2) How can SOF build relationships with actors who already have access to those areas? Additionally, the SOCOM J9 was working on a concept to parallel Air-Sea Battle/Forcible Entry, but there has not been much else in the public domain. The expectation is that SOF should focus on counterterrorism and the services should focus on A2/AD. This only sets SOF up for failure when, at the last minute before or during the onset of hostilities, the leadership turns to SOF and asks: “What can you do for us with regards to countering A2/AD challenges (which may not be ‘conventional’)?” SOF need to be prepared to respond to that question now. Additionally, how might SOF be utilized in peacetime and during times of crisis/conflict to better enable U.S.-led counter-A2/AD efforts?

B5. Techniques used by SOF to exploit publicly available information (PAI) as a method for follow-on operations

As part of sensitive site exploitation, innocuous information is often gathered and disregarded as “benign” by a strike force. However, some of this information can be exploited to highlight relationships between malign actors, to uncover hidden identities, and to illuminate the mechanisms and procedures used by adversaries. SOF analysts are seeking ways to define and express these areas of PAI that can be used to illuminate the threat networks for follow-on operations and for reinforcing actions. One challenge is creating a procedural mechanism whereby PAI acquired by a strike force is not automatically classified, simply by virtue of having been acquired by a strike force (e.g., collection means). How can information be disseminated

while the source or collection methods/activities are not disclosed? Is there an effective way to index this PAI so it is available to analysts to consider in all-source analyses?

B6. SOF Fusion Centers: The success of ad hoc SOF Fusion Centers for coalition/partner operations demands the development of a doctrinal (or standardized) Fusion Center concept for future operations

Recent history of the employment of SOF shows that even when unilateral action is taken in foreign internal defense (FID)/UW settings, the follow-on activities often fall to coalitions or alliances. One recent example is the establishment of the Special Operations Forces Fusion Centre (SOFFC) in Kabul in 2008, which paved the way for better understanding of what intelligence requirements were necessary in a coalition environment for SOF to be able to operate inside the adversary's decision cycle. At peak operational tempo in Afghanistan (2011–2013), the SOFFC was capable of simultaneously supporting roughly 20 task forces with fused multinational and interagency intelligence. There is broad concurrence on the utility of multinational fusion centers as evidenced by similar such fusion cells that exist within the NATO Alliance on a permanent basis, such as the NATO Intelligence Fusion Centre, the Tactical Terrorism Intelligence Unit, and the Intelligence Liaison Unit. Within this context, research should address the doctrinal and conceptual steps needed to “automate” the creation of fusion cells as organic parts in the stand-up of a Special Operations Joint Task Force. The research should delve into the multinational specific requirements of such centers and the implicit systems, competencies, procedures, or mechanisms that need to be put in place for such centers to be “short-notice operations” that are capable, as well as effective, if activated.

B7. Coalition operations in the Gray Zone

As the threat of violent extremism continues to grow and a resurgent Russia continues to employ hybrid means below the threshold of conflict, senior military and civilian leaders increasingly state: “We need to do more to prevent conflict—to act in the Gray Zone between peace and war.” The Gray Zone, according to the Commander of

U.S. Central Command, General Joseph Votel, “is characterized by intense political, economic, informational, and military competition more fervent in nature than normal steady-state diplomacy, yet short of conventional war.”³ Preventing crisis is a SOF trademark. By conducting missions such as FID or military assistance, SOF helps build security sector capabilities in fragile nations, hence minimizing the opportunity for the next crisis to grow and spin out of control. It may seem difficult to build effective coalitions and conduct military operations outside the realm of conflict. Operations and activities are mostly bilateral in nature. Sometimes, nations allocate resources against the same problem set without basic coordination, resulting in wasted resources. At the same time, the 21st century is increasingly becoming the century of SOF as nations are reluctant to commit a large ground force. In the words of USSOCOM Commander General Tony Thomas, “Business is good for SOF.” So good actually, that SOF is becoming a scarce commodity, resulting in painful prioritizations. Building effective coalitions in the Gray Zone to increase burden sharing and effect efficient use of resources seems ever more important. The question is, what are the preconditions for effective planning, preparation, and execution of steady-state/Gray Zone combined special operations to prevent crises around the world?

B8. How can/should SOF capabilities be used to address or counter messaging from the virtual caliphate specifically and adversary virtual networks generally?

The FBI has approximately 900 active investigations into homegrown VEOs across the 50 states; an estimated 90 people have been charged with homegrown terrorism. However, the sources for much of the online activities are overseas where SOF and interagency operate. Islamic State of Iraq and the Syria (ISIS) supporters are very active online despite repeated removal of social media. SOF has a network that has access, and sometimes placement, where it can affect or counter these activities.⁴ The concept of a virtual caliphate deserves study or perhaps research as another framing tool in the current fight. The United States is not fighting traditional mafias or other criminal organizations the way we are fighting ISIS or al-Qaeda. The United States is at war with the entities that seek to create a physical

caliphate. This is also a different angle and approach to assessing and countering this threat. Additionally, how does this concept of a virtual caliphate play out into SOF doctrine?

B9. Conflict deterrence and prevention

The objective of this research topic is to develop new insights into which approaches are appropriate for achieving U.S. national security objectives in the current and future strategic environments. It is possible that a heavy emphasis on a deterrence-based security approach is not adequate or appropriate, given the current and emerging strategic environment. Further, any potential successes in deterring conflict are difficult to measure or even understand, particularly given information that has come to light from the Soviet archives that indicate U.S. assumptions on Soviet rationality were unfounded. Simply deterring an undesirable event does not necessarily address underlying causes or grievances that may fester under conditions of artificially-imposed stability. The absence of conflict does not indicate the absence of threats to U.S. interests, and the costs associated with maintaining a status quo that is threatened in multiple dimensions grow quickly. A more comprehensive conflict prevention approach may provide a way to complement or replace the heavy emphasis on deterrence. A thorough examination of both approaches is required to improve strategy for the current and emerging strategic environment.

Are the deterrence-based theories behind the U.S. National Security Strategy adequate to address the current and future strategic environment? Are they appropriate for state and non-state actors? Are the competition and conflict that we currently experience necessarily detrimental to the U.S. National Security Strategy? Is deterrence of conflict adequate; is prevention of conflict practical? If so, what would a conflict prevention approach entail? How could USSOCOM facilitate a new conflict prevention approach?

B10. Tracing the evolution of SOF and defining its future utility

The objective of this topic is to develop new insights to evolve a complex and mature USSOCOM enterprise in terms of cost, mission, and footprint while retaining its special agility and adaptability. Special operations characteristics have not changed: missions of physical and

political risk; unique operational techniques and employment; and a balance of intelligence and indigenous assets often require a clandestine/low visibility posture. Since 2001, SOF has been central in defense planning, persistently employed in conflict zones, and deployed across all combatant commands. A 2015 Government Accountability Office report indicated that SOF deployments increased 150 percent since 2003, with a complementary growth of budget and personnel. USSOCOM, while still dependent on the Services, shoulders service-like and combatant command responsibilities. These responsibilities, along with force development/deployment are making the SOF institution less flexible. The question is where should SOF go, in what direction? The question is not how to go further down the current path, but where and in what direction should SOF go?

If USSOCOM has grown proportional to its demands and the SOF enterprise remains the force of choice for combatant commanders and the USG, then what becomes the catalyst to reframe and capitalize on SOF's special nature? Is deploying SOF the new normal? That is, has using SOF become "conventional," while the use of CF, predominantly in Declared Theaters of Active Armed Conflict rather than Outside Declared Theaters of Active Armed Conflict (ODTAAC), has become "special?" While still winning the current fight, how can SOF evolve and retain its special character instead of becoming the conventional ODTAAC force? Themes of interest include: changing mission assignments (e.g., redefining the SOF narrative and SOF and CF roles); exploring consolidation of SOF core activities (is 12 too many?); managing TSOCs/GCCs/USG expectations in using SOF; understanding the budget/resource impacts on introducing evolutionary/revolutionary technologies as well as the capabilities integration processes and authorities.

B11. Operationalizing polling: Applying common political messaging techniques to the fight against terror networks

A significant portion of U.S. Government-sponsored polling produces top-line results typically used for high level briefings and policy discussions. Unfortunately, these broad results have little value in operational planning for Information Operations (IO). As a result, SOF IO are planned often in a vacuum without the benefit of operational

modeling. Even more, few SOF IO planners have experience or training in interpreting cross tabulation results or cluster analysis from polling. When terrorist groups put a high premium on media and messaging, are SOF campaigns at a disadvantage for not having a better understanding of the information environment?

Data modeling is a vital operational component of most Western political messaging campaigns, so why aren't these techniques also used in DOD/SOF polling for modeling public opinion and audience segments in counterterrorism operations? Regression analysis and cluster analysis are two techniques that help develop political messages in many domestic campaigns which are intended to activate certain audience segment networks while suppressing others. These techniques can capture nuances often missed by human review. They can also group target audiences in ways to better understand how and where different groups view issues. When psychographic questions are applied to a poll, additional insights can be derived in modeling that allows segmentation by individual values (i.e., defining the "Friendly Base," "Enemy Enablers," and "Enemy Base" segments). Should DOD polls benchmark and track the size and characteristics of audience segments? Should these techniques become standard and should SOF Information Officers be trained to understand and interpret basic data models derived from polling?

B12. Leveraging geospatial capabilities for the SOF Common Operational Picture (COP)

The emerging field of big data has created a significant shift in the SOF geospatial intelligence community. There is growing availability of open source data, which can make correlations amongst population attitudes and beliefs and their socio-cultural, demographic, and lifestyle profiles. Making such correlations will greatly improve the SOF ability to build relevant commander's COP and will result in an increasing reliance on unclassified sources. What are some geospatial products that effectively allow operators to determine their measures of effectiveness of desired end-states? Do geospatial intelligence needs change across the range of military operations? Are there any factors of PMESII-PT [political, military, economic, social, information, and infrastructure—physical environment and time] that cannot be

communicated in a geospatial model? In the era of big data, are there policies that can accurately delineate an area of operation or an area of interest for planners? What are the ethical dilemmas in using open source big data to build geospatial information for the commander's COP and decision-making?

B13. Understanding partnering limitations and challenges

DOD's counter-VEO campaign is largely focused on enabling partner security forces to deal with local terrorist challenges to evolve to a point that requires a minimal amount of continued U.S. and international support. DOD pursues a "by, with, and through" approach with partners to build the local capacity needed to address security concerns in the long run.

- Military operations against terrorist organizations are conducted by our partners or host-nation forces.
- U.S. forces work with our partners to train, equip, advise, enable, and when authorized, accompany them on operations and improve their effectiveness and professionalism.
- Through this cooperative relationship, the United States and our partners achieve our shared strategic objectives.

In order to pursue this strategy effectively, SOF need to better understand the limitations and challenges of working with partner security forces in order to set and achieve realistic expectations for success. In addition to understanding cultural differences, SOF may encounter differences in legal systems that impact detainee processing and holding. In addition, how can SOF best motivate partner forces if our assumed "shared strategic objectives" differ? Specific research questions should include: What are the limitations and challenges of working with partner security forces? How can SOF best work within those limitations and challenges to achieve mission success?

B14. Is there a sixth SOF truth: SOF operations are most effective with partner nation support?

Partner nations have had an ever-increasing role in global SOF operations and the development of those forces' capacity and capability is at the core of USSOCOM security force assistance missions. The DOD has placed significant emphasis on increasing partner nation

cooperation, placement, participation, and integration into current and future operations that involve U.S. SOF. Partner nation forces are now taking on greater leadership and responsibility roles in operations, often with a designated partner nation leader in the deputy commander position.

Have partner nation participation, approval, and access become a fundamental requirement in most SOF operations? If the United States continues to seek partner nation approval, synchronization, and access in future operations, what are some of the roadblocks and pitfalls to this cooperation? Has partner nation support become a key pillar to U.S. operations? Does partner nation support result in more effective operations? What partner nation capabilities are important for future operating environments?

B15. Civil affairs operations (CAO) and military information support operations (MISO) support to SOF direct action mission effectiveness and lethality in the human domain

In his 5 October 2017 memorandum to all DOD personnel, SECDEF described the first of three lines of effort and stated, “We will execute a multi-year plan to rapidly rebuild the warfighting readiness of the Joint Force, filling holes in capacity and lethality while preparing for sustained future investment.”⁵ SOF personnel must continually think about human interactions, building trust, and winning support among individuals, groups, and populations. Drawing on an approach and required capabilities in this concept, SOF and their partners use persuasion and compulsion to shape the calculations, decision-making, and behavior of relevant actors in a manner consistent with mission objectives and the desired end state. For an asymmetric advantage, SOF must win support and build strength before confronting adversaries in battle. Working in collaboration with capable partners and as part of a whole-of-government approach, SOF enable preemptive actions to avert or deescalate conflicts. When necessary, SOF and their partners confront and defeat adversaries, always mindful that the end goal is an eventual cessation of hostilities that evolves to a sustainable peace. How can CAO that support SOF lead to increased lethality and better outcomes? How can MISO that

support SOF more effectively shape the environment and contribute to increased lethality and effectiveness?

B16. The evolution of cryptocurrency: Future challenges and opportunities for SOF

Cryptocurrencies are peer-to-peer digital currencies that use advanced encryption methods to generate and regulate a currency that is outside the control of the international banking system. As the availability and use of cryptocurrencies continues to evolve, how will this impact current and future SOF missions and operations? Although Bitcoin is a very well-known brand, what are other emerging cryptocurrencies that may be attractive options for adversaries to generate, move, use, and store their funds? What is the next evolution in cryptocurrency? What are ways for SOF to increase effectiveness in counter-threat finance activities that involve cryptocurrencies?

C. Transform

Topic Titles

- C1. The role of USSOCOM as a “Global Synchronizer”
- C2. The implications of swarming tactics, techniques, and procedures (TTPs) for SOF
- C3. Security cooperation framework and global SOF
- C4. Developing understanding and wielding influence through expanded maneuver
- C5. Optimizing SOF C2
- C6. Posturing forces for steady state vs. contingency
- C7. Alternative campaign planning construct
- C8. Evolutionary and revolutionary change and the implications for SOF
- C9. How can SOF best leverage the cyberspace domain to conduct its own Mission Essential Task List (METL)?

Topics added for this revision

- C10. Transitioning from a sensor-driven to a data-driven culture
- C11. How will SOF evolve its shaping operations to enable joint force success in modern and future large-scale combat operations?
- C12. How can SOF best facilitate a whole-of-government effort to compete with adversaries short of open, armed conflict?
- C13. Systematic methodology for defining SOF peculiar versus Service common Doctrine, Organization, Training, Material, Leadership and Education, Personnel, Facility, and Policy (DOTMLPF-P)

Topic Descriptions

C1. The role of USSOCOM as a “Global Synchronizer”

A global synchronizer is the Combatant Commander responsible for the alignment of specified planning and related activities of other Combatant Commands, Services, DOD agencies and activities, and, as directed, appropriate USG departments and agencies within an established, common framework to facilitate coordinated and decentralized execution across geographic and other boundaries.

USSOCOM has global synchronizer responsibilities in counterterrorism, countering weapons of mass destruction, and countering Transregional Threat Organizations. While the definition is instructive, in practice the “global synchronizer” role requires further conceptual and functional development across DOD and other USG agencies. More broadly, the global synchronizer role could also extend to partner nations looking to USSOCOM for security cooperation activities.

Generally, how do SOF address transregional threats using all the elements of national power when most, if not all, USG departments and agencies are configured along national or regional lines? With increasing emphasis being placed on whole of government and interagency collaboration, how can USSOCOM encourage potential interagency and international partners to collaborate more effectively? How do SOF optimize partnerships and reinforce supported and supporting relationships within SOF, coalition forces, and joint, interagency, intergovernmental, and multinational (JIIM) structural constructs to achieve operational and strategic effects and minimize risk in irregular and traditional operations across the range of military operations? How do SOF bridge critical seams between JIIM partners to conduct operations under Title 10 Authorities, Title 50 Authorities, and/or the Ambassador’s Title 22 Authorities to achieve success in complex future operating environments?

What are the objective barriers to success? What defines mission success versus the success of cooperation? What are the best practices toward attaining interagency cooperation and interdependence? With regard to the special operations support team/special operations liaison officer network, how can USSOCOM ensure the right people are being placed in the right agencies and countries? What is the role of the U.S. country team, who by definition is narrowly focused on a single country, in addressing transregional threats? What current agency/departmental cultures exist that hinder this collaboration, and how do SOF overcome them?

How can partner nations be best incorporated in transregional efforts? Are there best practices and other mechanisms for understanding, identifying, assessing, developing, and motivating potential partners’ behavior, objectives, organization, and composition to successfully partner with SOF? What requirements exist for SOF

in establishing a unity of effort with respect to level of education received by our global partners, which include the USG departments and agencies, intergovernmental organizations, non-governmental organizations, multinational forces, and elements of the private sector? How do SOF develop similar situational understanding of CF, USG interagency, and international partner forces' objectives, missions, and purpose to achieve complementary effects for other SOF operations?

C2. The implications of swarming tactics, techniques, and procedures (TTP) for SOF

Swarming technology is becoming increasingly viable, and swarming concepts are disseminating at a rapid pace. These facts present both opportunities and threats to SOF who must now adapt to a new operating environment. The implications of swarming TTP are not yet well understood and require immediate investigation.

What swarming technologies can be leveraged to achieve a SOF-centric Intelligence, Surveillance, and Reconnaissance (ISR) capability? What types of commercial off-the-shelf technologies empower enemy forces to detect SOF presence or activities? What lessons can be learned by studying swarming behavior and techniques of adversaries to provide insight on how to defeat them or emulate that behavior? Is there a way to apply swarming tactics to magnify or obfuscate SOF on the battlefield?

Are SOF-enablers (e.g., Little Green Men and motorcycle gangs in Crimea) the same as SOF? Can or should SOF leverage Transnational Organized Crime (TOC) or other unsavory groups as part of a swarming attack? What role does SOF have in identifying or counteracting swarming TTP by TOC or other unsavory groups? How can SOF leverage swarming techniques with auxiliary forces to achieve tactical, operational, or strategic effects? Where can SOF leverage swarming TTP in performance of their core missions? For instance, what modifications or updates to UW, FID, and security force assistance need to be undertaken to address the ability of human swarming that impact SOF activities?

C3. Security cooperation framework and global SOF

SOF have become great tools for both the United States and partner nations in today's complex and fluid current threat environment. As a result, many partner nations are emphasizing SOF capacity and institution building. However, under the U.S. security cooperation construct, SOF expertise gets lost in the system. Current U.S. security cooperation programs are underpinned by political and diplomatic interests. In practical terms, key players in the developmental phase of these programs are the U.S. country teams, GCCs, the Department of State, and the U.S. Congress, while in the implementation phase, the key mechanisms are controlled by the Defense Security Cooperation Agency, the GCCs, and the country teams. Given the growing importance of SOF to the U.S. and partner nations, greater emphasis on SOF-centric programs might be warranted.

How might the GCC-centric system be adapted to better incorporate partner nation SOF whose interests and capabilities cross GCC boundaries? How can SOF integrate partner capabilities and improve information sharing among partners to more effectively counter transregional VEOs using a transregional approach? How might USSOCOM need to alter its frames of partnership to accommodate the variety of partner SOF organizational structures, such as with those lacking service-like responsibilities? Could theme-focused hubs (as opposed to regional hubs) provide a better solution when addressing transregional threats?

How might the U.S. FID mission support an approach that addresses ways for tackling future crises in which multiple nations have a vested interest and for which the nations are willing to commit forces and resources based on agreed end-states and strategic diplomatic, information, military, and economic objectives? What systems, authorities, or procedures have to be changed or implemented within the Security Cooperation Programs, and what legislative or authoritative directives need to be adjusted or published to ensure that the application of U.S. funds and knowledge produce capable and interoperable SOF capabilities in partner nations? What mechanisms are available for partner nations to make known objectives, goals, and caveats as input to the strategic and campaign planning process before the plan is finalized?

How can SOF share open-source information with partners and encourage partners to share their information and insights to more effectively counter terrorism? What authorities and issues impact open-source and other information sharing? What information can and should be shared with partners, what are the barriers to doing so, and how can these barriers be addressed? What can USSOCOM do to establish an effective collaborative information environment to enable information sharing, enhance situational awareness, and support decision-making? How would historical enmities within a region impact such an approach? What doctrine, organization, training, materiel, leadership, education, personnel, and facilities changes need to be made to institutionalize lessons learned in order to better enable future coalition SOF operations and improve interoperability?

C4. Developing understanding and wielding influence through expanded maneuver

Developing understanding of and wielding influence over populations are essential components of SOF core activities. In an era of population-centric competition and conflict, the joint force requires an expanded concept of maneuver that considers both physical and cognitive maneuver in and across multiple domains to move both force and ideas in time and space, especially in security environments below the threshold of Major Combat Operations where state and non-state actors seek to gain an asymmetric advantage by operating in the seam between peace and war. There is a need to examine how maneuvering in the cognitive space is an important aspect of ‘systematic influence’ on the left side of the operational continuum.

What changes will need to be made for the United States to conduct agile political warfare, and what will be the SOF role? How can SOF expand the Army’s current frame for Unified Land Operations beyond the physical to consider “outmaneuvering adversaries both physically and cognitively” to ensure the joint force is better positioned to maintain a competitive edge over our nation’s adversaries? How can SOF, as part of the joint force, better prepare and shape the contemporary and future operating environment for success through the conduct of “Cognitive Intelligence Preparation of the Battlefield”?

How do SOF design Preparation of the Environment (PE) operations to achieve both tactical and strategic effects? Do PE activities vary when conducting the various SOF core operations? If so, how and why? How are SOF PE operations synchronized with USG or partner nations? Are joint SOF standardized in how they approach PE so there is common vocabulary amongst the various Service components?

How might deeper insight on social, environmental, and psychological factors improve influence operations to deter or weaken foreign fighters' motivations to join or support extremist causes? Which factors are most salient to BPC, and how should SOF capacity-building efforts address those factors? How does understanding culture make a positive difference and enhance SOF military effectiveness? As a way of developing greater understanding of context and others' intentions when building relationships, especially in the fluid arena of the Gray Zone, what mechanisms exist to locate and assess the importance of competing identities? Why do some identities endure challenges? Why do some identities get folded into or subsumed by others and under what conditions is that likely to occur?

How can the future joint force and SOF develop human domain indicators and warnings that inform comprehensive deterrence decisions and enable decision makers to prioritize force readiness to meet security challenges early, particularly in Gray Zone environments? How might qualitative, iterative, multidisciplinary, multimodal approaches to understanding population-centric challenges improve indicators and warnings for how SOF can maneuver in the cognitive space and better compete in the human domain? In order to answer these questions, research into the cultural norms found within political, social, and economic institutions will build rubrics for assessing identity clarity (specificity of values and actions promoted by the identity), predictability (amount and types of anticipated actions by others within the identity group), intensity (importance vis-à-vis other identities), prevalence (breadth of acceptance within the community), durability (ability to withstand counter identities), and flexibility (adaptability with changing contexts).

C5. Optimizing SOF C2

Building on General Votel's Mission Command 2015 White Paper, how can or should USSOCOM standardize and simplify SOF C2. Strategic problems are no longer confined to sovereign borders or specific regions. Rather, these problems are transregional, spanning the entire globe. Global SOF operations will increasingly involve adversaries who conduct activities and operations across traditional GCC seams within the air, ground, sea, and cyber domains. However, the transregional threat presents unique C2 issues as threats cross GCC boundaries and responsibilities. SOF must determine if existing C2 architectures are sufficient to address these challenges. This research should address current SOF C2 structures to either validate them or determine if they need modification to more efficiently address current threats.

Is there an optimal, standardized structure applicable at all (most) levels of SOF C2, and if so, what does it look like? How does USSOCOM synchronize and prioritize special operations, actions, and activities globally? How can USSOCOM better provide coherent and unified SOF capabilities to the GCCs? Does the command present coherent SOF employment options and recommendations? Are the authorities, leadership traits, and technical capabilities required for success currently available?

Does current joint doctrine SOF C2 structure sufficiently address these challenges and the evolving dynamic of cross-GCC, or seam operations? What are some specific recommendations to enhance existing doctrine and/or implement new C2 concepts? How could the command expand the range of available options through requisite authorities, capabilities, and relationships? What can be learned from historical examples of how C2 of SOF has been established in different campaigns—SOF supporting a conventional force commander, supporting a SOF commander, or supporting the interagency?

What are the future agile information systems that USSOCOM should be focused on incorporating into the SOF network in the next 15 years? Of these, what processes, systems, and mechanisms can be leveraged to share information with international partners to include differing levels of security classification?

C6. Posturing forces for steady state vs. contingency

Since 9/11, SOF have been deployed at previously unanticipated levels, and many expect that Gray Zone or hybrid warfare challenges will require continued high levels of SOF engagement. Since SOF were envisaged as primarily a contingency force and resourced accordingly, some SOF enabler activities have been stretched to the limit and often require ad hoc adaptations to meet mission requirements. Is it now time to develop a concept of SOF posturing for steady-state operations instead of a contingency concept?

Is there a difference in posturing forces between contingencies and steady-state operations? What logistics issues are encountered as a result of supporting operations with contingency and crisis action planning processes? Would a steady-state concept of operation promote cost savings or improve implementation? What are the political and military obstacles that impact or prevent a more efficient support structure? Is there value to having logistics personnel trained specifically to support SOF operators and operations? Do SOF operations require a level of support different than that of the CF?

Current exercises and training opportunities centered on operational contract support which provided a means to better support the mission. How can USSOCOM optimize SOF sustainment operations, ensuring support to the TSOCs is fully integrated within the GCC and component logistics concept of operations? Given the complexity of the SOF environment, what authorities and resourcing changes are required to ensure USSOCOM can sustain SOF into the future? What equipment authorization changes are required to sustain the future SOF operator, and is there a better way to manage those authorities? What USSOCOM headquarters staff and organization changes (logistics leadership rank/grade, logistics operations, engineering, and medical) would enable the headquarters to best support TSOCs in their worldwide mission?

How can USSOCOM optimize the integration and interoperability of SOF sustainment with conventional force logistics operations, systems, and infrastructure? How can USSOCOM better ensure SOF logistics requirements are being met by GCCs and the coalition forces? With theater and national redundancies for crisis response,

can the theater forces afford or accommodate longer response times in order to free up forces for steady-state OAAs?

How does A2/AD impact our ability to resupply our forces? Are SOF mission requirements driving/equipping force capabilities? Where are these requirements coming from? Is USSOCOM building the force of the future or continuing legacy programs/systems? Are SOF efforts and capacities outpacing their authorities and appetite to use these resources?

C7. Alternative campaign planning construct

In an era of persistent competition and conflict characterized by security challenges below the threshold of major armed intervention or war, the Joint Operations Planning and Execution System has proved to be an inadequate phasing construct for campaign and operations planning. Currently, the JS J-7 with input from the services is developing a Joint Concept for Integrated Campaigning (JCIC).

How will the Joint Force design, plan, and execute joint campaigns in conjunction with interorganizational and multinational partners to overcome the emerging complexities of the future operating environment? How does SOF, as part of the joint force, operationalize the JCIC to design campaigns which do not fit within the traditional campaign planning paradigm, particularly when partner nations should be in the lead and U.S. planning is subordinate to our partner's plan? In an era of persistent competition and conflict, how can USSOCOM become an adaptive organization comfortable with constant change, and how does an organization build in and encourage the practice of constant adaptation? How does a planning model inspire creativity without being reduced to a process that merely replicates the example offered in the guidance?

C8. Evolutionary and revolutionary change and the implications for SOF

While SOF remain dedicated to constant technological innovation, there is a growing tension between evolutionary change based on improvements to existing paradigms of warfare and revolutionary change based on the introduction of radically new concepts, technologies, and/or environmental conditions. To avoid strategic surprise,

USSOCOM must maintain a foothold in both evolutionary and revolutionary advances.

How do emergent technologies affect the nature of the SOF enterprise? How does a growing bureaucracy adapt to the challenges of a complex strategic environment characterized by persistent disruption? Do existing paradigms require evolutionary or revolutionary change to achieve successful outcomes in environments characterized by entangled complexities and overlapping simultaneous conflicts?

C9. How can SOF best leverage the cyberspace domain to conduct its own Mission Essential Task List (METL)?

As the cyber domain grows in importance, SOF will be increasingly compelled to envision its roles and responsibilities in this domain. While USSOCOM will leverage and complement other DOD and interagency partners in the cyber domain, SOF will likely operate in ways unique to the community. While SOF cyber capabilities are still in their infancy, it is useful to begin conceptualizing a SOF cyber METL, or at least ask informed questions about how SOF might contribute to the overall effort in the cyber domain.

How might USSOCOM leverage different trades, branches, or authorities within the different formations across the enterprise, but also at the different components? How might USSOCOM delineate what SOF does in this domain in order to be able to understand, operate, influence, and coerce in this environment at the tactical level while differentiating itself from other strategic and operational level cyber mission forces? To what extent is physical location a consideration for SOF in the cyber domain, and what implications flow from the answer?

C10. Transitioning from a sensor-driven to a data-driven culture

The SOF enterprise and associated mission partners operate in a highly complex environment where the proliferation of advanced technologies generates massive quantities of data. The current SOF operating model is effective at leveraging individual pieces of the data for tactical success. However, to more holistically harness the ever-increasing quantity of data essential for training, intelligence activities, operations, and the SOF enterprise must shift from its current sensor-driven culture to much more data-driven one.

How will SOF execute the cultural shift needed to realize the potential of a relentlessly data-driven, instrumented culture to deliver real-time insights for decision-making at every level?

C11. How will SOF evolve its shaping operations to enable joint force success in modern and future large-scale combat operations?

Although post-9/11 SOF activities may best be known for countering VEOs, SOF still play a vital role in supporting military options to counter nation-states and near-peers. The SOF role in large-scale combat operations has always been important and modern SOF evolved specifically to conduct shaping operations that lead to the success of the joint force in these open, armed, nation-state conflicts. During WWII, the Office of Strategic Services Jedburgh teams, underwater demolition teams, Merrill's Marauders, Ranger battalions, and other units were created to shape the battlespace and environment in support of major operations and campaigns. How can SOF best perform shaping operations in the present day? What does this type of special operations team look like in the future? What are the issues and challenges for future SOF support to large-scale combat operations?

C12. How can SOF best facilitate a whole-of-government effort to compete with adversaries short of open, armed conflict?

As the lines between war and competition short of war become less distinct, how does USSOCOM's role in these operations change? Does U.S. policy and law need to change to enhance USSOCOM's capabilities as the world moves away from a binary understanding of war? Is USSOCOM appropriately manned, trained, and equipped to be most effective in competition short of war? In terms of inter-agency relationships and their effectiveness in countering terrorism and countering UW, are the relationships the U.S. military (SOF), law enforcement, (FBI), and the CIA developed over the last 16 years to counter terrorism sufficient to effectively sustain future operations? What can be done to formalize many of the informal relationships or better synchronize activities among these organizations? Does informality increase agility? Do organizational cultural differences hinder or increase effectiveness?

C13. Systematic methodology for defining SOF-peculiar versus Service-common Doctrine, Organization, Training, Material, Leadership and Education, Personnel, Facility, and Policy (DOTMLPF-P) requirements

USSOCOM will soon celebrate its 31st anniversary. Section 212 of the Goldwater-Nichols DOD Reorganization Act of 1986 led to the “Creation of a unified combatant command for special operations missions which would combine the special operations missions, responsibilities, and forces of the armed forces.”⁶ From the creation of USSOCOM to the present day, what has remained elusive is a systemic process for defining SOF-peculiar vice Service-common DOTMLPF-P requirements. Defining requirements between bill-payers is usually left to opinion or negotiations e.g. Service talks, memorandum of agreement. The lack of a defined process continues to stress the USSOCOM discretionary and nondiscretionary MFP-II funds. Is there a model or process that could be developed to concretize the decision process that determines the bill-payer? Some questions to consider:

- Who pays for a Service-sponsored course that has a SOF-only module (e.g. combat dive)?
- Who pays for a pre-deployment/assignment course focused on SOF (capabilities, authorities, organizations, missions, etc.)?
- How much weight should be placed on purpose, intent, preponderance of use, and speed of acquisition?

D. People

Topic Titles

- D1. Recruiting, assessing, selecting, training, and retaining Special Operations Cyber enablers and specialists
- D2. Authorities for educating SOF
- D3. Development of SOF logisticians
- D4. Leadership and innovation in a large SOF enterprise
- D5. Preparing the millennial generation for military leadership
- D6. Examine the implications and effects of adopting programs to enhanced SOF human performance: Are there limits to enhanced physical and mental capabilities?
- D7. The Warrior Care Program: “We will keep the faith with you”

Topic added for this revision

- D8. Should USSOCOM consider the establishment of a joint training command?

Topic Descriptions

D1. Recruiting, assessing, selecting, training, and retaining Special Operations Cyber enablers and specialists

What is the return on investment associated with developing a SOF-dedicated cyber workforce? With the exponential increase over the last 5–7 years for human capital well-versed in the multiple disciplines in cyber security, the DOD and USSOCOM need to look at how to better recruit and incentivize the current workforce to remain, as well as develop innovative ways to continually bolster its ranks. The private sector is utilizing the tried and tested method of increasing compensation for these work roles. What other methods can USSOCOM use to retain its cyber talent? How can USSOCOM compete with the private sector for its technical and cyber workforce? Can developing and fostering a culture like the one found in SOF combat organizations be the key to retaining and subsequently recruiting the best and brightest in the cyber security workforce? How can USSOCOM better collaborate with colleges and universities to boost recruitment

efforts and increase the number of students studying cybersecurity as a profession? How does an organization effectively raise and sustain a cybersecurity aware culture? What are the most profound and impacting ways to shift the human to taking cybersecurity more seriously and adopt an enduring and effective cybersecurity posture for the SOF enterprise?

D2. Authorities for educating SOF

USSOCOM derives the authority for training, equipping, and organizing special operations personnel from Title 10 of United States Code. At present, the education of special operations personnel is the responsibility of the Services. Do special operations personnel (commissioned and non-commissioned) require additional education as compared to their conventional Service counterparts? Does the education currently provided by the Services meet SOF needs? If SOF has unique educational needs, what are they? Should USSOCOM petition Congress to amend Goldwater-Nichols to allow for the use of MFP-11 funds to educate the force? How can USSOCOM expand SOF learning and education opportunities for special operations personnel? What legal and policy authorities can USSOCOM compel the Services to address these challenges? What changes in law and policy are needed to address these challenges?

D3. Development of SOF logisticians

The goal of the research would be to identify the value of having logistics personnel trained in specific disciplines to support SOF operators and UW operations where traditional logistics support could hamper or even compromise sensitive missions. U.S. Army Special Operations Command has used the term Non-Standard Logistics (NSL). Do SOF operations require a level of support different than that of the CF? What doctrinal and legislative support is required? Is a distinct Joint SOF Logistician designator required? Do all SOF components have an equivalent requirement for a SOF logistics specialist? Should a specialty career track managing system be established? What special authorities should these SOF logisticians be given? What exercises and training opportunities exist or need to be developed to

incorporate NSL operational contract support as a means to better support the mission?

D4. Leadership and innovation in a large SOF enterprise

As the SOF enterprise grows, how can it resist becoming bureaucratically rigid? What methods and approaches for innovation and idea generation can be adapted from the private sector or other unique government organizations? How can the SOF components improve retention of its most talented and innovative people? How should innovation be rewarded and organizational agility fostered? How can USSOCOM and its components purposefully integrate modern organizational design, leadership theory, and smart risk-taking to these ends?

D5. Preparing the millennial generation for military leadership

Management and leadership challenges are fueled by generational change and shifts in its workforce. There is a great deal of research on leadership styles in the military: effectiveness, evolution, and adaptation to different environments and events. There is also research on the changing demographics of the military and the needs and motivations of the newest members of the armed forces. There is little research covering the convergence of these topics: How do millennials lead? The military has more individuals from Generation Y in leadership positions than the civilian population does, but available research stops at Generation X leadership. What is the basis for the notion that millennials lead “differently,” in particular, after they have been indoctrinated and join SOF units? How should the leadership of millennials be categorized? If they are different from previous generations, how is the military and SOF in particular adapting and preparing for this shift? How can SOF units prepare the next generation of SOF leaders?

D6. Examine the implications and effects of adopting programs to enhance SOF human performance: Are there limits to enhanced physical and mental capabilities?

An extensive study directed by a former USSOCOM commander revealed that the current operational environment has been more

difficult than operators and their families expected, leaving little time for them to adjust to the daily strains of perpetual absences. There has been legislative resistance to fund USSOCOM human performance programs and infrastructure as opposed to military service-funded programs. USSOCOM human performance efforts are currently integrated under the Preservation of the Force and Family (POTFF) initiative. According to POTFF, there is a gap in empirical data in this area. What are the values of SOF-specific human performance programs? Should it be a stand-alone program more aligned with operational needs? Should or will the human performance initiative be considered an operational USSOCOM requirement? Why should USSOCOM spend money on such additional programs? What are the limits for the program to research enhanced or augmented physical and mental capabilities? What are the characteristics of human resiliency in SOF operators? Can “stress resistance capability” be measured biochemically? Explore the utility and effectiveness of differing treatment methods, therapeutic approaches, and linkages to human performance as part of said treatment. Examine existing data to determine preferred approaches, documented results, and willingness to sustain enhancement treatment.

D7. The Warrior Care Program: “We will keep the faith with you”

In 2005, USSOCOM established an aggressive program to internally care for SOF wounded, ill, or injured service members and their families. That initiative, the Care Coalition, had the stated goal “to accomplish the mission by, through, and with government and non-government organizations.” Recently renamed the Warrior Care Program to better align with other Services programs, the USSOCOM program has evolved from immediate care and recovery assistance to include a comprehensive recovery plan and a comprehensive transition. The program intends to provide direct, lifelong assistance to SOF personnel who are wounded, ill, or injured. In addition to transition assistance and mentoring, an adaptive sports program and fellowships were added. Documenting its history, evolution, and measures of effectiveness are of interest to USSOCOM leadership. How effective is the program? Can it be considered a model advocacy program for other services? Has it had a direct effect in increasing special operations

readiness? What metrics can be considered to measure its effectiveness? With expected future budget constraints, is it a long-term sustainable program?

D8. Should USSOCOM consider the establishment of a joint training command?

Are there organizational efficiencies and effectiveness to be gained through either the reorganization of the existing J7 directorate into, or through the alternative establishment of, a new USSOCOM joint training command? Compare and contrast the current USSOCOM J7's organizational structure, functions, and products in the context of the Service training commands (e.g. Naval Education and Training Command, U.S. Army Training and Doctrine Command, the U.S. Air Force Air Education and Training Command, and the U.S. Marine Corps Training and Education Command). Identify roles, relationships and practices; strengths, weaknesses, opportunities and challenge, and potential for increased effectiveness within the various options. Determine whether those organizational models or elements within those models can be partially or entirely leveraged to improve USSOCOM's effectiveness?

Identify the differences in training oversight, standardization, and innovation and advantages that could be gained by improving or changing the current approach to training? Additionally, would the joint community benefit from a joint SOF training requirements and resources system (similar to Service, e.g. Army, systems) to more effectively manage and schedule MFP-11 funded schools and training billet allocations? Would the joint community benefit from a joint SOF instructor pool from which qualified individuals are selected for joint instructor billets?

Research alternative organizational structures that could result in USSOCOM more effectively fulfilling its U.S. Code Title 10 training readiness, oversight and interoperability responsibilities. Recommend the organizational model that represents the most comprehensive, functional, and cost-effective approach to training.

E. Networking and Relationships

Topic Titles

- E1. Intellectual motivators of insurgencies and resistance movements
- E2. Thickening the SOF Network
- E3. Forging partnerships with SOF
- E4. New concepts in Joint, Interagency, Intergovernmental, and Multinational Coordination (JIIM-C)
- E5. BPC for developing countries' coastal navies
- E6. Multilateral regional maritime security

Topic Descriptions

E1. **Intellectual motivators of insurgencies and resistance movements**

In a hyper-connected, social media enabled cognitive world, the positive perceptions, beliefs, trust, and credibility that others hold of the United States will be the center of gravity in relation to the United States' abilities to conduct successful campaigns, operations, and activities to advance U.S. interests. Super-empowered/hyper-connected individuals have an increased ability to provide an operational and organizational framework to achieve political change. Individuals or groups historically, and in the contemporary environment, have provided the big idea to achieve political change. These intellectual motivators develop ideas and then propel them forward, which in turn causes a state leader to resist those values or meta-narrative. Are there emerging intellectual motivators of insurgencies and resistance movements that represent a challenge to U.S. interests? Are there non-traditional means to query the social media network to find those emerging intellectual motivators before they are highly visible to external audiences?

E2. **Thickening the SOF network**

USSOCOM has built an international network with global SOF partners. Initiated by commanders, the network is established via memoranda of agreement and reinforced with liaisons to and from

USSOCOM. It manifests itself in a multinational coordination center that encourages collaboration and provides the connectivity infrastructure to encourage sharing through a Mission Partner Network Environment Working Group. Nineteen nations are currently represented at USSOCOM and the United States maintains liaisons in 18 partner nations. Where should the network go from here? What are the current limitations to further development of the network? How can interagency partners be included in the network? What ends could or should this network serve? What changes need to be implemented, and what policies and authorities need to be put in place to allow the network to thicken?

E3. Forging partnerships with SOF

The success of SOF is dependent upon building and sustaining relationships with partners, which typically include foreign militaries, the intelligence community, and other governmental agencies. Due to the unconventional nature and terrain in which SOF operates, non-standard relationships are also forged. These include outreach with academic institutions and private industry. USSOCOM's function as coordinating authority and lead component to synchronize DOD activities in the realms of Counter Transregional Terrorist Organizations, countering weapons of mass destruction, and Counter Threat Finance necessitates SOF working with non-traditional partners and industry experts. How can non-standard relationships be forged between like-minded organizations and individuals? How can SOF make better use of outreach programs into academia, professional associations, and public service? Which corporations should SOF be working with, and which industry partners should SOF maintain habitual relationships with? How does SOF broaden its reach and influence with these partners, and what C2 mechanisms are needed to facilitate these partnerships?

E4. New concepts in Joint, Interagency, Intergovernmental, and Multinational Coordination (JIIM-C)

What is USSOCOM's role as a "synchronizer" on certain interagency missions in what is essentially a "coalition of the willing" among organizations with different priorities, authorities, permissions, and concepts of operation? What can we learn from organization theory about

generating common operating pictures in a JIIM-C framework? What are the means for fomenting a sense of “team” above tactical-level Joint Interagency Task Force South groups? What structures are best suited for JIIM-C missions? Is there a difference between JIIM-C and combined, joint, interagency problems? What is the optimal organizational design for a globally deployed SOF with unknowable contingency operations that we are likely to face in the future?

E5. BPC for developing countries’ coastal navies

BPC for maritime capabilities presents a serious challenge for developing countries that lack the infrastructure and economic resources to sustain conventional naval shipping and aircraft. For developing countries, what maritime BPC approaches work best? What approaches most effectively support these countries’ maritime security goals? What low-cost, off-the-shelf, sustainable systems work best for maritime domain awareness, for coastal communications, for maritime interdiction, for maritime strike, or for coastal patrol? What examples or case studies best inform the topic of maritime BPC? OEF-Philippines? Sri Lanka? Oman? Kenya? Gulf of Guinea? Africa Partnership Station? Are there other historical case studies from outside the American context?

E6. Multilateral regional maritime security

This topic involves identifying and strengthening the SOF role in building regional maritime security in areas such as the South China Sea or the Gulf of Guinea. What is the role of SOF in supporting the broader GCC problem set of competition with a rising China and the threat of an assertive regional hegemon? What is the state of affairs amongst the states and their coastal navies surrounding the South China Sea or the Gulf of Guinea? What states play leading roles? What states need more support? What agreements, relationships, policies, or engagements could be implemented to improve maritime security in the South China Sea or the Gulf of Guinea? What is the status of regional maritime security today? What is a realistic vision for improved regional maritime security in the future? What are some appropriate, feasible, and suitable options to get us from today to an improved future? What are the pros and cons, or advantages and disadvantages, for each of these options?

F. Technology and Resources

Topic Titles

- F1. Service support to SOF
- F2. Collaborative tools
- F3. Future of SOF Airborne ISR
- F4. Disruptive innovation
- F5. Encryption and the way ahead

Topic Descriptions

F1. Service support to SOF

In the FY17 National Defense Authorization Act (NDAA), Congress mandated the Services provide a report on the associated costs to support Special Operations within 180 days of the signed NDAA. Services provide a significant level of additional support, estimated at \$8B annually in the following areas: Military Personnel, Major Weapons Programs, Base Operations Support, Military Training Support, and Military Construction. This analysis was conducted by USSOCOM Special Operations Financial Management and all are estimated support costs. How can we accurately capture the support costs across the Services? What are the direct/indirect costs to the Services in support of SOF operations? As an example, if SOF operators occupy a Service-owned building for a month while on a mission, should the utility costs be accounted? What are the Base-line versus Overseas Contingency Operations costs? What are the man-hour costs to support a SOF mission from a Services perspective? As an example, when a SOF-owned C-130J lands at a Service's installation, what are the costs (man-hours) to recover and launch that aircraft? Should the Services create a "job order" type system to track the man-hour costs? SOF readiness is directly linked to and dependent upon Service funding levels. The Services have not provided details on where they would absorb future budget reductions; therefore, impacts on support to SOF cannot be itemized or assessed. Given historic impacts and the lack of Services' abilities to absorb reductions, it is highly likely that their abilities to optimally support

SOF will diminish, further straining an already challenged support structure and eventually affecting SOF operations and training in an adverse manner.

F2. Collaborative tools

Existing collaboration tools within DOD and the wider USG are both useful but also outdated. While several alternative and modern collaborative tools exist, it is difficult to introduce and implement such systems within complex, worldwide, classified environments. How should USSOCOM identify, introduce, implement and advocate for alternative collaboration tools? What education and training programs are needed to introduce a new USSOCOM collaborative tool? What does 'success' look like if/when adopting such a solution? Should the SOF enterprise feature a Google-like (data organization, search capabilities, integration, etc.) offering?

F3. Future of SOF Airborne ISR

As both civilian and military communication and detection systems continue to evolve, what are the ideal future airborne ISR platforms for SOF operations? Is an aerial manned platform still viable or necessary? What platform characteristics allow for employment across a wide range of special operations? What SOF peculiar aspects of airborne ISR exist? How much should SOF depend on the Services for this support? Should USSOCOM pursue an autonomous ISR, low-observable capability independent of the parent Services?

F4. Disruptive innovation

Disruptive innovation, a term popularized over the last twenty years, is widely used to describe situations that dramatically change an industry's competitive pattern. The term is of specific salience to military advancements in technology and tactics, where predicting disruption can yield tremendous benefits against an adversary. What are current/past examples of disruptive innovation in the military environment, and how did they come about? What are the risks and benefits to creating and cultivating a culture of disruption within the SOF enterprise?

F5. Encryption and the way ahead

With ever-increasing reliance on computing to achieve military outcomes, encryption becomes a progressively important factor. Our adversaries, aware of this, recently stepped up their efforts to infiltrate key U.S. networks for strategic and tactical gain. What should be the way ahead for USSOCOM and the use of advanced encryption? Will encryption requirements outpace bandwidth? What is the future of encryption technology at-large, and are these solutions—i.e., quantum technology—suitable for military use? To what extent can and should the military trust encryption vendors? What challenges are there in adopting new military encryption solutions? ↑

Appendix: Acronym List

A2/AD	anti-access area denial
AAR	after action report
AI	artificial intelligence
ALP	Afghan Local Police
BPC	building partnership capacity
C2	command and control
C4I	Command, Control, Communications, Computers, and Intelligence
CAO	civil affairs operations
CF	conventional forces
COP	common operational picture
CSS	Center for Strategic Studies
DOD	Department of Defense
DOTMLPF-P	Doctrine, Organization, Training, Material, Leadership and Education, Personnel, Facility, and Policy
FID	foreign internal defense
GWOT	Global War on Terrorism
GCC	geographic combatant command
IO	information operations
ISIS	Islamic State of Iraq and Syria
ISR	Intelligence, Surveillance, and Reconnaissance
JCIC	Joint Concept for Integrated Campaigning
JIIM	joint, interagency, intergovernmental, and multinational

JIIM-C	Joint, Interagency, Intergovernmental, and Multinational Coordination
JSOC	Joint Special Operations Command
JSOU	Joint Special Operations University
METL	Mission Essential Task List
MISO	military information support operations
NATO	North Atlantic Treaty Organization
NAVSPECWARCOM	United States Navy Special Warfare Command
NDAA	National Defense Authorization Act
NSL	Non-Standard Logistics
ODTAAC	Outside Declared Theaters of Active Armed Conflict
PAI	publicly available information
PE	Preparation of the Environment
PME	professional military education
POTFF	Preservation of the Force and Family
SIA	Special Interest Aliens
SOF	Special Operations Forces
SOFFC	Special Operations Forces Fusion Centre
TOC	Transnational Organized Crime
TSOC	theater special operations command
TTP	tactics, techniques, and procedures
USG	United States Government
USSOCOM	United States Special Operations Command
UW	unconventional warfare
VEO	violent extremist organization
VSO	Village Stability Operations

Endnotes

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