Snowblind
Investing in Logistical Infrastructure in the Arctic to Support the Indo-Pacific and the North Atlantic Treaty Organization

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Abstract

The prolonged engagement of the US military in desert climates has sidelined Arctic operational capabilities for two decades. As the Arctic emerges as an arena for strategic competition, this article contends that reinvigorating these capabilities through Alaska’s logistical infrastructure is imperative. It emphasizes Alaska’s historical and current geopolitical significance, which is central to US interests, and underscores the necessity for improvements to sustain military and civilian activities, including ports, fuel logistics, and transportation networks. Investing in Arctic resources and logistics is crucial for ensuring national security, positioning the United States to effectively respond to evolving global threats, maintaining a free and open Pacific, and providing continued support to allies.

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Over the past three decades, the United States has predominantly operated in desert environments such as Afghanistan, Iraq, and Africa. This prolonged exposure to arid, hostile terrain, characterized by violent extremist organizations, fostered proficiency in unconventional and irregular warfare tactics, albeit at the expense of preparedness for cold-climate challenges and strategic competition. This timeline of events unexpectedly created a pernicious blind spot in our readiness for gray-zone warfare and cold environments, which pose lethal threats that can surpass those posed by traditional adversaries.

As the Arctic experiences significant climate change in the coming years, a convergence of factors including the melting of sea ice, escalating capabilities of peer nations, technological advancements, and challenges to the international rules-based order are prompting analysts to regard the Arctic as a potential future arena of conflict.¹ Simultaneously, anticipated rises in sea levels, thawing of permafrost, and increased coastal erosion in the US-defined Arctic are presenting complex challenges in infrastructure maintenance and engineering across civilian, interagency, and military sectors. Environmental and geopolitical shifts are

Snowblind is reshaping the Arctic’s significance, demanding adaptive and forward-thinking responses in terms of force deployment, readiness, and power projection, areas currently lacking across key Department of Defense (DOD) stakeholders due to self-induced blindness.

Snow blindness is an ocular condition induced by ultraviolet rays reflecting off icy and snowy surfaces. It is particularly prevalent in polar regions, notably the northern latitudes, where sunlight can persist for up to 24 hours per day during the summer season, resulting in impaired vision. This analogous notion of snow blindness can be extended to potential capability gaps that have garnered attention from both private industry and defense professionals regarding the treatment of the Arctic by the United States and its assigned importance in terms of commerce, defense, and overall global positioning.

This article aims to dispel the transient neglect, ignorance, and disregard surrounding Alaska and the Arctic domain, shedding light on its strategic significance both from a national security standpoint and as a critical logistics hub essential for safeguarding a free and open Indo-Pacific theater, while also assuring the North Atlantic Treaty Organization (NATO) of the United States’ capacity to provide support in times of conflict. As outlined in the Implementation Plan for the 2022 National Strategy for the Arctic Region (NSARIP), our nation “must plan and develop the targeted infrastructure necessary to enhance Arctic domain awareness and our ability to monitor and respond to threats in support of homeland defense.”

The Alaska of Yesteryear

The United States has been an Arctic nation since 1867, when Secretary of State William H. Seward orchestrated the purchase of Alaska from Russia. Initially derided as “Seward’s Folly,” the dismissive tone toward the acquisition shifted when Brig Gen William “Billy” Mitchell declared in a 1935 congressional address that “whoever holds Alaska will hold the world. I consider it the most crucial strategic location on the planet.” This statement gained credence during World War II, as significant military presence and operations occurred in both the Alaska–Aleutian Islands region and the broader Pacific theater to counter Imperial Japan.

In the Alaska region, notable engagements, such as the Battle of the Aleutian Islands, occurred, during which Japanese forces occupied two islands, Attu and Kiska, from June 1942 to August 1943. The United States and Canada conducted

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joint land, air, and naval operations to reclaim these islands and secure the Aleutians. However, these actions were distinct from the major campaigns waged in the broader Pacific theater.\(^5\)

The Alaska campaign, alongside the achievements of the Lend-Lease program, affirmed General Mitchell’s foresight regarding Alaska’s strategic importance. From 1941 to 1945, the Lend-Lease program enabled the supply of military equipment, supplies, and weaponry to 39 Allied nations, including tanks, ships, and aircraft. Notably, more than half of the aircraft allocated to the Soviet Union transited through Ladd Field (now adjacent to Fort Wainwright in Fairbanks). These developments prompted the construction of the Alaska Highway, a monumental undertaking that aimed to create a military supply route linking the contiguous United States to Alaska through Canada. Constructed in less than a year, the highway addressed concerns about the security of the Alaska Territory and facilitated the transportation of troops, equipment, and supplies to Alaska in anticipation of a potential Japanese invasion. These initiatives also paved the way for the construction of the Trans-Alaska Pipeline and Alaska’s eventual attainment of statehood in 1959.\(^6\) The rapid infrastructure improvements were necessitated by the need to accommodate the influx of 45,000 US troops and the establishment of 12 new military sites to defend the northern frontier.\(^7\)

Throughout the Cold War era, Alaska witnessed significant developments, including the construction of new roads, utilities, towns, and military bases. This was a direct response to Alaska’s crucial role as the “Guardian of the North,” serving as the foremost line of defense against Soviet air and missile threats.\(^8\) It was evident that the most direct and probable route for a Soviet attack on the United States would be through Alaskan and Canadian airspace. The Soviet Union could potentially deploy its bombers over the North Pole to reach North America. To detect and counter these threats, the United States and Canada established the Distant Early Warning (DEW) line of radar stations across Alaska and Canada, now known as the North Warning System (NWS).

Following the collapse of the Soviet Union in 1991, the United States’ investment in Alaska’s infrastructure waned. Like many nations, the United States

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pursued a “peace dividend,” reducing military and defense spending. The terrorist attacks of 9/11 further diverted resources and priorities away from Russia to the Global War on Terrorism (GWOT).

Amid evolving global dynamics and a shift from GWOT to strategic competition with China, Russia, and other near-peers, Alaska once again finds itself at a critical juncture. At the 2024 Aspen Security Forum, US Senator Dan Sullivan (R-AK) emphasized Alaska’s strategic significance, touting its abundant natural resources, vital geographical location, and the proximity to key international regions such as Korea, Japan, and the Taiwan Strait. Alaska Governor Mike Dunleavy underscored his state’s proximity to global threats, stating, “At just a few miles from Russian territory, just a few hours from China, and within potential striking distance of North Korean missiles, Alaska is truly a frontier outpost standing on the front lines in between a rough neighborhood and North America.”

US military units in Anchorage, like the 11th Airborne Division, equidistant from Frankfurt, Germany, as is the 82nd Airborne Division in Fayetteville, North Carolina. Alaska’s global proximity provides immediate global reach capability anywhere in the northern hemisphere.

Alaska stands at yet another geopolitical crossroads, necessitating an immediate logistical overhaul in the Arctic to ensure preparedness for future challenges. This imperative lies in proactively shaping the environment to our advantage rather than simply reacting to adversarial developments. The United States must undertake proactive measures to modernize and strengthen critical infrastructure within the Alaskan region. Such steps are vital to establishing a robust posture for deploying forces and resources from and through Alaska and serve the dual purpose of deterring potential conflicts in both the Pan-Arctic and Indo-Pacific theaters. As technology advances and peer competitors expand their global influence, the luxury of reacting to events is no longer tenable from a temporal perspective.

**Two-Theater and Two-Ocean War**

The “two-theater” strategy was a defense planning model aimed at determining the size and composition of US forces necessary for optimal military readiness. It proposes that the United States maintains the capability to simultaneously engage

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in two geographically separated major conflicts. Over time, this concept evolved into various adaptations based on prevailing threats. It swiftly adjusted to emerging challenges such as terrorism, the proliferation of weapons of mass destruction, and the ascent of China, resulting in a more flexible and rapid-response force. However, some analysts argue that this strategy was effectively sidelined in the 2000s in favor of a more pragmatic and streamlined military approach.  

Given the current geopolitical intricacies, proxy conflicts, and ongoing wars in regions like Ukraine and Israel, the DOD is compelled to reevaluate the allocation of resources necessary to sustain logistics for simultaneous engagement in two theaters. NATO is concerned that the United States may be preoccupied with matters in the Pacific, potentially limiting its ability to provide support during a crisis on NATO’s northern flank. Even without such distractions, doubts persist regarding the United States’ readiness to effectively manage a conflict in the Arctic today. Amid these uncertainties in the Arctic, similar challenges emerge in the Red Sea region, reflecting a broader pattern of maritime security threats worldwide.

The Red Sea region is witnessing escalating tensions and security concerns, particularly regarding attacks on container ships by Iran-backed Houthi rebels operating from Yemen. These attacks disrupt global trade and provoke fears about their potential impact on supply chains and the global economy. In response, the United States has initiated an allied naval task force, Operation Prosperity Guardian, aimed at safeguarding critical maritime routes and ensuring the uninterrupted flow of global trade, especially through the Suez Canal. Adding to the complexity of geopolitical escalations, in April 2024, Israel experienced a combination of 300 drone, cruise and ballistic missile attacks from Iran in retaliation of Israel’s airstrike on the Iranian consulate in Damascus, Syria. There is widespread concern for the potential of these events to lead to a larger regional conflict, affecting not only the Middle East but drawing in global powers due to the strategic interests and alliances at play. Should China choose to invade Taiwan today, the United States would confront the possibility of a two-ocean conflict, spanning the South China Sea and the Red Sea.

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In *The Two-Ocean War*, Samuel Eliot Morison meticulously recounts the US Navy’s logistical challenges and successes during World War II, spanning the Atlantic and Pacific theaters. This intricate narrative underscores the indispensable role of logistics in sustaining naval forces. Leveraging Alaska’s strategic terrain, such as Adak and Cold Bay, the Navy devised innovative logistical and sustainment strategies across the Pacific. These initiatives ranged from establishing global supply chains and naval bases to pioneering new ship designs and repair facilities.\(^{16}\)

This campaign underscored that logistics are not merely a support function but a pivotal determinant of victory. These challenges in managing two-theater/ocean scenarios emphasize the complexity of handling high-demand, low-density assets in operational plans (OPLAN).

As Gen Glen D. VanHerck stated while serving as commander of North American Aerospace Defense Command (NORAD) & United States Northern Command (USNORTHCOM), “Generically, our OPLANs double- or even triple-task forces and resources, creating a competition for high-demand, low-density assets. That means, for example, in a crisis overseas, the Secretary of Defense, with advice from the Chairman as the Department of Defense (DOD) global integrator, will have to adjudicate competing requirements from multiple combatant commands to determine apportionment of scarce resources—compromising response and, more importantly, ceding valuable and irreplaceable time to the adversary. OPLANs today need to move past this model, identify distinct requirements for each commander, and deconflict force apportionment in advance, knowing that simultaneous demands will exist in any large-scale crisis.”\(^{17}\)

Both the Biden administration and the DOD have voiced concerns about vulnerabilities stemming from reliance on a diminishing pool of sub-tier providers and the disruptions to US defense supply chains caused by geopolitical instability.\(^{18}\)

**Arctic Gaining More Attention**

Most branches of the US military have published Arctic strategies, which have influenced the updated 2022 *National Strategy for the Arctic Region*. This overarching strategy emphasizes core priorities such as security, climate change mitigation, environmental protection, sustainable economic development, and international

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cooperation and governance. Notably, this update coincided with the release of the 2022 National Defense Strategy (NDS), which also highlights the importance of enhanced shared maritime domain awareness, close collaboration with allies and partners, and commitment to internationally agreed-upon rules and norms.

These strategies collectively accentuate the imperative for a comprehensive, whole-of-government approach toward the Arctic for homeland defense and national security. They encompass safeguarding resources, the economy, and territorial integrity. However, notable challenges remain. One conspicuous omission from both the National Strategy for the Arctic Region and the US Indo-Pacific Strategy is the term logistics.

While logistics may appear confined to tactical matters, its strategic significance is frequently underestimated across all echelons. This becomes particularly concerning when confronting the complexities of allocating and distributing limited resources during a global conflict.

Challenges

The unforgiving Arctic environment presents significant infrastructure challenges, impacting not only the military but also communities in Alaska. Equipment, facilities, and personnel must contend with extreme temperature fluctuations and adverse weather conditions. Two primary factors contribute to the hurdles in enhancing logistical infrastructure: climate and distance.

Climate

Temperatures fluctuate dramatically in Alaska, ranging from -50 to more than 90 degrees Fahrenheit, depending on the time of year and location. The state’s vast size encompasses diverse geography and climate, from Arctic tundra in the north to temperate rainforests in the southeast. In regions above 66 degrees north latitude, the challenge of seasonal darkness not only disrupts transportation schedules and operational efficiency but also poses a significant obstacle to maintaining infrastructure. Moreover, warming temperatures are impacting the permafrost, which underlies approximately 85 percent of Alaska. According to the National Oceanic and Atmospheric Administration’s (NOAA) 15th annual Arctic Report Card, the 12-month period from October 2019 to September 2020 was the second-warmest

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year on record for surface-air temperatures over land in the Arctic (see figure). The Arctic is warming at a rate two to four times faster than the rest of the world. Scientists supported by the National Research Foundation of Korea are predicting ice-free summers in the Arctic by the 2030s.

Figure 1. Climate change in terms of Arctic warming. (Source: NOAA)

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**Tyranny of Distance**

Environmental changes will not only challenge Alaska’s infrastructure but also the tyranny of distance and the recent expansion of US claimed territory, which will strain the limits of current resources. Alaska boasts the largest land area of any state in the United States, spanning 663,300 square miles. This vast expanse surpasses the combined area of the next three largest states: Texas, California, and Montana, resulting in logistical constraints and limited accessibility. Alaska’s immense size and lack of infrastructure contribute to the considerable separation between its two major population centers, Fairbanks and Anchorage, with Anchorage serving as the central hub and home to approximately 40 percent of the state’s population. The remainder of the state comprises small towns and villages, often with populations of just a few hundred people. These settlements are typically hundreds of miles apart, leading to a sparse population distribution that complicates connectivity via road, rail systems, and fiber optic cable, further hindered by the numerous mountain ranges between Anchorage in the south and Utqiaġvik (Barrow) in the far north. Additionally, DOD facilities play a crucial role in maintaining communication lines in remote areas. These installations often precede and catalyze the development of surrounding communities, serving as the initial foundation upon which these communities are established and grow. Facilities in remote areas, such as US Coast Guard Air Station Kodiak, on Kodiak Island approximately 250 miles southwest of Anchorage, and Clear Space Force Station, a remote installation about 75 miles southwest of Fairbanks, add an additional layer of complexity to logistical planning.

Following extensive mapping of continental shelves, the United States is poised to extend its territorial claims in the Arctic Ocean and Bering Sea by an additional 987,700 square kilometers, an area twice the size of California. The addition of this sovereign area, named the Chukchi Borderland, could help in placing long-distance fiber-optic cables as well as regulating and inspecting other nation’s research vessels operating in that area.

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Arctic Logistics that Support US Indo-Pacific Command and NATO

Alaska’s strategic significance, reminiscent of its role in World War II, is paramount in a potential South China Sea conflict. From the perspective of US Indo-Pacific Command (USINDOPACOM), US European Command (USEUCOM), NATO, and USNORTHCOM, Alaska’s bases will play a pivotal role in homeland defense and in projecting forces for contingency operations, both in the Arctic and actions in the USINDOPACOM and USEUCOM theaters. Given Alaska’s relative proximity to the South China Sea, it also serves as a valuable location for reducing response time and swiftly mobilizing forces to the Indo-Pacific theater, concurrently acting as a forward deployment and a staging area. This capability is essential for rapid deployment and logistical support, including the potential for refueling and resupply of naval vessels and aircraft. In the event of missile threats, Eareksson Air Station’s Cobra Dane—located on the island of Shemya, in the Aleutian Islands—provides early detection, Clear’s facility offers target discrimination capabilities, and Fort Greely’s Ground-based Missile Defense (GMD), 350 miles north of Anchorage, engages targets, collectively forming a comprehensive ballistic missile defense (BMD) shield for NORAD over the United States.
States and Canada.24 As the demand for Alaskan infrastructure growth rises, the importance of providing critical logistical support, such as fuel, cold weather materiel, and munitions, intensifies.

Where to Focus US Effort

The United States should prioritize investment in dual-use military and civilian infrastructure in Alaska to facilitate efficient movement of equipment and supplies, crucial for rapid deployment and response to global security threats. Alaska’s 2021 critical infrastructure report card highlights the state’s infrastructure vulnerabilities, garnering a grade of C-. Some of the most concerning areas include drinking water, energy, marine highways, ports and harbors, and wastewater.25 When evaluating extensive logistical support networks, it becomes clear that the United States should focus efforts on modernizing ports, strengthening fuel distribution networks for maritime forces, and constructing a railway linking North America to Alaska.

Ports

The Don Young Port of Alaska, located in Anchorage, holds the distinction of being one of 17 designated “US Commercial Strategic Seaports” by the DOD.26 Responsible for 90 percent of military sustainment, it stands as the sole port in Alaska certified to receive aviation fuel. Military-grade fuels are sourced from refineries within Alaska at Valdez and Nikiski (Marathon) or imported by oil tankers from the west coast of the Lower 48.27 However, the Port of Alaska is rapidly aging and has limited docking capacity. It faces mounting challenges from erosion, corrosion, coastal processes, climate change, and seismic activity. Failure to update and repair the port in a timely manner not only hampers the flow of supplies but also makes it vulnerable to nonkinetic threats like cyberattacks or economic pressure, further disrupting logistics operations.

Two decades ago, the US government allocated hundreds of millions of dollars to expand the Port of Alaska, but issues during design and construction halted the project. Today, under the Infrastructure Investment and Jobs Act (IIJA), a

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USD 68.7–million reconfiguration of shoreline and material removal is planned for the port. However, the comprehensive modernization project is estimated to cost USD 1.6 billion, with the IIJA covering less than 7 percent of the required repairs.\(^\text{28}\) It is imperative for the Department of Transportation and DOD to jointly prioritize this modernization effort.

The Army Corps of Engineers’ feasibility report outlining improvements for the Port of Nome emphasized its strategic importance. The report stated, “In addition to providing fuel for forces operating in the northern Bering, southern Chukchi, and western Beaufort Seas, an accessible port would provide unique benefits to Homeland Defense, including a port of refuge, logistics support, and a location to loiter as the maritime situation unfolds.”\(^\text{29}\) The USD 490–million project is designed to bolster support for diverse maritime missions, encompassing cargo transportation, search-and-rescue operations, emergency response efforts, oil spill containment, and natural resource exploration.

![Figure 3. Projected modifications to Port of Nome. (US Army Corps of Engineers, “Port of Nome Modification Feasibility Study Nome, Alaska” [presentation, 17 May 2023], slide 14, https://www.nomealaska.org/.)](image)

This entails reducing draft limitations to accommodate more efficient vessels, expanding dock space to handle a greater number of ships without delays or safety


concerns, and enlarging the navigation area to ensure safe and efficient maneuvering for all types of vessels, including military ships. Phase I is scheduled to commence in 2024, Phase II in 2025, and the final phase will commence in 2027.

Situated on the southern coast of Alaska, approximately 120 miles east of Anchorage, the Port of Valdez offers access to the Gulf of Alaska and the North Pacific Ocean. Its strategic location makes it a valuable deepwater port for military operations in the Arctic region and the Pacific Rim. The Port of Valdez stands as one of the few year-round ice-free ports in the Arctic, playing a crucial role in supporting military operations and logistics in the Arctic and serving as a vital entry point for military personnel, equipment, and supplies into the state, which are then transported to bases in Alaska and the Indo-Pacific. Moreover, Valdez serves as a pivotal transit hub for cargo entering and exiting Alaska. Serving as the southern terminus of the Trans-Alaska Pipeline, it facilitates the transportation of crude oil from Alaska’s North Slope for export.

The Port of Valdez is instrumental in facilitating the transportation of energy resources, including oil and natural gas. Over 95 percent of Alaska’s crude oil production originates from the North Slope. Commercial and government agencies in Alaska utilize three refineries: Petro Star Valdez, Petro Star North Pole, and Marathon on the Kenai Peninsula (Nikiski). Although there are four refineries in total, the fourth, BP on the North Slope, exclusively produces oil for its internal operations and does not supply external markets.\(^{30}\) Most of the oil extracted from the North Slope is transported via the Trans-Alaska pipeline, loaded onto barges at Valdez, and shipped to Washington and Oregon for refining. In 1989, it took only four and a half days for the oil to reach Valdez from the North Slope; however, today, it takes 19 days due to a decrease in volume.\(^{31}\)

Moreover, Valdez holds the distinction of being the sole seaport in Alaska certified to handle munitions.\(^{32}\) The transportation of munitions in Alaska poses a unique set of challenges that necessitates careful consideration. Depending on the timing of resupply, winter road conditions in Alaska must be taken into account for the transportation of ammunition to its destination.\(^{33}\) This presents additional challenges in supporting USINDOPACOM bases in a USNORTHCOM area of responsibility during peacetime deliveries.

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One provision of the Taiwan Relations Act mandates that the United States provide support to Taiwan in the form of arms sales, including munitions. Since 2020, the United States has supplied Taiwan with USD 4.45 billion worth of arms. The transfer of munitions from the United States to Taiwan typically occurs through the Port of Kaohsiung in Taiwan. The specific port of origin is not publicly disclosed for national security reasons. However, considering the distances from US Pacific ports certified to handle munitions, the distances to Kaohsiung are:

- Port of Seattle, WA: 7,100 nm
- Port of Long Beach, CA: 6,500 nm
- Port of Valdez, AK: 6,000 nm

Valdez stands as the nearest ammunition-certified port on the US mainland to Taiwan. Guaranteeing the security and operational readiness of this port is paramount for safeguarding both national economic security and energy supply.

**Fuel**

Currently, there is no maritime fuel available north of Dutch Harbor of a scale sufficient to sustain major combat operations. However, this scenario could change with the expansion of the Port of Nome. This absence, coupled with a consistent 200 percent rise in sea lane traffic in the Bering Strait since 2009, creates a chokepoint where all three sea routes intersect, posing a critical vulnerability for several reasons. The surge in vessel traffic, in the absence of adequate fueling stations, heightens the probability of vessels carrying excessive fuel, thereby increasing the risk of major spills, as outlined in the Arctic Council’s *Arctic Marine Shipping Assessment* report.

Fuel plays a critical role in all aspects of transportation. A report by the US Coast Guard underscores the difficulties encountered in effective search-and-rescue operations in the Arctic due to limited infrastructure, including fuel availability.

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Figure 4. Bering Strait terminal location of Northern Sea Route, Northwest Passage, and Transpolar Sea Route. (Source: “Shipping in the Bering Strait Region: Overview,” Ocean Conservancy, n.d., https://oceanconservancy.org/.)

From an economic perspective, the absence of fueling options may dissuade shipping companies from utilizing shorter Arctic routes, thereby missing opportunities for decreased transit times and costs. This deficiency could impede the ability of the United States and its allies to project power and maintain a presence in the Arctic, a concern emphasized in the *Strategy for the Arctic Region* and reiterated by the commander of NORAD and USNORTHCOM.

The former commander of NORAD and USNORTHCOM, Gen Terrence J. O’Shaughnessy, articulated to the Senate Armed Services Committee (SASC) in 2020 that “we have a stated requirement for fuel north of Dutch Harbor—1,000 miles from Utqiagvik—it is the ability to continue to operate once it gets there, and not just have to turn around and go get gas.”39 Additionally, the next com-

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mander, General VanHerck, stated the same requirement “in the Aleutian Islands—that will help with that persistence and will also provide infrastructure for intelligence, surveillance and reconnaissance platforms and fighter aircraft . . . this will help the U.S. better compete in the Arctic and continue to be aware of Russian activities in the region.40

**US Navy Catch-22**

The US Navy’s objectives for the Arctic, as delineated in the “a Blue Arctic” blueprint, are to maintain an enhanced presence, strengthen cooperative partnerships, and bolster a more capable Arctic naval force.41 However, according to US Naval Institute, as of 1 February 2023, the highest latitude where the US Navy is consistently operating on the surface is 48 degrees North.42 This falls short of constituting the maintenance of an enhanced presence in the Arctic, and there are several factors contributing to why US Navy surface vessels are not persistently in this region.

The US Navy primarily operates with F-76 fuel for ships and JP-5 for aircraft, which presents logistical challenges in Alaska due to the lack of these specific fuels. The US Navy’s preference for F-76 over Marine gas oil (MGO), despite both being suitable for ships, is driven by F-76’s added stability and quality, which minimizes engine wear.43 However, MGO and F-75 are superior maritime fuels for cold-weather conditions and are the only types produced by Arctic nations.44 While the Navy can utilize these fuels, the challenge lies in how Combat Logistics Force (CLF) ships manage their fuel cargo. Once a CLF vessel loads MGO or F-75 into its tanks, it cannot refill them with F-76 until a thorough cleaning is conducted. Storing MGO effectively restricts the operational range of the CLF ship primarily to the far north.45 Positioning these specialized fuels in Alaska entails significant costs and logistical hurdles, particularly as the US Navy has a limited operational presence in the region.

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According to Alaska Command (ALCOM) and the Defense Logistics Agency’s (DLA) Energy Americas North, there is an initiative to establish JP-5 under the Petroleum War Reserve Requirement (PWRR) at the Defense Fuel Support Point (DFSP) in Anchorage by Naval Forces Northern Command (NAVNORTH), designed to enhance readiness for naval operations within the Aleutian Islands and the broader Arctic region before 2030. Maritime fuel storage and distribution in Alaska require substantial investment in location scouting, transportation, maintenance, and regular fuel replacement, which poses a challenge given the current infrequency of US Navy presence in Alaskan waters. The activity level of the US Navy is primarily determined by OPLAN requirements and the current priorities of NAVNORTH. These factors would rapidly override any issues related to fuel placement and storage when it comes to power projection. However, this is not a quick solution, and neither is how the United States will cover their new Arctic territory.

The US Navy must prioritize fueling infrastructure, including staging, regulations, and delivery mechanisms, ideally before ice-free summers arrive. In a November 2023 House Committee on Homeland Security hearing, Senator Sullivan emphasized in his opening remarks that “We not only need more Coast Guard assets, but also a Navy presence back in Alaska. We will need to be able to respond more rapidly in the future. That means places for Navy ships to refuel and refit in the Aleutian Islands and on Alaska’s west coast near the Bering Strait.”

Connecting North America to Alaska by Railway

Alaska’s road system is relatively limited. The Alaska Department of Transportation & Public Facilities reports approximately 14,336 miles of public roads, a stark contrast to the over 313,000 miles of public roadways in Texas. Primarily concentrated in the southern coastal region, Alaska’s road network leaves many northern and interior areas inaccessible by road. The Alaska Railroad Corporation (ARRC), spanning 470 miles from Seward to Fairbanks, serves communities in South-central and Interior Alaska, but does not extend to key regions like the North Slope, home to Utqiagvik.

Given Alaska’s limited rail capacity, transportation of supplies, equipment, and personnel relies heavily on airlifts, trucking, or sealifts. While the 2023 Bipartisan Infrastructure Law allocates USD 8.2 billion for 10 major passenger rail projects nationwide, there are no designated funds for establishing a railway connection...
between Alaska and the contiguous United States.\textsuperscript{48} However, the law does allocate USD 8.2 million for the replacement project of the ARRC Milepost 190.5 bridge.

Rail infrastructure is essential for military operations, especially in strategic locations like Alaska, facilitating the swift and efficient movement of troops, equipment, and supplies. However, limited rail capacity poses constraints on military readiness and response capabilities. For instance, transporting a typical Army brigade combat team (BCT), comprising infantry, cavalry, field artillery, special troops, and support, requires more than 600 rail cars.\textsuperscript{49} Considering air transportation based on weight alone, moving a single heavy armored BCT demands more than 500 C-17 flights, which exceeds the total number of C-17s in the entire US inventory.\textsuperscript{50}

One promising solution was the USD 22 billion Alaska–Alberta Railway Development Corporation (also known as A2A for Alaska to Alberta) railway project, aimed at linking North American transportation networks by extending a rail line from Delta Junction, Alaska, to Fort McMurray, Alberta. However, due to irregular business dealings, the project encountered significant setbacks in 2021, derailing its progress.\textsuperscript{51}

The envisioned railway offers a strategic advantage by connecting the Port of Valdez with the contiguous United States, streamlining the transportation of essential military supplies, fuel, and ammunition currently reliant on slower shipping methods. Presently, a barge voyage from Los Angeles to Taipei consumes about 19 days, whereas a journey from Anchorage takes approximately 14 days.\textsuperscript{52} Integrating the A2A rail link could curtail transit times between North America and Asia by an additional two to four days. Logistics experts assert that trimming shipping durations by two to four days could potentially tip the balance between victory and defeat in a conflict.

Beyond expediting transit, the proposed railway would enhance national security by introducing redundancy in infrastructure. This augmentation could ease military resupply efforts and broaden access to Arctic training areas, substantially bolstering

\textsuperscript{48}“President Biden Announces Billions to Deliver World-Class High-Speed Rail and Launch New Passenger Rail Corridors Across the Country” (press release, The White House, 8 December 2023), https://www.whitehouse.gov/.


\textsuperscript{52}“Cargo Calculator | Sea Distance Calculator for Shipping,” SEARATES, 2024, https://www.searates.com/.
operational capabilities. As discussions regarding its reactivation gain momentum, the A2A railway’s potential emerges as a catalyst for unlocking the Arctic region’s latent economic and strategic potential.

Conclusion

To prepare for the future of ice-free summers in the Arctic and escalating global tensions, strategic investments in critical infrastructure and logistics capabilities in Alaska are imperative. These preparations are not only essential for navigating the emerging challenges in the Arctic but also for effectively managing potential conflicts in the South China Sea while shoring up support for NATO.

Operating in the Arctic during peacetime affords the United States the opportunity to fortify infrastructure and capabilities, preempt crises, and sidestep make-shift solutions. Conversely, delayed action could force fighter combat air patrols and ground forces into deployment under more arduous, contested conditions.

Much like the perils of snow blindness, neglecting the development of our Arctic capabilities opens the door for strategic competitors to exploit the evolving Arctic landscape to their advantage. Leveraging the Arctic’s potential through advanced logistics capabilities offers a unique avenue for projecting power and deterrence. We must not wait for another Pearl Harbor or Cold War to fortify the Arctic’s infrastructure—it is an endeavor of strategic necessity and foresight.

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