

The Case for Cold Regions and Mountain Operations Training

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“Losses among the troops because of frost weigh heavier on the commander’s conscience than battle casualties. Because in this case there always remains the disturbing feeling that losses due to the cold might possibly have been avoided if greater precautions had been taken.”

— Marshal of Finland Carl Gustaf Emil Mannerheim, 1942

Military operations conducted in a mountainous environment are affected by severe weather, insufficient infrastructure, restricted mounted and dismounted access, high elevation, and snow and cold weather proportionate to the season and elevation.¹ The U.S. Army trains military mountaineers to succeed in terrain and weather that may otherwise impede or halt operations. When engaging in mountain warfare, military mountaineers advise commanders on the limitations and possibilities of the environment for friendly and enemy forces. This includes the application of the warfighting functions to mountain environments, with a specialty in mobility operations. These subject matter experts have been crucial to the success of military operations in the past, continue to demonstrate their value in the present, and are necessary to prepare for mountain warfare in the future.

A Look at the Past

The common theme in past mountain conflicts is that disaster awaits those unprepared for the environment. Even a brief look at the history of warfare in mountainous and cold regions reveals the need to utilize specialized tactics, techniques, and procedures. Harsh lessons from the Austria-Italian front waged more than 100 years ago still apply today.

During World War I, the Italian Army was given the mission to re-take the heavily fortified ground occupied by Austria in the Eastern Alps, which included the Dolomites and the Carnic Alps.² To have a chance of success despite their evident disadvantage, the Italians emplaced weapons and observation posts high in the mountains, blasted miles of trenches out of solid rock, formed tunnels and barriers in the deep snow, and constructed paths through the rugged terrain.³ The vastly developed supply network included the “telerifica” which utilized wires and pulleys



A view of the East Alaska Mountain Range as seen by students of the Advanced Military Mountaineering Course in July 2021. (Photo by CPT Edward Kwait)

to carry fighting men, wounded, equipment, and rations to and from inaccessible points.⁴ Throughout these efforts, the Italians had to contend with both the enemy and the environment. Austrian machine guns were positioned on the high ground and could decimate exposed troops with plunging fire. Rock fall and steep, exposed terrain were ever present hazards that led to loss of men and equipment. Deep snow restricted vehicle movement and required heavy loads to be transported on sleds.⁵ Avalanches took the lives of 10,000 soldiers in the Dolomites in December 1916; on both sides, more than 60,000 would perish from these deadly snow slides.⁶ The remote fronts of both armies made it difficult to supply clothes, food, water, and shelter; and both were forced to adapt over the three plus years of mountain warfare. Cold temperatures and high altitude hindered soldier performance and further stressed the supply system.

The United States began to debate the need for mountain troops at the outset of World War II. In 1939-1940, Finnish winter tactics had dealt a severe blow to the Soviets. Despite being seriously outclassed in every measure by the Soviet military, the Finns were able to inflict a 95-percent casualty rate on the invading Russians by using their knowledge of how to exploit the terrain and weather to their advantage. As WWII began, intelligence reports disclosed that the Germans were preparing specialized forces for combat in Alaska, Canada, and the Western United States. The U.S. Army also took note of the failure of standard Italian divisions in Albania.⁷ This led to the activation of the 87th Mountain Infantry and Mountain Winter Warfare Board (MWWB) at Fort Lewis, WA, and the Mountain Training Center (MTC) at Camp Carson, CO. These pioneer organizations developed the first formalized mountain and winter warfare training and would eventually provide experts to fill the ranks of the 10th Light Division (Alpine).⁸ The MTC developed mountain and winter warfare instructors that trained the Mountain Infantry Regiments at Fort Lewis and Camp Hale. They also taught a variety of units in Massachusetts, New Hampshire, Wisconsin, Virginia, and West Virginia rock climbing, basic mountaineering, snowshoeing, skiing, and winter warfare to aid in their preparation to conduct collective mountain and winter training.⁹ In Virginia, the MTC provided low mountain training and instruction for the 36th and 45th Infantry Divisions' deployment to Sicily, which substantiated the program's value. Five additional divisions would later receive training in the mountains of West Virginia.¹⁰

In 1943, the U.S. Army activated the first division-sized mountain unit, the 10th Light Division (Alpine). During the following year, the division would complete collective mountain and winter warfare training which culminated in a three-week exercise called the "D-Series." This exercise required personnel and equipment to move over unforgiving terrain, including climbing 2,000 feet over rock and ice in temperatures as low as 35 degrees below zero, and address a series of field problems along the way. Division-level maneuvers demonstrated the need for decentralized command and control as well as unique solutions for mountain mobility, supply, and medical evacu-



**Soldiers with the 10th Light Division (Alpine) prepare for ski training at Camp Hale, CO.
(National Archives photo)**

ation. The greatest dividend noted by participants at all levels was the development of resourceful, mentally and physically tough Soldiers.

In 1945, the 10th Mountain Division's victory in the northern Apennine Mountains of Italy confirmed the value of the past five years of mountain and winter warfare training in the U.S. Army. The Germans controlled the high ground in the Apennines which prevented the Allies from accessing the rest of Europe. Allies had tried and failed at dislodging the Germans from the Mount Belvedere ridgeline due to well-established and fortified German positions. These German positions easily controlled the only available routes below, the valleys within their range, and were believed unassailable. The 10th Mountain Division installed ropes, pitons, and anchors in preparation for a 1,700-2,200 foot climb up vertical rock and ice to attack the adjacent Riva Ridge. Due to the vulnerability of their formation while negotiating steep terrain, the Soldiers moved through darkness and fog on the night of the attack. Their tactics succeeded in taking the ridge, and they were able to hold off German counterattacks for five days. The day after Riva Ridge was taken, six infantry battalions assaulted up Mount Belvedere and fought for six days before taking control of the ridgeline. Following the success at Mount Belvedere, the 10th Mountain Division Soldiers continued to fight north through the Apennine Mountains and were the first to reach and cross the Po River, forcing the German army to retreat and ultimately surrender in May of 1945.¹¹

With the activation and deployment of the 10th Mountain Division in 1944, and the need for troops in all theaters, the MTC and Low Mountain Training Program were inactivated. Continuity was held by the Mountain and Winter Warfare Section, but stateside maneuvers came to a halt. The development of Field Manual (FM) 70-15, *Operations in Snow and Extreme Cold*, and FM 70-10, *Mountain Operations*, were intended to be the continuity for mountain and cold weather operations.¹² Following WWII, the 10th Mountain Division was deactivated. Since then, a division-level mountaineering program has ceased to exist for the U.S. Army.

Current State of Training and Operational Requirements

Since WWII, the U.S. Army's mountaineering training has evolved into what is now provided by the Army Mountain Warfare School (AMWS) and the U.S. Army Northern Warfare Training Center (NWTTC) today. The mountaineering-specific courses have the same program of instruction (POI) between the two schools, which encompass a 14-day Basic Military Mountaineering Course (BMMC) and 14-day Advanced Military Mountaineering Course (AMMC). NWTTC also provides an 11-day Cold Weather Leaders Course (CWLC) and a five-day Cold Weather Orientation Course (CWOC) with an emphasis on extreme cold weather and cold regions operations. This training



The Northern Warfare Training Center uses the Black Rapids Training Site (BRTS) in Alaska to conduct its training courses. BRTS is made up of more than 3,800 acres and is located south of Delta Junction. (Photo by CPT Edward Kwait)



A student in the Advanced Military Mountaineering Course conducts a controlled fall on 12 July 2022 at Black Rapids Training Site in Alaska. (Photo by SSG Christopher Dennis)

provides a percentage of the formation with mountain and cold weather training with the expectation that these Soldiers are leveraged by command and staff should the need arise.

Training for brigade combat teams currently takes place at one of four training centers (the National Training Center [NTC], Joint Readiness Training Center [JRTC], Joint Multi-National Readiness Center [JMRC], or the Joint Pacific Multinational Readiness Center-Alaska [JPMRC-AK]) and serves to prepare our Army to fight a near-peer force in a decisive action training environment (DATE). However, the first three training centers lack an emphasis on training in a mountainous and cold weather environment, and only one JPMRC-AK winter training cycle has been completed thus far. Additionally, training areas across U.S. Army Forces Command (FORSCOM) lack mountainous terrain, and unlike some of our partners and near-peer adversaries, there has not been a requirement to train in the mountains to protect borders or resources. National security interests in Alaska, partner nation interests in the Arctic and sub-Arctic, and impacts from climate change have led to a shift in this mindset. In the Army's 2021 Arctic Strategy "Regaining Arctic Dominance," the Department of the Army defines Arctic-capable units as those "enabled by doctrine, trained at echelon, with the right equipment, and manned by Soldiers with the appropriate knowledge, skills, and abilities to successfully operate in the Arctic. These formations could be employed in other sub-arctic, extreme cold weather (ECW) and mountainous environments anywhere in the world."¹³

Arctic-capable units could be employed to fight in the vast tundra and sea ice north of the Arctic Circle across the globe, the 1,500-mile-long Himalaya mountain range which serves as home to the world's highest peaks and maintains a history of contention, or the rest of the mountain ranges that make up 38 percent of the world's land-mass. The strategy outlines the resources available — NWTC, AMWS, and the Joint Pacific Alaska Range Complex

(JPARC), which enable Arctic formations to meet the end state: fight, win and survive in extreme cold weather and rugged mountainous conditions over extended periods.¹⁴ Lastly, the strategy alludes to echelons above brigade participating in annual requirements for combined arms maneuver in harsh terrain.¹⁵

Two recent exercises in the JPARC illustrate the importance of brigade-on-brigade training exercises in austere mountain and cold weather environments. The Center for Army Lessons Learned (CALL) identified significant gaps in training during the February Arctic Warrior 2021 exercise in the JPARC. In March of 2022, units were able to narrow the gaps identified in the previous exercise during the U.S. Army's first JPMRC-AK. During JPMRC-AK, the lessons learned for the two participating brigades focused on the importance for "Soldiers to be masters of their craft in Arctic warfare, not just to survive but to thrive in extreme cold weather and mountainous terrain."¹⁶ This was a great step towards higher echelons developing the appropriate knowledge, skills, and abilities to operate in sub-arctic, extreme cold weather, and mountainous environments. As has been true in the past, individual and small unit proficiency is the foundation of success.

Building Mountaineering and Cold Weather Proficiency

On 6 June 2022, the 11th Airborne Division was activated at Fort Wainwright and Joint Base Elmendorf-Richardson, AK. Guidance from the division commander includes plans to conduct another JPARC JPMRC exercise in the winter of 2023 and a focus on mountain, extreme cold weather, high-latitude, and high-altitude training throughout the year. NWTC provides small unit leader training to support this guidance. Units outside of Alaska may be tasked to support mountain or cold regions operations and have an obligation to leverage existing experience, seize educational opportunities, and build expertise in cold regions and mountain operations.

All these obligations were accomplished from 2019 to present in the 10th Mountain Division. In 2019, COL Scott W. Horrigan, previous battalion commander of 1st Battalion, 32nd Infantry Regiment, set the precedence for unit-level mountain warfare training when he tasked his staff to develop a training concept culminating in a tactical field training exercise (FTX) in the Adirondack Mountains of New York. Fortunately, there was mountaineering knowledge available within the organization that was aligned against the task. SFC Seth N. Toy, Level III mountain leader



Soldiers from 1st Battalion, 32nd Infantry Regiment rappel down Cathedral Rock during training in the Adirondack Mountains of New York in August 2019. (Photo by CPT Edward Kwait)

and previous NWTC senior instructor from 2012 to 2016, was crucial in sculpting and implementing individual and collective training across the battalion. He started with inspecting all the battalion's High Angle Mountaineering Kits (HAMKs) and cutting each rope and cord to the appropriate length. Next, he integrated all qualified Soldiers within the battalion into the instruction of mountaineering tasks that corresponded with the skills required for the FTX. Under his supervision, these instructors trained the battalion in individual and collective tasks progressing from basic knot tying and squad mobility systems to platoon tactics for establishing expedient squad rappel lanes on Fort Drum. The culminating event for 1-32 IN mountaineering training was the tactical company FTX in the Adirondack Mountains. This exercise included a fixed-rope infiltration established by the scout platoon to mass combat power on the objective, a company raid, and a 40-foot rappel exfiltration off Cathedral Rock.

Since then, the division's mountaineers have teamed up as a part of a Mountain Cell to serve as advisors and supervisors for mountaineering training. Soldiers have continued to conduct individual mountaineering training at smaller echelons, and four Soldiers from Fort Drum attended the NWTC's Advanced Military Mountaineering Instructor Course in Boulder, CO, in 2021 and 2022. The availability of military mountaineering-qualified Soldiers continues to be a worthwhile resource to build additional expertise within the 10th Mountain Division. However, high operational tempo focused on the requirements of the rapidly deployable division inhibits a robust mountaineering training program at echelon. Despite the lack of a company-level tactical mountaineering exercise since 2019, the lessons learned prove that realistic mountain warfare training is possible for any unit.

Mountain and cold regions proficiency is important for the U.S. Army. The drastic changes in the newly re-designated Alaskan 11th Airborne Division demonstrate commitment to achieving the end state outlined in the Arctic Strategy. As higher headquarters continues to refine the arctic-capable formation, we must leverage available experience, seize educational opportunities, and build expertise in cold regions and mountain operations. These subject matter experts have been crucial to the success of military operations in the past, continue to demonstrate their value in the present, and are necessary to prepare for mountain warfare in the future.

Notes

¹ LtCol Scott W. Pierce, U.S. Marine Corps, "Mountain and Cold Weather Warfighting: Critical Capability for the 21st Century," (School of Advanced Military Studies, U.S. Army Command and General Staff College, 2008): 5-6.

² Barry Gregory, *Mountain and Arctic Warfare: From Alexandria to Afghanistan* (London: Stephens, 1989), 18.

³ *Ibid*, 35.

⁴ *Ibid*.

⁵ *Ibid*, 31-32.

⁶ Richard Galli, "La Grande Guerra: The Italian Front, 1915-1918 - Avalanche!," *Worldwar1.com*, 2000, accessed 10 October 2022 from <http://www.worldwar1.com/itafront/avalan.htm>.

⁷ Nathan A. Marzoli, "The Best Substitute: U.S. Army Low-Mountain Training in the Blue Ridge and Allegheny Mountains, 1943-1944," *Army History* 113 (Fall 2019): 7-8.

⁸ MAJ Justin J. Chabalko, *Forging the 10th Mountain Division For War, 1940-1945: How Innovation Created a Highly Adaptive Formation* (Fort Leavenworth, KS: U.S. Army Command and General Staff College Press, 2019), 61-72.

⁹ CPT Thomas P. Govan, "AGF Study No. 23: Training for Mountain and Winter Warfare," U.S. Army Center of Military History, 1946, accessed 22 September 2022 from <https://history.army.mil/books/agf/agf23.htm>.

¹⁰ Marzoli, "The Best Substitute," 12.

¹¹ Randy Wyrick, "The Battle of Riva Ridge and the Triumph of the 10th Mountain Division, 75 Years Later," [online] *Vaildaily.com*, accessed 27 September 2022 from <https://www.vaildaily.com/news/the-battle-of-riva-ridge-and-the-triumph-of-the-10th-mountain-division-75-years-later>.

¹² Govan, "AGF Study No. 23."

¹³ Headquarters, Department of the Army, "Regaining Arctic Dominance: the U.S. Army in the Arctic," 19 January 2021, 10; available at https://www.army.mil/e2/downloads/rv7/about/2021_army_arctic_strategy.pdf.

¹⁴ *Ibid*, 11-12.

¹⁵ *Ibid*, 33.

¹⁶ MG Brian S. Eifler and Troy J. Bouffard, "Forging the Arctic Warrior: Joint Pacific Multinational Readiness Center - Alaska," *Journal of Indo-Pacific Affairs* (3 October 2022), accessed 11 October 2022 from <https://www.airuniversity.af.edu/JIPA/Display/Article/3173321/forging-the-arctic-warrior-joint-pacific-multinational-readiness-center-alaska/>.

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