



## YOU HAVE BEEN DENIED: SPECIAL OPERATIONS IN DENIED ENVIRONMENTS

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### JCSP 49

#### Exercise Solo Flight

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## **YOU HAVE BEEN DENIED: SPECIAL OPERATIONS IN DENIED ENVIRONMENTS**

### **INTRODUCTION**

Anti-Access/Area Denial (A2AD) threats pose significant difficulties for a military's ability to project power into a given operations area. The development of such threats continues to impact the movement to a given theatre of operations (anti-access) and required manoeuvre within an area of operations (area denial).<sup>1</sup> For the purposes of this paper, a military-denied environment will be defined as an area in which military forces are prevented from using certain technologies or operating in certain areas due to a variety of kinetic and non-kinetic capabilities. Achieving a denied environment can be accomplished through several different mechanisms including technological limitations, adversary actions and political decisions.

In such an environment, forces will likely be denied access to, or the use of, critical information, communication and navigation systems hindering their ability to conduct operations and put forces at increased risk of being detected and targeted. Simply projecting into denied environments will be difficult and achieving surprise almost impossible. This will require training and the reliance on alternative methods of insertion, communication, and navigation. As the Canadian Special Operations Forces Command (CANSOFCOM) continues to further define force employment concepts (FEC) for operations in the future operating environment, they will be forced to consider operations within a denied environment conducting irregular warfare tasks in the context of major combat operations against near-peer and peer adversaries.

As the nature of global conflicts and threats continue to evolve, the future of CANSOFCOM lies in its ability to operate effectively in denied environments, leveraging advanced technologies and innovative tactics to achieve their objectives with minimal visibility and maximum impact. Special operations forces (SOF) play a critical role in modern conflict due to their unique capabilities and expertise. The successful execution of special operations in denied environments requires specialized training, advanced technology, and strategic planning to overcome the challenges presented by these environments. Also, it is essential that CANSOFCOM invests in the resources and training necessary to ensure that SOF are prepared to operate effectively in denied environments. As part of CANSOFCOM's ongoing analysis and ever-green approach to force development, they must ensure they are positioned well for adaptation to operations in denied environments and the challenges it will present. As nations look to respond to adversaries like Russia and China, they will be forced to not only consider military operations that look to counter ambiguous activities by states to achieve similar benefits historically obtained through conventional war, competition and grey-zone activities, but also the need to respond when an adversary decides to invade and occupy territory belonging to another sovereign state.<sup>2</sup> If conditions are not established prior to the

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<sup>1</sup> Brendan Walsh, 'Access Denied: Future Military Operations in an Anti-Access Environment', *Naval War College*, 4 May 2011, 1.

<sup>2</sup> David Broyles and Brody Blankenship, 'The Role of Special Operations Forces in Global Competition', *CNA Analysis & Solutions*, April 2017, 1, <https://apps.dtic.mil/sti/pdfs/AD1033598.pdf>.

conflict, it may prove difficult to project forces, SOF or otherwise, into the area of operations in support of other friendly forces such as a defending state requiring support from allies to expel an illegitimate occupying force.

This paper will explore the difficulties and challenges for special operations in a denied environment and describe CANSOFCOM's shared lineage with special operations units dating back to WWII where SOF operated behind enemy lines in non-permissive areas. Changes in technology and the introduction of capabilities that enable adversaries in achieving A2AD have significantly changed the risks and requirements to operate in denied areas in the current fight, and this trend will continue in the future operating environment. This paper will also focus on some key factors that CANSOFCOM, but more importantly, the Canadian Armed Forces (CAF) and other senior leaders must be aware of in order to enable SOF to operate in these environments. Finally, the paper will highlight some key considerations for CANSOFCOM operations in denied environments and will discuss the requirement for technological improvements, the creation of innovative tactics and approaches, and the importance of the global SOF network and what role it plays in these types of operations. By combining technological improvements to deal with current limitations, innovative tactics and approaches, and highlighting the importance of maintaining partnerships and alliances around the globe, CANSOFCOM will be fully enabled to conduct operations in denied environments.

## **SPECIAL OPERATIONS IN DENIED ENVIRONMENTS**

### **Historical Background**

SOF have a long history of operating behind enemy lines in 'denied' environments even though the definition of a denied environment has changed over the decades. There are many examples of SOF conducting challenging operations after having successfully conducted near impossible insertions into enemy controlled territory. CANSOFCOM, although a relatively new organization in the CAF, shares a lineage with the famed First Special Service Force (FSSF) of WWII. The FSSF was an American-Canadian SOF unit force generated to conduct tasks above and beyond those expected of conventional infantry units.<sup>3</sup> SOF were born out of necessity in a war where the adversary largely controlled the continent of Europe. The requirement "for specially trained soldiers that could conduct raids behind enemy lines was considered vital to the war effort."<sup>4</sup> This unit paved the way for future combined special operations forces that would include the US, Canadian, British and Australian SOF establishing a strong bond and "tradition of cooperation in conflicts around the world since the end of World War II."<sup>5</sup> The lineage is currently shared, at the tactical level, between the United States Special Forces (USSF) and the Canadian Special Operations Regiment (CSOR) and establishes a history of operations in adversary controlled environments, and arguably an expectation that SOF is capable of operating behind enemy lines in denied environments.

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<sup>3</sup> Bret Werner, *STORMING MONTE LA DIFENSA The First Special Service Force at the Winter Line, Italy 1943* (New York, NY: Osprey Publishing, 2015), 4.

<sup>4</sup> *Ibid.*

<sup>5</sup> *Ibid.*

## Changes in Technology and Tactics that Enhance SOF Capabilities

SOF have witnessed many changes in technology and tactics since WWII that have significantly enhanced their capabilities. Integration and interoperability across partners and allies has increased significantly in the SOF domain. Canadian Special Operations Forces (CANSOF) is well networked amongst the global SOF community and regularly works with other conventional military elements, SOF, interagency and diplomatic partners. In the presence of a common threat, reinforced by “high levels of camaraderie, social and technical networking”, interoperability and effectiveness in combined operations is enhanced.<sup>6</sup> As will be discussed further in subsequent sections of this paper, networks, partners, interoperability and diplomatic support are required for CANSOF elements to operate within a denied environment.

Advances in communication technology have enabled CANSOF elements around the globe in maintaining contact with strategic level headquarters almost instantaneously. Communication from the tactical through to strategic level has been considered a vital capability for SOF operations having been normalized during the Global War on Terrorism. Advancements in satellite communications and global positioning systems, encryption, real-time data transfer and sharing as well as enhanced applications of older technologies such as high frequency (HF) has meant SOF elements around the globe can maintain a connection and provide real-time updates at will. Global society and military forces are increasingly reliant on “space-enabled connectivity, technology and services.”<sup>7</sup> This supports “a diverse array of political, military and economic activities”.<sup>8</sup> In the current operating environment, and surely in the future operating environment, the reliance on these systems may present a weakness that can be exploited by an adversary who has the capability to disrupt or deny access to communication systems and the space domain.

SOF have also experienced a significant increase in information gathering technologies that enhance operations and provide critical force protection functions. Since WWII, a myriad of sensors across domains have been developed enabling SOF units to gather critical intelligence on adversaries across the globe. Intelligence, surveillance and reconnaissance (ISR) technology has experienced exponential growth increasing the amount of data and intelligence available to SOF units.<sup>9</sup> Technology such as drones, satellites and sophisticated sensors are available to even the smallest SOF unit providing significantly increased situational awareness while significantly reducing the risk to force of deployed elements.

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<sup>6</sup> Michael Gates, ‘CREATING SOF NETWORKS: THE ROLE OF NATO SPECIAL OPERATIONS AS A TESTING GROUND FOR SOF INTEGRATION’, *Naval Postgraduate School*, June 2011, 132, <https://apps.dtic.mil/sti/pdfs/ADA547827.pdf>.

<sup>7</sup> James Black, ‘Our Reliance on Space Tech Means We Should Prepare for the Worst’, *Defense News*, 12 March 2018, <https://www.defensenews.com/space/2018/03/12/our-reliance-on-space-tech-means-we-should-prepare-for-the-worst/>.

<sup>8</sup> *Ibid.*

<sup>9</sup> Timothy Marler et al., ‘What Is JADC2, and How Does It Relate to Training? An Air Force Perspective on Joint All-Domain Command and Control’, *Rand Corporation*, June 2022, 1.

## Preparing for Denied Environments

Future CANSOFCOM operations will be conducted in hostile, denied or politically sensitive areas requiring specialized training and asymmetric “means of insertion, support, and extraction to penetrate and successfully return”<sup>10</sup> from these areas. CANSOF operations will require “low visibility, clandestine, or covert capabilities”<sup>11</sup> in order to be successful in denied environments. These capabilities must promulgate across the CANSOFCOM irrespective of unit. The type of environment that operations will be conducted in must remain separate from the specific type of operation being conducted. Executing a direct action (DA), special reconnaissance (SR) task or special warfare (SW) mission will have different signature management requirements depending on the status of the operating environment. CANSOFCOM must ensure that the permissibility of the operating environment is not perceived as synonymous with the type of operation and therefore which unit requires training in these areas. As an example, assisting a partner in their effort to resist an illegitimate occupying force may require a specialized insertion method into a denied environment to support low visibility, covert or clandestine operations. This element will be formed by combining specific capabilities that reside across units within CANSOFCOM requiring some level of specific training on tradecraft associated with these types of operations.

This section covered special operations in denied environments, describing the CANSOFCOM-USSF shared lineage with the FSSF of WWII fame, changes in technology and tactics and how SOF can begin preparing for operations in denied environments. CANSOF have a rich history of operating in austere, non-permissive environments. As technology and tactics have changed, the ability to carry this history into the future will become more difficult. A2AD operations conducted by adversaries will pose challenges for the future CANSOFCOM force and preparations need to commence now. Whether DA, SR or SW, CANSOF units must be trained in low visibility operations and asymmetric insertion techniques in order to remain relevant in the future fight.

## THE CHALLENGE OF OPERATING IN DENIED ENVIRONMENTS

### The Nature of Denied Environments

The future operating environment is going to present challenges not observed before in previous conflicts. Adversaries can already bring to bear many capabilities and concepts that have not been confronted in past military engagements, such as A2AD which has risen to prominence recently.<sup>12</sup> Technology and weapon developments have resulted in adversaries who can find, fix and finish at an alarming rate. Conventional force projection methods will be challenged resulting in higher risk to force and mission

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<sup>10</sup> *Special Operations Forces Reference Manual. Fourth Edition* (MacDill AFB, FL 33621: Joint Special Operations University and the Center for Special Operations Studies and Research, 2015), 1–1, <https://apps.dtic.mil/sti/pdfs/ADA625223.pdf>.

<sup>11</sup> *Ibid* 1-2.

<sup>12</sup> Stephan Frühling and Guillaume Lasconjarias, ‘NATO, A2/AD and the Kaliningrad Challenge’, *Survival* 58, no. 2 (3 March 2016): 96, <https://doi.org/10.1080/00396338.2016.1161906>.

from the outset. For CANSOFCOM, this will mean identifying innovative insertion methods with a lower probability of detection, especially once a conflict has started. Prior to conflict, CANSOFCOM can continue to leverage Phase 0 operations to indirectly influence the future battlespace while establishing access and understanding as well as relationships and networks for future use.<sup>13</sup>

Along with kinetic capabilities that will physically deny access of forces to the area of operations, adversaries can also deny “forward forces the ability to maintain connectivity to centralized command and control (C2) nodes.”<sup>14</sup> C2 will be “contested in a manner that demands new concepts and capabilities”<sup>15</sup> and push the limits of mission command as it is currently understood. Through operations in the information, space and cyber domains, adversaries can impede communications, navigation, blue force tracking, sensors, weapons effects, targeting, political support as well as many other factors in the battlespace. These effects are also not confined to the historical geographically defined battlespaces introducing even more challenges from a policy and authorities’ perspective.

At the same time “the future battlefield will be awash with greater volumes of data that must somehow be organized to facilitate quick, accurate, and efficient decision making.”<sup>16</sup> Capabilities such as artificial intelligence (AI) and machine learning (ML) will provide exponentially increased abilities to digest this data and make quick decisions.<sup>17</sup> Even tactical level commanders will have access to much more data than has previously been available for decision making and planning. Without the proper ability to collect, collate and understand these datasets, tactical commanders may become paralyzed, that is unable to digest information at a rate required to make timely decisions. Adversaries will employ these capabilities for the same purpose of enabling quicker decisions and accelerating their ability to target, kinetically and non-kinetically, military forces to include SOF elements.

### **Limitations of Technology and Tactics in Denied Environments**

Although improvements in technology and tactics will provide some advantages for SOF when operating in denied environments, there will be several limitations that will negatively impact their effectiveness. As has already been discussed, limited access to information for decision making and planning purposes will be a reality when operating in a denied environment. Likewise, communication challenges will exist due to physical barriers, electronic jamming and/or interception. This will cause issues as SOF attempt to coordinate activities, communicate with higher and maintain situational awareness. The risk of detection by the enemy will be increased likely causing a necessary limitation regarding the use of certain technologies like communications equipment and various

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<sup>13</sup> Bernd Horn, ‘The Strategic Utility of Special Operations Forces’, *Canadian Military Journal*, Views and Opinions, 14, no. 4 (Autumn 2014): 69.

<sup>14</sup> Timothy Marler et al., ‘What Is JADC2, and How Does It Relate to Training? An Air Force Perspective on Joint All-Domain Command and Control’, *Rand Corporation*, June 2022, 4.

<sup>15</sup> Ibid.

<sup>16</sup> Timothy Marler et al., ‘What Is JADC2, and How Does It Relate to Training? An Air Force Perspective on Joint All-Domain Command and Control’, *Rand Corporation*, June 2022, 4.

<sup>17</sup> Ibid, 5.

sensors. These capabilities have historically provided SOF with an advantage over their adversaries and that advantage will likely become a risk in the future operating environment.

Other limitations not yet discussed include limitations on mobility, resources, cultural barriers and legal constraints. From a mobility perspective, denied environments will present challenges to SOF elements as they attempt to move around the battlespace. Terrain, obstacles, risk of detection, and external mobility support will be impacted in an environment controlled by the adversary. Mobility of SOF elements is typically supported by joint fires from all domains. The emerging A2AD threat will likely, or at least has the potential to, significantly impact air and maritime assets' ability to support forward SOF elements.<sup>18</sup> Adversaries have developed technology and weapons systems that can target forward operating bases and maritime vessels to include aircraft carriers.<sup>19</sup> This will challenge a military's ability to conduct force projection and establish air superiority as well as degrade the level of support that can be provided for SOF elements operating within the denied environment.

Limited resources and challenging logistical support will also impede SOF's ability to conduct operations within a denied environment. Special operations in a denied environment means "limited to no access to traditional theater logistics support."<sup>20</sup> SOF typically depends on conventional logistic support and CANSOF is reliant on allied and partnered existing logistics networks for smaller missions. As the United States Marine Special Operations Command (MARSOC) has begun to consider logistic support in denied environments, they have realised that their own Logistics Support Teams (LST) "also rely heavily on existing logistics networks to enable deployed Marine special operations companies (MSOCs)."<sup>21</sup> Sustainment of forward elements in a denied or non-permissive environment requires experience, training and resources. SOF operating in these environments must also keep a low signature making the establishment of a conventional logistics tail difficult or tactically impossible. Visible logistics systems "have become a major target of cyberattacks in the digital age."<sup>22</sup> Without the ability to support operations in a denied environment, or at the very least integrate into existing sustainment systems and operate alongside other SOF partners, CANSOFCOM would be at a severe disadvantage within the SOF community.

### **Psychological Stressors in a Denied Environment**

CANSOF units specializing in mission sets such as SW must be prepared to conduct "long-duration operations in denied areas designed to train, advise, and assist host nations in conducting special operations, and to build indigenous warfighting

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<sup>18</sup> Brendan Walsh, 'Access Denied: Future Military Operations in an Anti-Access Environment', *Naval War College*, 4 May 2011, 3.

<sup>19</sup> Ibid.

<sup>20</sup> Okamoto, Takashi. "Future of MARSOC Logistics." *Marine Corps Gazette* 107, no. 1 (2023): 32.

<sup>21</sup> Okamoto, Takashi. "Future of MARSOC Logistics." *Marine Corps Gazette* 107, no. 1 (2023): 32.

<sup>22</sup> Ibid.



capability.”<sup>23</sup> Denied environments present many challenges including access to medical support and evacuation. “Special operations medicine already has explored many of the necessary capabilities for PFC [prolonged field care] of traumatic injuries”<sup>24</sup> but operational stress and other non-battle injuries pose different challenges. SOF working in denied environments will experience feelings of isolation, uncertainty, long periods of elevated stress levels, lack of resources and communication with loved ones, physical demands and exposure to traumatic events. “Combat and operational stress reactions (COSR) are common temporary negative responses to the conditions inherent to military settings.”<sup>25</sup> Symptoms may include outbursts, sleep disruption, anxiety, concentration issues, fatigue and behaviour problems. If these symptoms are not addressed in an acceptable timeframe, soldiers face an increased risk in developing more serious mental health conditions.

This section covered some of the challenges of operating in a denied environment. The nature of denied environments is important for, not only CANSOFCOM to understand, but also for senior military and political leadership. In subsequent sections this paper will discuss how CANSOFCOM can continue enabling its SOF elements in the future environment where A2AD will be employed by adversaries but suffice to say, that mission command will be a significant factor for consideration with strategic lines of communication becoming less reliable. Communications and access to information systems will be impacted and so will mobility and sustainment. These challenges will be unfamiliar and uncomfortable for higher echelons but need to be considered to enable forward elements. Finally, although special operations medicine is capable of mitigating risk to force and has explored and/or acquired the capabilities for PFC, operational stress related injuries or COSR as it is called in US doctrine, will be more difficult to treat in a denied environment. CANSOFCOM must consider this when planning to employ SOF elements in non-permissive or denied environments for long periods of time, a likely necessity for operations in denied environments. CANSOFCOM must ensure they are able to operate in these environments with the ability to negotiate the aforementioned challenges.

## **THE FUTURE OF CANSOFCOM IN DENIED ENVIRONMENTS**

### **Dealing with Technological Limitations**

In previous sections this paper has outlined some of the challenges CANSOF will face when operating in a denied environment. History has demonstrated that SOF are able to adapt and overcome challenges, and operating in a denied environment must be met with the same vigor. Communications will be a primary challenge for CANSOFCOM and other military forces operating in denied environments. Large scale communications

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<sup>23</sup> Emily Farina et al., ‘Effects of Combat Deployment on Anthropometrics and Physiological Status of U.S. Army Special Operations Forces Soldiers’, *Military Medicine* 182 (April 2017): e1660.

<sup>24</sup> Tim Hoyt and Christina Hein, ‘Combat and Operational Stress Control in the Prolonged Field Care Environment’, *Military Review*, October 2021, 55.

<sup>25</sup> Tim Hoyt and Christina Hein, ‘Combat and Operational Stress Control in the Prolonged Field Care Environment’, *Military Review*, October 2021, 55.

systems have “created an insatiable appetite at higher echelons for information.”<sup>26</sup> It is easy to theorize that forward elements will simply not have access to communications systems and that more primitive means will be required to pass and access information. Although this may be a requirement and skill set for SOF elements, advanced communications systems will continue to play a role in denied environments. CANSOFCOM must continue to leverage existing and future communications systems that are rugged, secure and resistant to interference while also developing theatre specific multifaceted communications architectures at the small team level.<sup>27</sup> SOF units around the world have been operating with communications architectures that, in almost all cases, have provided constant communication in some form from the tactical to strategic level. With the increased risk of detection, risk to force and risk to mission “each transmission represents, there will inevitably be a cultural shift in the way we conduct tactical communications.”<sup>28</sup> When considering initial entry into a denied environment, “broad weekly guidance from a SOTF [special operations task force] is more realistic than daily, and in some cases real time, guidance of our current environment.”<sup>29</sup> This of course, is a double edged sword for the small SOF team forward deployed as they will have more autonomy, but decreased access to the “support structure that a SOTF can provide.”<sup>30</sup> Other considerations will be the use of signal discipline to reduce the risk of detection, procurement of improved low profile signals equipment such as low-visibility antennas and directional antennas, and the use of more complex relay networks. Finally, the use of prearranged communications plans will be important and will harken back to some older tactics that will require a slight refresh and adaptation to new threats.

The challenges regarding sustainment also require a more in-depth analysis ensuring CANSOFCOM logisticians are prepared to operate in denied environments. MARSOC has been diligently working on sustainment concepts to prepare their logisticians for exactly that. MARSOC identifies the requirement for a common doctrine focussed on special operations logistics as the starting point.<sup>31</sup> Once doctrine has been codified, special operations sustainment courses and training can provide logisticians with realistic and relevant training, preparing them for operations across the spectrum of permissibility. Currently, much of the logistics training in CANSOFCOM is based on ‘on-the-job’ training and experience garnered through mentorship both on exercise and during operations. There are many factors when considering sustainment in denied environments but tend to follow two common themes. “Firstly, any plan must adhere to logistics principles (responsiveness, simplicity, flexibility, economy, attainability, sustainability, and survivability) and have multiple layers of redundancy built in.”<sup>32</sup> These principles may differ slightly between logistic organizations across partners, but the quote outlines the importance of principles and their adaptation to different types of

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<sup>26</sup> Ben Lee and Brian Hartigan, ‘Preparing for ODA Level Initial Entry UW Operations in Korea’, *Special Warfare*, March 2014, 61.

<sup>27</sup> Ibid.

<sup>28</sup> Ben Lee and Brian Hartigan, ‘Preparing for ODA Level Initial Entry UW Operations in Korea’, *Special Warfare*, March 2014, 61.

<sup>29</sup> Ibid

<sup>30</sup> Ibid.

<sup>31</sup> Okamoto, Takashi. "Future of MARSOC Logistics." *Marine Corps Gazette* 107, no. 1 (2023): 32.

<sup>32</sup> Okamoto, Takashi. "Future of MARSOC Logistics." *Marine Corps Gazette* 107, no. 1 (2023): 32.

operations. “Second, support cannot expose the SOF team inside the A2AD environment: therefore, logisticians must eliminate or minimize the logistics tail.”<sup>33</sup> Signature management in denied areas is important, reinforcing the requirement for personnel in CANSOFCOM to receive training that will enable them to operate in non-permissive environments where identification of SOF elements could lead to a risk to the force and/or mission. Early access during Phase 0 operations is key to ensure networks and relationships are established prior to conflict.

### **Innovative Tactics and Approaches in Denied Environments**

The multi-domain aspect of current and future operations, as well as the complexities in the operational environment, is leading each service within the U.S. Department of Defense (DoD) to consider “a new conceptualization of command and control (C2)”.<sup>34</sup> Known as Joint All-Domain Command and Control (JADC2) in many circles, there is no agreed upon definition across the services.<sup>35</sup> As mentioned earlier in this paper, changes in future warfare and our adversary’s A2AD capability will force SOF elements to change how they C2 forward elements. Redundancies will be required leveraging distributed C2 nodes ensuring connectivity can be maintained. “Distributing C2 nodes increases the resiliency of the larger C2 networks in contested environments.”<sup>36</sup> It is important to note that distributed C2 refers to “the physical distribution of C2 capabilities”<sup>37</sup> ensuring that the adversary cannot target one node and completely neutralize a SOF team’s ability to maintain C2 systems and connectivity.

Operations in denied environments will also require a decentralized approach to C2, a potentially uncomfortable C2 architecture that would provide more autonomy and less direct control over forward deployed SOF teams. Whereas distributed C2 describes the physical requirements for C2, decentralized C2 refers to “the decentralization of C2 authorities.”<sup>38</sup> Under this concept, C2 authorities would be delegated to the lowest levels possible, also known as localized C2. Providing mission type orders, a clear intent and prespecified conditions, will ensure SOF teams “can continue to execute their mission during a period in which connectivity to centralized nodes is lost.”<sup>39</sup>

Decentralized and distributed C2 concepts are also valuable when trying to mitigate near-peer/peer capabilities like long-range strike and highly capable ISR that will challenge geographically based operational boundaries. These capabilities will have the same impact on decentralized and distributed C2 architectures. Adversaries will be able to establish significant stand-off forcing higher echelons to enable C2 at the local level. SOF teams will require the authority to dynamically task assets without receiving

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<sup>33</sup> Ibid.

<sup>34</sup> Timothy Marler et al., ‘What Is JADC2, and How Does It Relate to Training? An Air Force Perspective on Joint All-Domain Command and Control’, *Rand Corporation*, June 2022, 1.

<sup>35</sup> Ibid, 2.

<sup>36</sup> Timothy Marler et al., ‘What Is JADC2, and How Does It Relate to Training? An Air Force Perspective on Joint All-Domain Command and Control’, *Rand Corporation*, June 2022, 4.

<sup>37</sup> Ibid.

<sup>38</sup> Ibid.

<sup>39</sup> Ibid.

authorization from centralized C2 nodes.<sup>40</sup> To this end, CANSOFCOM must continue to develop JADC2 capabilities in order to “provide an advantage over near-peer adversaries with faster and more-informed decision making”.<sup>41</sup> To that end, CANSOFCOM JADC2 capabilities must enable faster decision making, linking tactical and strategic networks for data ingestion, fusion and dissemination, dynamic tasking and re-tasking, all while establishing resilient C2.<sup>42</sup>

CANSOFCOM is not the only SOF element that is wrestling with these challenges. Other SOF elements that focus on SW and operations in denied environments are being forced to reassess the way they do business. Innovative tactics and approaches to these types of operations include the transition of certain SOF elements “back to the self-sustaining force multiplier” special forces (SF) elements are designed to be. Along with the C2 approaches listed above, SOF must consider other key elements including initial infiltration methods and the fact that small SOF teams will be required to set conditions for the insertion of SOTF elements while avoiding detection. This is a significant departure from the way SOF have been conducting business since 2001.<sup>43</sup> SOF units responsible for SW, UW, support to resistance and other operations in denied environments will not be able to depend on traditional insertion methods. Protection against compromise will be of the utmost importance and insertion methods must be carefully planned in order to avoid detection. A2AD will make securing air corridors and landing zones more challenging, and ground insertion methods will likely include crossing borders and the use of civilian pattern vehicles and equipment that naturally increase the risk to SOF personnel as they typically trade protection and firepower for mobility and profile.<sup>44</sup> All of these employment concepts must be trained and developed from a CANSOFCOM perspective and in partnership with allied SOF.

### **The Importance of Partnerships and Alliances in Denied Environments**

Operating in denied environments presents multiple challenges for the SOF tasked with missions like SW, UW and other similar tasks. By their very nature, these missions require long term investments meaning SOF personnel will be operating in such an environment for extended periods of time. As described earlier in this paper, SOF around the globe maintain good relationships and value alliances and partnerships. For CANSOFCOM specifically, maintaining close relationships with FVEY and other partnered SOF elements ensures interoperability, provides flexibility for sustainment, provides critical training opportunities, and facilitates early access and influence prior to conflicts. This is important as this paper has already covered some of the difficulties of inserting SOF elements into denied environments. Leveraging other partners and allies, SOF can be present in contested or volatile areas conducting Phase 0 operations while

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<sup>40</sup> Timothy Marler et al., ‘What Is JADC2, and How Does It Relate to Training? An Air Force Perspective on Joint All-Domain Command and Control’, *Rand Corporation*, June 2022, 4.

<sup>41</sup> *Ibid*, 6.

<sup>42</sup> *Ibid*.

<sup>43</sup> Ben Lee and Brian Hartigan, ‘Preparing for ODA Level Initial Entry UW Operations in Korea’, *Special Warfare*, March 2014, 60.

<sup>44</sup> Ben Lee and Brian Hartigan, ‘Preparing for ODA Level Initial Entry UW Operations in Korea’, *Special Warfare*, March 2014, 60.

remaining prepared to transition to operations in a denied environment at the outset of hostilities. This also provides SOF elements the opportunity to become “adept at solving the complex cultural, ideological and operational problems”<sup>45</sup> of a given operational area.

“Every day, in over 75 countries around the world, U.S. SOF work with partner nations to build the capabilities of indigenous special operations forces”.<sup>46</sup> This provides CANSOFCOM with an invaluable network of SOF professionals around the globe that can be leveraged for combined operations and logistical assistance. Due to simple capacity limitations, CANSOFCOM cannot be present in every operational area. This further solidifies the requirement for strong relationships amongst SOF partners. Persistent engagements amongst partners and allies also builds trust while building a global network that can be activated if needed. Being involved early also provides SOF with the ability to nurture relationships with local security forces and establish indigenous networks that can be activated once areas become denied by an adversary. As an example, consider the Ukrainian SOF experience fighting the Russian occupation.

“The fact that Ukrainian special operations forces took part in training activities together with special operations forces from NATO countries before the conflict from Ukraine, the adoption of NATO action tactics and combat strategies and the access to effective combat equipment contributed to remarkable results within the fight with Russian invasion forces.”<sup>47</sup>

This section covered the future of CANSOFCOM in denied environments exploring some of the considerations, technology and approaches that will be required moving forward. Communications and logistics featured predominately throughout this section demonstrating specific challenges that will have to be overcome in order to operate effectively in a denied environment. Technology, training and the acknowledgement of distributed and decentralized C2 with associated risks must continue to be developed and socialized amongst higher echelons. The concept of JADC2 reinforces the requirement for C2 in a pan-domain context ensuring all capabilities are used effectively in a denied operating environment. Finally, the global SOF network remains an important factor in preparation for operations in a denied environment. These relationships with partners and allies provide ‘force multiplying’ effects for CANSOFCOM and assist in establishing conditions for effective operations in denied areas. CANSOFCOM must continue to push power to the edge, develop pan-domain solutions to novel problems and socialize these requirements with decision makers in the CAF and Government of Canada.

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<sup>45</sup> Ibid, 61.

<sup>46</sup> Keenan Yoho, Tess deBlanc-Knowles, and Randy Borum, ‘The Global SOF Network: Posturing Special Operations Forces to Ensure Global Security in the 21st Century’, *Journal of Strategic Security* 7, no. 2 (1 July 2014): 1, <https://doi.org/http://dx.doi.org/10.5038/1944-0472.7.2.1>.

<sup>47</sup> Adrian-Corneliu Dieanu, ‘THE ROLE OF UKRAINIAN SPECIAL OPERATIONS FORCES WITHIN THE WAR IN UKRAINE’, *INTERNATIONAL SCIENTIFIC CONFERENCE ‘STRATEGIESXXI’* 18, no. 1 (6 December 2022): 221, <https://doi.org/10.53477/2971-8813-22-26>.

## CONCLUSION

SOF have played a critical role in conflicts around the globe and will continue to be leveraged in the future operating environment. Having spent the better part of two decades combatting terrorism and irregular threats, SOF around the globe are beginning to orient themselves towards operations against near-peer/peer adversaries and the importance of operations in denied environments. CANSOF has a history of operating on the leading edge of technology and tactics and must approach operations in denied environments with the same mindset.

There are many challenges when operating in these contested environments and those challenges are present across all domains. As fast as technology can provide solutions to problems it inadvertently presents more problems. As an example, Communications and C2 concepts in general will be challenged in the future operating environment. A combination of innovative technology, the resurgence of analog capabilities less prone to disruption, and innovative tactics will enable SOF to operate in these environments effectively. This will likely cause some discomfort within the higher echelons as more autonomy and less direct communications will be required for the forward deployed element to remain under the radar.

CANSOFCOM is an agile organization that relishes the challenge that comes with operating in difficult environments. SOF continue to be leveraged for their professionalism and ability to problem solve ‘on the fly’ and it is only a matter of time before they are required to operate in very challenging and non-permissive adversary-controlled areas. As part of CANSOFCOM’s ongoing analysis and ever-green approach to force development, they must ensure they are positioned well for adaptation to operations in denied environments and the challenges it will present. By combining technological improvements to deal with current limitations, innovative tactics and approaches, and highlighting the importance of maintaining partnerships and alliances around the globe, CANSOFCOM will be fully enabled to conduct operations in denied environments.

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