Chilling the Guns of August: Measures to Mitigate an Arctic War

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Abstract

In an interstate conflict between NATO and Russia, the Arctic would likely become a key battlespace. As tensions in a political confrontation escalate, the point could be reached at which serious consideration is given to using nuclear weapons. Indeed, recent Russian commentary explores the option of using a tactical nuclear strike as a demonstrative measure to "de-escalate" the political exchange, challenging NATO or other potential opponents either to accept the status quo ante bellum or risk an uncontainable nuclear exchange. The question that arises is how to break the chain of escalation without forcing either side into the invidious position—referred to by President John F. Kennedy after the Cuban Missile Crisis—of having to accept a humiliating political retreat or use nuclear weapons. This article discusses an approach to that problem, utilizing a maritime demilitarized zone to provide an opportunity to stabilize such a crisis while retaining the perception of political credibility.

Keywords: Arctic, conflict, de-escalation, nuclear, peacekeeping.

Introduction

> "I could never understand why my country could call me from my peacetime job and train me to go to France and try to kill a man I never knew. Why did we fight? I asked myself that, many times."
>
> Private Harry J. Patch, Duke of Cornwall's Light Infantry[1]

Doubtless, many have asked the same question as Private Harry Patch, a combattant in the First World War: why did we fight? While such sentiments are expressed after many

[1] Private Harry J. Patch died aged 111 in 2009. From an interview quoted in Peter Parker, "Harry Patch: The Reluctant Hero," *Telegraph*, November 7, 2009, https://www.telegraph.co.uk/culture/books/6515443/Harry-Patch-the-reluctant-hero.html.

conflicts, the First World War is especially poignant because its initiation followed a course that was neither accidental nor inevitable (Read 2015). Consequently, the massive loss of life is all the more tragic. It was a conflict that gave rise to one of the most celebrated historical analyses of a fatally flawed decision process: Barbara Tuchman's *The Guns of August* (Tuchman 1962).[2] Tuchman's study of the circumstances leading to the First World War is a work that has influenced politicians and academics alike. The analysis has engendered the development of rival theoretical explanations of politico-military decisions, and our understanding of the limitations of polities in international relations is the richer for it.

However the validity of Tuchman's findings is viewed, one of the most interesting aspects of the work is the influence it had on President John F. Kennedy, one of the principal actors in the Cuban Missile Crisis. He had a particular concern regarding the escalatory capacity of international incidents and was impressed by Tuchman's analysis to the point of enjoining senior staff to read the book (Dobbs 2008). The Cuban confrontation, one of the closest times the world has come to provoking a global nuclear exchange,[3] was solved with limited bloodshed, and we may infer that in some respects at least, the president was influenced in his decision-making by the tragic errors of 1914. Having overcome perhaps the greatest trial of his presidency, John Kennedy bestowed on history the following lesson:

> [N]uclear powers must avert those confrontations which bring an adversary to a choice of either a humiliating retreat or a nuclear war.[4]

This advice remains pertinent today for the preservation of peace in one of the oldest battlespaces on the planet: the Arctic. Indeed, the geopolitical effects of climate change,

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[2] Also published as *August 1914*.

[3] For an outline of this, plus three other nuclear near-miss incidents, see Geoffrey Forden, "Reducing a Common Danger: Improving Russia's Early-Warning System," Cato Institute, Policy Analysis Paper no. 399, May 3, 2001, https://www.cato.org/publications/policy-analysis/reducing-common-danger-improving-russias-earlywarning-system.

[4] John F. Kennedy, "Commencement Address at American University, Washington, D.C.," June 10, 1963, John F. Kennedy Presidential Library and Museum, https://www.jfklibrary.org/archives/other-resources/john-f-kennedy-speeches/american-university-19630610.

particularly as they impact the Arctic, render the injunction all the more significant. It is the aim of this article to explore the application of a maritime demilitarized zone (DMZ) as a strategy for stabilizing an interstate conflict in the Arctic and averting a situation in which such a political dilemma arises again. In this context, it is worth noting the comments of General Sir Nick Carter, Chief of the Defence Staff, UK Ministry of Defence in his address to the Royal United Services Institute on Dec 1, 2018:

> I don't think that anyone wants war in the traditional definition of the term, but I do think there is a serious risk of inadvertent escalation leading to miscalculation.

It is precisely this risk of inadvertent escalation,[5] as experienced by a previous generation in the First World War,[6] and the dilemma of nuclear confrontation to which escalation may lead, that the measures proposed in this article aim to mitigate. If nothing else, there is a duty to consider how best to avoid repeating the tragic events of history.

The Arctic as a Conflict Environment

The Arctic is a scene of violent conflict that may be traced to ancient times (Ash 2016 and citations therein). Archaeological remains dated to the fourteenth century have been discovered in Arctic Canada, revealing the massacre of at least thirty-five people (Melbye and Fairgrieve 1994). In 1693, during the Nine Years' War,[7] Treurenberg Bay (now Sorgfjord) in Svalbard saw a sea battle between two French warships and forty Dutch whaling vessels. Thirteen Dutch ships were captured, the others escaped (Conway 1906). Ernest Burch (2007) reports ambushes, raids, and battles conducted by indigenous peoples in Western Alaska during the early contact period (c.1775–1850). In the eighteenth century, the Chukchi resisted the

[5] In this article, the term escalation will be defined "an increase in the intensity or scope of conflict that crosses threshold(s) considered significant by one or more of the participants." The definition follows Forrest E. Morgan et. al., *Dangerous Thresholds: Managing Escalation in the 21st Century* (Santa Monica CA: Rand Corporation, 2008), xi.

[6] In addition to Barbara Tuchman, *The Guns of August (August 1914)* (London: Constable, 1962), a comprehensive listing of the literature examining the outbreak of the First World War may be found in Morgan et al., *Dangerous Thresholds*, 7.

[7] Also known as the War of the Grand Alliance.

forces of imperial Russia (Forsyth 1992), while the nineteenth century witnessed the intrusion of the American Civil War into the polar north, when the confederate raider CSS *Shenandoah* attacked Union vessels in the Bering Sea (Baldwin and Powers 2007). For its part, the twentieth century was also a time of intense state violence, with some clashes of the Winter War between Finland and the Soviet Union (1939–1940) and battles of the Second World War taking place in the Arctic (Gregory 1989). Given the history of interstate conflict in the Arctic, it is hardly surprising that as climate change modifies the physical and biological environment, there has been concern that violent disputes may occur.

The change in the global climate has been particularly evident in the Arctic. The rate of change is reported as more than twice that of other areas on the planet (IPCC 2019), and much has been said of the beneficial aspects of that transformation, especially the economic effects. One of the initial reactions to evidence of ice ablation was a concern that increased accessibility might promote oil exploration and interstate conflict arising from unresolved maritime claims. In reality, world oil price has dominated the agenda. With a typical Arctic production cost of seventy-five dollars per barrel,[8] recently reported to be the most expensive in the world, companies have walked away from exploration projects. Moreover, while some forms of Arctic oil development may be aided by reduced sea ice, others are not. Shore-fast ice may actually be beneficial because roads can be constructed on it. On land, frozen ground aids the placement of modular oil rigs for a similar reason, while a melted permafrost surface impedes transportation and in the case of the United States at least, brings legal restrictions on drilling operations.

[8] Deloitte, "Crude Awakening," https://www2.deloitte.com/uk/en/pages/energy-and-resources/articles/crude-awakening.html.

In addition to the economic considerations, Arctic nations, specifically the Arctic Five,[9] have given a clear statement that they will govern the maritime Arctic in accordance with the provisions of UNCLOS (Arctic Council Conference 2008). While there remain unresolved issues, there has been significant political progress in the Arctic. The only terrestrial sovereignty issue concerns Hans Island, a piece of land with an areal extent of only 1.3 km,[2] that lies between Canada and Greenland in the Nares Strait (Hornackova 2018; Lajeunesse and Exner-Pirot 2018). Although a final resolution has yet to be determined, it has been the subject of humorous comment for some time, referred to by some as the "Whisky War" due to the practice by the rival nations of leaving a bottle of spirits for each other when their government personnel replace the flag with their own (Hornackova 2018). More serious are the maritime disputes, although their potential for development into full-scale conflict is questioned (Åtland 2013; Kříž and Chrášťanský 2012). Indeed, one of the longest running, and most significant for this study, that between Norway and Russia in the Barents Sea, was resolved by treaty in 2010.[10] The others, such as those between Canada and the United States, are generally the subject of either diplomatic action or negotiation, as in the case of maritime claims in the region of the North Pole, with applications made formally to the UN Commission on the Limits of the Continental Shelf (CLCS).

Given this prevailing atmosphere of peaceful coexistence and cooperation in the Arctic, what conflict risk remains? There are certainly risks at the nonstate levels, including insurgency and violence arising from Illegal, Unreported, and Unregulated (IUU) fishing (see Ash 2016, and citations therein). We may then also distinguish between enforcement actions taken by a coastal state against individual fishing vessels, and a second situation, in which

[9] Those nations that have coastline immediately surrounding the Arctic Ocean: Canada, Denmark (for Greenland), Norway, Russia, and the United States.

[10] "Treaty between the Kingdom of Norway and the Russian Federation concerning Maritime Delimitation and Cooperation in the Barents Sea and the Arctic Ocean, done at Murmansk on September 15, 2010." https://www.regjeringen.no/globalassets/upload/ud/vedlegg/folkerett/avtale_engelsk.pdf.

disputes concerning biomarine resources escalate to the level at which a state sends government vessels (warships or patrol craft) to protect fishing vessels registered under its flag against the actions of another coastal state. Such unfortunate failures in peaceful relations have a number of historical precedents, perhaps the most significant of which in recent times were the Cod Wars between Iceland and the UK (Jónsson 1982). Without diminishing in any respect the tragedy of casualties in substate or interstate fisheries conflicts,[11] this article concerns itself with open military actions between states, potentially incurring one or more battle deaths or one thousand or more armed personnel involved in active combat.[12] It should be recognized also that recent work by Solomon Hsiang and his colleagues (2013) provides clear statistical evidence correlating the effects of climate change with the likelihood of violence.

The Imperative Links with the Arctic

Franklyn Griffiths speaks of "hardening the region as best we can against destabilizing conflict from the world outside" (Griffiths 2011, 6). Admirable though such an aspiration is, geostrategic imperatives render its achievement highly challenging. Although often characterized by geographic remoteness, the Arctic cannot be isolated militarily from the rest of the planet. This is for two reasons. First, it is where a strategically significant quantity of military assets is located; in particular, the naval facilities of the Russian Federation's Northern Fleet, which are based on the Kola Peninsula and adjacent coastal area (Luzin, Pretes, and Vasiliev 1994). The term "strategically" is used here with deliberate ambiguity, referring not only to the proportion of the vessels, aircraft, and other resources, but also to the fact that many of those assets are armed with nuclear weapons. The second reason is that in a conflict between NATO states and Russia, the Arctic maritime environment would be the battlespace in which

[11] A more general analysis of the potential for Arctic conflict, including insurgency and IUU fishing may be found in Ash (2016).

[12] War as such is a complex phenomenon to define. For a description of the taxonomy applied to various manifestations of armed conflict by the Correlates of War (COW) project, see Sarkees (undated). This article applies a definition of armed conflict that differs from the COW typology of a "war" per se.

the containment of the Russian fleet, and the interdiction of the NATO maritime resupply routes to Europe, would be contested.[13] Thus, although the initiation of interstate conflict *within* the Arctic may be less probable than in other parts of the globe, an interstate conflict between NATO and Russia in the European theatre, and perhaps in other localities also, would likely spread *to* the Arctic.[14]

The Trial of Escalation and the Cuba Crisis

There has been a tendency in recent debate to liken current international politics to the Great Game struggle of the nineteenth century (Borgerson 2009; McCormick 2014). This is an interesting comparison; all the more so for the fact that some commentators (Morgan 1973; Yapp 2000) argue that the Great Game, at least in the form popularized by Rudyard Kipling in his novel *Kim*, never existed. However, major state rivalry of a form similar to imperial conflict may clearly be discerned. Territorial acquisition, such as the Chinese efforts to claim all of the territory within the nine-dash-line in the South China Sea, mirrors the military and economic annexations by the leading powers during the nineteenth century. Concerns by Russia at being bordered by NATO aligned states echo the decision in 1867 to sell Alaska to the United States—a strategy conditioned by the vulnerability of the area to seizure by the British, and the territorial ambitions of the United States in the Pacific Northwest.[15] The preoccupations of empires and major powers remain consistent throughout history—economic security and the ability to impose control.

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[13] Grove with Thompson (1991) describes in detail the development of the NATO Forward Maritime Strategy, and its application in the context of naval exercises.

[14] See Rolf Tamnes, "The Significance of the North Atlantic and the Norwegian Contribution," in *NATO and the North Atlantic: Revitalising Collective Defence* ed. John Andreas Olsen (London, UK: Royal United Services Institute, 2017), 87, for an overview of the Russian bastion concept of operations, the indivisibility of offensive and defensive actions during a period of conflict, and force projection down to and beyond the Greenland-Iceland-United Kingdom (GIUK) gaps.

[15] For an overview of the history of the sale and its links to the Crimean War and the proponents of the Manifest Destiny concept, see Bolkhovitinov (1996), Mitchell (1975), Shi (1978), and Wheeler (2017).

However, the world has grown into a much more complex and hazardous place. The relatively simple political interactions of kingdoms have become blurred by globalized economics and the speed of mass communications, with all the associated phenomena of public self-organization and information warfare. At the same time, belligerents can now confront each other with weapons of accuracy and power undreamt of in the century of Trafalgar and the American Civil War.

Of the thirteen historically recorded instances of nuclear near use reported by Lewis et. al. (2014), five are attributed by the researchers, either wholly or in part, to escalation. Lewis and her colleagues are careful to point out that they are not examining instances of nuclear weapon accidents or near-accidents (ibid.). Nor do they list cases of fissile material accidents, or failures to account for such material (ibid.). Two of the nuclear near use cases relate separately to the Cuban missile crisis; specifically, Operation Anadyr, during which Soviet submarines carrying nuclear torpedoes were subjected to bombardment with practice depth charges, and second, the alert status to which British nuclear forces were called during the incident (ibid.). Of the crisis itself, President Kennedy estimated the probability of disaster—that is, a nuclear exchange resulting in over two hundred million deaths—as "between one out of three and even" (Sorensen 1965, reported in Allison 1969). His warning, quoted above, concerning escalation to a point of choice between a humiliating retreat and nuclear war, remains as pertinent today as ever, notwithstanding the enormous literature that has been collected about the events of October 1962.[16]

Threat and Risk in Inter-State Conflict

In the classic characterization of threat at the interstate level, J. David Singer (1958, 94) identified Threat Perception as a combination of the Estimated Intent of a foreign state and the

[16] For a comprehensive analysis of previous and recent views of the events of the Cuban Missile Crisis, see Len Scott and Steve Smith, "Lessons of October: Historians, Political Scientists, Policy-Makers and the Cuban Missile Crisis," *International Affairs* 70, no. 4 (1994): 659–84.

Estimated Capability of that polity in military terms. While the concepts of threat and risk are distinct, they bear a similar structure; in effect, an estimate of likelihood of an action, and an estimate of the impact of such action. To the extent that both likelihood and impact can be enumerated, the product of both terms represents a quantified risk. While such evaluation is likely to be mostly qualitative in political judgement, one of the ironies of nuclear strategy is that a weaker opponent can represent a *greater* risk in real terms than a peer adversary, if it is considered that the probability of the weaker party engaging in such a destructive form of conflict is higher in relative terms. This higher probability equates to a lower threshold for action by the weaker potential belligerent and may be evidenced by announced policy or revealed behavior.

In conventional military terms, Russia is not a peer adversary of the Unites States. It cannot match the seagoing combat capability of the American Navy; nor is it intended to. As research analysts Kofman and Edmonds note:

> The modern Russian Navy is not designed to compete with the U.S. Navy, but instead to counter it, and to support the strategy of a twenty-first-century Eurasian land power. Russia may be far less powerful than the Soviet Union, but it remains a great power nonetheless, with a military capable of achieving overmatch on its borders. Russia's armed forces are strong enough to impose substantial costs in a conflict, and the country fields a capable nuclear arsenal that it won't shy from using.
>
> (Kofman and Edmonds, 2017)

While combat capability is not simple to assess, the Russian periodical *Mil.Press FLOT* attempts an annual assessment of the Russian fleet, in comparison with the US Navy. It counts the available number of vessels in each class, weighting that number with a coefficient and summing the results to provide an overall fleet combat capability. Under the 2018 analysis,[17] the Russian fleet has a combat capability some 45 percent of that of the United States. In the ten-year period from 2009–18, an average of the combat capability estimates gives a figure of

[17] "Boievye vozmozhnosti VMF RF otnositel'no VMS SShA (v %), *Mil. Press FLOT*, February 26, 2019, https://flot.com/2019/Рейтинг1/.

just over 49 percent, and while the method is inevitably subjective in some respects, it indicates relative strength, albeit in navies designed for different roles. The possession by Russia of slightly more nuclear warheads, that is, counting those both deployed and stored[18] (SIPRI 2019), does not redress that imbalance. For if Russian leaders were tempted to respond to military failure by resort to nuclear weapons, such action would most likely be met with equivalent and proportional destruction from the United States; at least, if the American leadership based its response on the basis of advice from its senior military personnel.[19]And, while Soviet doctrine may once have held that nuclear war was winnable (Gouré, Kohler, and Harvey 1974, cited in Pipes 1977), present Russian military doctrine permits only two cases in which nuclear weapons may be used:

> Russia reserves the right to use nuclear weapons in response to the use of nuclear and other types of weapons of mass destruction against it or its allies, and also in case of aggression against Russia with the use of conventional weapons when the very existence of the state is threatened. [20]

At what point the "very existence of the state" becomes threatened would be a matter of perception by the Russian leadership of the day, and one factor that may weigh heavily in that judgement is the integrity of its nuclear forces—specifically, the preservation of the seaborne assets of the Northern Fleet.

A Demilitarized Zone in the Arctic

Should the international political situation degenerate to the point at which Russian and NATO forces have either begun maneuvring against each other, or perhaps have already exchanged fire, both sides may perceive that the only recourse is either to engage with nuclear

[18] As of 2018, the US had an estimated 1750 warheads deployed and 4435 in storage, while Russia had some 1600 deployed and 4900 in storage (SIPRI 2019). Thus, the total inventory was estimated at 6185 for the US, and 6500 for Russia (ibid.).

[19] Evidence of Air Force General John Hyten to the Senate Armed Services Committee, reported in Macias (2018).

[20] *The Military Doctrine of the Russian Federation*. Translation released by the Embassy of the Russian Federation to the United Kingdom of Great Britain and Northern Ireland, Jun 29, 2015. https://rusemb.org.uk/press/2029.

weapons or suffer the political humiliation of a retreat. A nuclear exchange brings three clear and related consequences. First, any military or political gain will almost[21] certainly be offset by catastrophic damage to both sides. Second, both sides have systems in place to ensure that even if their political leadership has been severely damaged, their nuclear arsenals will launch a reprisal.[22] Third, although it has been argued that a full nuclear exchange will constitute a catastrophic, rather than existential risk to humanity (Scouras 2019), recent research into biosphere damage following a nuclear exchange indicates that immediate casualties would be substantially amplified at the global level by the effects of famine (Coupe et al. 2019). There are many variables in such calculations.

However, it may be possible to find an alternative, acceptable to both sides, that not only stabilizes a crisis situation and provides precious time in which to seek recourse to negotiation but also gives an appearance of success, or at least strength, to domestic political rivals and populations. It is proposed in such a case to establish a demilitarized zone to isolate the Barents Sea (BDMZ). This would form a barrier, dividing the opposing forces while allowing them to continue their respective missions to protect their key assets. Military forces would be fully at liberty to maneuvre on their separate sides of the barrier, but not cross it or engage[23] assets on the opposite side.

To be clear, the zone would *not* cover the Barents and Kara Seas in their entirety, but instead, cordon off part of the Russian EEZ in order to bring a temporary halt to hostilities. Nor

[21] The reason for caution here is that all weapons have a failure rate. For Tomahawk missile launches in the 1991 Gulf war, some 15 percent either failed on launch, failed to reach their target, or were shot down (Ritter 2015), and if similar figures applied to the missile technology of both Russia and NATO in a future conflict, in the case of both sides launching a *single* nuclear weapon, there is a probability of just over 2 percent that *both* engagements would fail simultaneously, with neither resulting in a nuclear detonation at the target.

[22] See Hoffman (2010, 146–54) for a description of the Russian "Perimeter" system that, once activated, automatically launches a missile on the receipt of certain indications of attack. The missile transmits launch codes to the residue of the Russian nuclear arsenal (ibid). The system is considered to remain in service at present (DIA 2017, 26). The equivalent US function is provided by an airborne command post (Meredith 1998).

[23] That is, discharge a weapon through the proscribed barrier space.

is this an attempt to revisit the proposal to establish SSBN[24] sanctuaries (Østreng 1982). It contains no measure for the establishment of nuclear-free zones in the Arctic, and no strategy for moving towards nuclear force reduction (ibid.). It is the complete separation of opposing maritime and air forces in such a manner as to effect firm political control by the respective polities and a de facto ceasefire during an escalating crisis. But how would such a measure work in practice, and what are the hurdles that would have to be overcome?

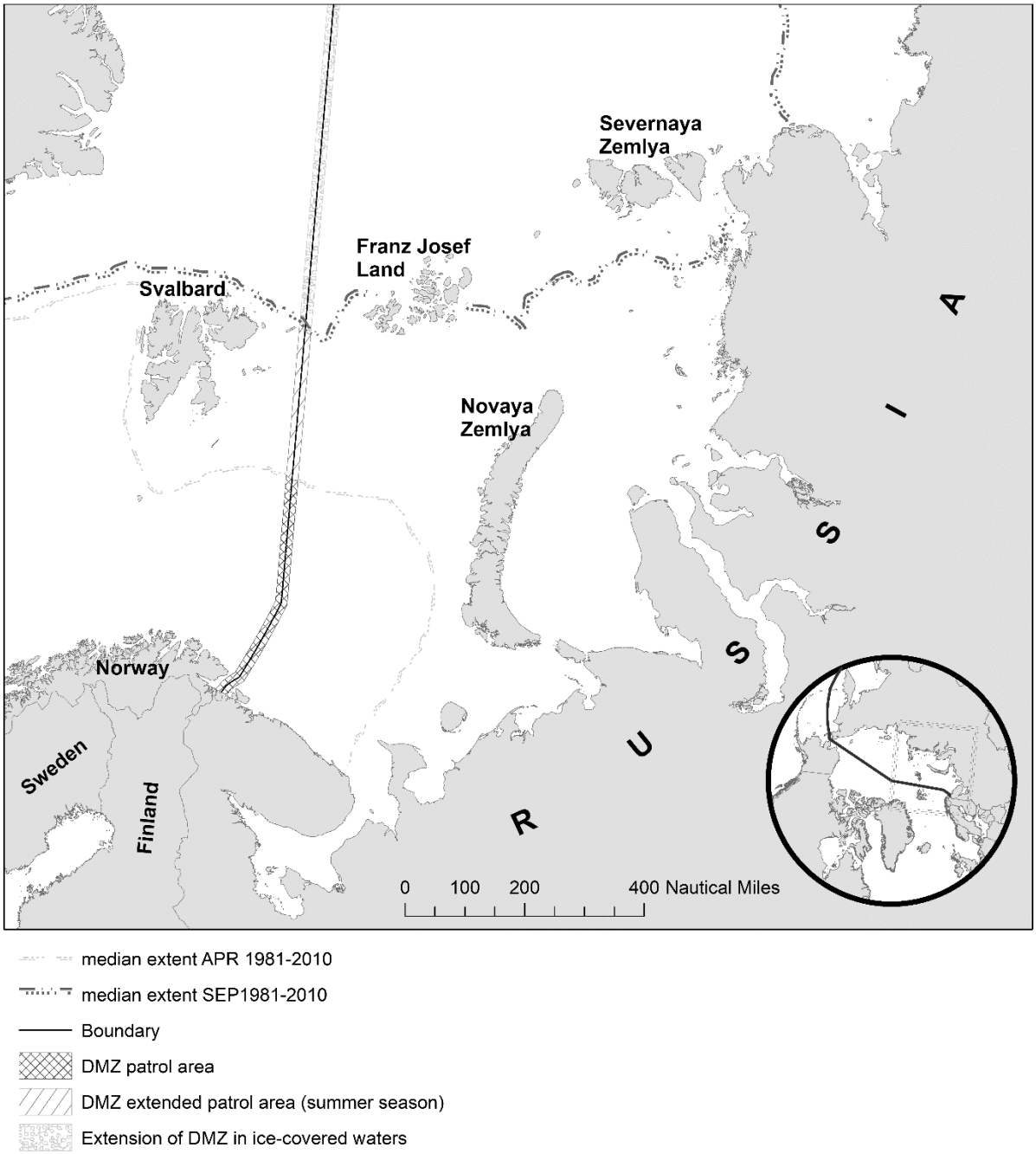
The Location and Properties of the BDMZ

As an initial proposal, it is suggested that the BDMZ be established with a width of twenty nautical miles,[25] with a perimeter following that established in 2011 as part of the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic.[26] Critically, the coordinates of the Norway/Russia border forming part of that treaty are in effect a simplification of the 2010 agreement on the delimitation of the Barents[27] (figure 1). The boundary therefore already has the benefit of prior scrutiny and consent in two international accords.[28] To the north, the Barents is bounded by sea ice for much of the year, rendering it a natural barrier to surface ship traffic, including most warships.[29] Similar restrictions inhibit surface ship passage for much of the year between the archipelago of Franz Josef Land and the northern tip of Novaya Zemlya. To the east, the Matochkin Strait, Kara Strait, and Yugorsky Strait give access east to the Kara Sea, itself impeded by very dense drift ice for much of the

[24] Nuclear submarines equipped with ballistic missiles.
[25] This should account for any reasonable navigation error, even in the Arctic. It should be noted also that a specimen figure for the effective range of a 127-mm naval artillery gun is thirteen nautical miles.
[26] "Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic. Done at Nuuk on May 12, 2011." https://oaarchive.arctic-council.org/bitstream/handle/11374/531/EDOCS-3661-v1-ACMMDK07_Nuuk_2011_SAR_Search_and_Rescue_Agreement_signed_EN_FR_RU.PDF?sequence=5&isAllowed=y.
[27] "Treaty between the Kingdom of Norway and the Russian Federation" (see note 10).
[28] A practical outcome of using the Search and Rescue Treaty delimitation is that during a period of tension, the division of forces would inflict less interference on rescue operations for civilian vessels in distress.
[29] Not all warships, of course. Icebreakers may still be able to penetrate even thick and multiyear sea ice. However, opposing surface flotillas are unlikely to be conducting combat maneuvres against each other in consolidated or thick ice.

year. The passage of surface ships is thus limited by the geography and cryology of the region to either a route through the barrier in the open water between Svalbard and the North Cape, or icebreaker-assisted transit of the Northern Sea Route.

Figure 1: A Barents Demilitarized Zone.



In the vertical axis, the BDMZ would extend from the seabed upwards without limit. No military or government aircraft, drone, ship, vessel, air cushion vehicle, or submarine would be permitted to cross the BDMZ. Satellites and space vehicles would not be subject to the

agreement. Quite apart from the practical issues related to altering their orbits, they are already subject to governance, at least in part, by the Outer Space Treaty of 1967.[30] In addition, their operations are desirable in ensuring compliance with the BDMZ provisions. To this end, it is essential that neither side engages in any form of anti-satellite operation when the BDMZ is active.[31] Space sensors must be fully available to the intelligence services of both sides, to facilitate enable them in verifying compliance. In addition, there must be no jamming or deception transmission targeted at GPS or GLONASS navigation systems. This eliminates any potential for a claim that opponent electronic warfare operations led to a demilitarized zone incursion.

Practical Aspects—Policing and Timing

Following activation of the BDMZ, parties to the agreement would police their side of the zone, in order to enforce the agreement. The surveillance would be necessary, not merely to ensure that platforms from the other party do not commit any incursion but also to confirm the identity and intentions of third-party vessels. Of course, the inspection of nonmilitary vessels may be necessary to preclude tactics such as submerged submarines closely following surface ships in an attempt to evade detection,[32] or the carriage of military personnel in disguise. For an extended period of tension, some parts of the BDMZ may be sufficiently shallow for opposing forces to lay minefields in areas adjacent to their respective sides of the demilitarized zone.[33] In addition, both sides may wish to deploy seabed sensors in areas under

[30] *Official Records of the General Assembly, Twenty-first Session*, agenda items 30, 89 and 91, document A/6431. "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies." Signed January 27, 1967. Article IV of the treaty prohibits the placement of weapons of mass destruction in earth orbit, on celestial bodies or in outer space.

[31] A number of sources suggest that Cosmos 2543 was involved in a recent antisatellite weapons test (Burns 2020). For a listing of current satellites in orbit that may be interrogated by nationality and function, see the Union of Concerned Scientists UCS Satellite Database, https://www.ucsusa.org/resources/satellite-database.

[32] This tactic was used by the Japanese in the attack on Pearl Harbor in 1941 (NOAA undated, Roblin 2017).

[33] For a brief overview of naval mine technology and exploration of mine warfare in the context of current law, see Chatham House (2014).

their jurisdiction to facilitate the monitoring of the BDMZ.[34] Developmental technologies such as drones may also play a role in ensuring treaty compliance.

As with any demilitarized zone, it is desirable to have an independent observer force, acting on behalf of the United Nations and recording instances of treaty breaches by either party. The practical question therefore arises as to which states might provide such a force, considering the requirement for a candidate nation to possess naval forces with global reach, and to hold independent and neutral diplomatic relations with both NATO and Russia. At the time of writing, appropriate candidates would appear to be Brazil and India. Both nations have previously held membership of the UN Security Council.

The primary role of the UN force would be strictly observation and self-defence if necessary. The principal area of operations would be the twenty-nanometer-wide portion of the DMZ along the Norway/Russia demarcation line in the Barents, between the land border and north to the ice edge. However, there would also be a delegated search and rescue, and policing responsibility, to ensure that during the period of activation, the BDMZ did not become a lawless zone in which fishing vessels could plunder the biomarine resources. In that capacity, UN vessels might carry authorized fisheries officers from both Norway and Russia, a situation that might make both sides even more cautious in discharging weapons.

Nongovernment vessels of any nation would be entitled to cross the BDMZ, although they may have to comply with certain routing and inspection requirements. Civil maritime traffic may well diminish in any case, as it would be transiting a war zone, and insurers are likely to either refuse cover or insist on high premiums—the Joint War Committee[35] would

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[34] See Alexei Ramm, "Russia Deploys Global System of Maritime Surveillance," *Izvestia*, November 25, 2016, https://iz.ru/news/647107#ixzz4QxkkRvIA, for a report on one such Russian acoustic surveillance system, based on Novaya Zemlya.

[35] The Joint War Committee, comprising underwriting representatives from both the Lloyd's and International Underwriting Association company markets, identifies and disseminates Listed Areas, in which owners are required to notify underwriters of voyages. For a description of the committee, its remit, and currently listed areas, see: https://www.lmalloyds.com/lma/jointwar.

almost certainly declare the BDMZ and adjacent waters a "Listed Area." In fact, it would be helpful if the parties to the BDMZ agreement also prohibited vessels flagged to their respective nations from entering the BDMZ for the duration of the period of tension. Any oil or gas installation that happens to be in the BDMZ would also have to be subject to special provisions, including monitoring by UN peacekeepers and a maritime access corridor for air and sea traffic. Fishing craft would be treated as any other merchant vessel.

In addition to surface ship passage into and out of the Barents, air movements across the perimeter would also have to be monitored. At very high altitude, published performance data for the AN/FPS-132 Upgraded Early Warning Radars suggest that for NATO, current technology provides overlapping coverage of the entire Arctic against ballistic missiles (MDA, 2016). Russia has a similar capability (Ryabikhin 2019; Sergeev 2015; Zak 2019) and incorporated material. At lower altitude, at least partial radar coverage may be provided by surface ships, airborne early warning aircraft, and shore installations including the Resonance-N Over-The-Horizon system (Humpert 2019). However, it is much more challenging to identify and restrict submarine movements, and this is a key issue.

From the Russian perspective, a BDMZ provides significant assurance of the second strike[36] capability vested in their SSBNs. While ranges of currently deployed SSBN missiles enable them to strike targets in much of the US from the Barents, exclusion of NATO assets from the area cordoned off by the BDMZ, in particular maritime patrol aircraft and SSNs, would markedly diminish the likelihood of the detection and localization of their submarines. Russian assets would be able to concentrate on de-lousing[37] and other defensive operations against NATO submarines. In this regard, with the western approach to the Barents closed by the DMZ, the northern aspect of the region could be further reinforced against submarines by

[36] The ability to respond to a nuclear attack with nuclear retaliation.
[37] In antisubmarine warfare, sanitizing an area of enemy submarines, generally for the benefit of a critical asset such as an aircraft carrier or ballistic missile armed submarine.

mining the area to the south of the marginal ice zone, and any points of entry from the Kara Sea navigable by submarines could receive enhanced attention from Russian antisubmarine warfare assets. This begs the question of what corresponding assurance NATO may have that Russian submarines will not break out through the BDMZ—either by exploiting their inherent stealth or by venturing north under the sea ice and approaching NATO forces via the Fram Strait.

Fundamental to the BDMZ agreement is the understanding that any asset in spatial violation of the agreement is liable to attack by the other party. On their respective sides of the DMZ, each party would undoubtedly be undertaking anti-submarine operations. The separation of forces would make it much more difficult for submarines to operate without supporting surface or air assets. In addition, the restriction of Russian forces would enable NATO to concentrate its antisubmarine warfare (ASW) effort along the DMZ western margin and to obstruct passage via the Fram Strait. These are large areas, and to some extent, ice covered. Nonetheless, any opportunity to concentrate the ratio of ASW assets to potential targets aids the defender. Finally, the political risk of violating the agreement is significant. If the agreement fails, then escalation may again run its course. Worse, the undermining of trust may enhance a subsequent escalatory process.

Timing issues in relation to the establishment and closure of a BDMZ would be crucial if it is to meet the intended purpose of preventing a dilemma of the type faced during the Cuban Missile Crisis. An agreement designed to buy time for diplomatic action would have to be strictly regulated in its establishment and closure. Either party to the treaty could initiate the BDMZ, and once initiated, *both* sides would have to consent to its closure. To address the issue of platforms[38] finding themselves on their adversary's side of the BDMZ at the point of its establishment, there would have to be a provision of safe passage. Under this, a vessel or

[38] Aircraft, drones, ships, and submarines.

aircraft would have a period of grace during which it could proceed by a direct route on a cardinal heading to its side of the DMZ, but only if it refrained from warlike activities: aircraft would have to emit preagreed transponder codes; surface ships could not launch aircraft or discharge weapons. The period of grace would have to take account of submarine communication schedules (Compton-Hall 1988; Hervey 1994; Rossiter 2009). All aircraft and surface platforms would have to show standard navigation lights and obey current anticollision rules.

The choice of when to activate the BDMZ would be a fine political judgement. The structure of the prospective agreement is designed to be politically defensible in the domestic environment. The US leadership can claim that is has successfully corralled the Russian forces, while the Russian government can identify the BDMZ as part of a fortress defending the *Rodina*. It would be naïve to believe that the process of establishment would proceed entirely without incident, but the BDMZ is primarily a mechanism for halting escalation. For this reason, it is imperative that under the purview of this agreement, both sides retain full responsibility for rogue actions by personnel on any of their assets.

A Barents Maritime Demilitarized Zone and the Function of Intelligence

During the establishment and operation of the BDMZ, the role of intelligence is pivotal in ensuring adherence to the treaty terms. Both NATO and Russia will wish to monitor the prospective battlespace around the BDMZ and elsewhere in order to provide indications and warning that a significant breach is about to occur. Perhaps, more importantly, they will need to differentiate minor incursions or treaty transgressions from deliberate attacks. The UN monitoring force itself will need to establish a comprehensive picture of the operational area, to provide the same indications and warning, both for its own protection and to discharge its role to report accurately and impartially any treaty violation. This does not imply that the UN

requires its own intelligence infrastructure per se, simply that the routine and incident reports generated by the UN monitoring force commander are provided for the Security Council.[39]

Why Would the Two Parties Agree to Such a Measure?

It is pertinent to ask why nations would agree to honor, or even entertain the idea of the BDMZ. A solution to a political dilemma of the sort faced by the leaders during the Cuban Missile Crisis is an objective to be coveted. During such a confrontation, time becomes a commodity of almost incalculable worth. Measures that create a breathing space and an opportunity for diplomacy are likely to be welcome. Kahn (1965, 232) in his seminal work on escalation, draws attention to the "cooling" effect of time on political crises. By contrast, Kringlen, a physician by training, warns that:

> Because of the reduction in decision-time the opportunities for a war to start in a crisis misjudgement or miscalculation or false alarm have greatly increased.
> (Kringlen 1985, 193)

It should be evident also that if the terms of the agreement establishing a BDMZ are honored, then both sides of the conflict obtain their core objectives without further loss. Both parties can declare victory to a domestic audience, and the rest of the world is spared, at least for the duration of the agreement, the risk of a major nuclear war.

While designed to limit escalation and ensure political control of military assets, activating the BDMZ during a period of political tension in itself constitutes a powerful signal. Making an equivalent statement by escalation carries significant risk. Thus, without crossing the nuclear threshold or triggering Article V of the North Atlantic Treaty, parties to the BDMZ agreement signal their displeasure and their resolve to protect their interests. At the same time, the agreement shapes the battlespace. From the Russian perspective, it reduces the task of

[39] Olga Abilova and Alexandra Novosseloff, *Demystifying Intelligence in UN Peace Operations: Toward an Organizational Doctrine* (New York: International Peace Institute, 2016) provides a comprehensive overview of the intelligence process, complexities, and measures for the improvement of intelligence support in UN peacekeeping operations.

protecting their vessels, especially their SSBNs, with the comparatively limited resources at their disposal. Simultaneously, from the NATO standpoint, the BDMZ is consistent with the recent concept of Full Spectrum antisubmarine warfare, in which a comprehensive approach to neutralizing undersea threats is adopted, including spatial isolation.[40]

From the political perspective, the establishment of the BDMZ during a period of tension provides the military forces of both belligerents with a clear mission, while at the same time strengthening political control over force commanders and surrendering none of the strategic priorities. The need for such control should not be underestimated—nor indeed the reassurance that political leaders might well derive from knowing that military commanders in a separated battlespace have much less opportunity to initiate unanticipated or independent escalatory action. As Posen (1982, 32 and citations therein) notes, this is a phenomenon that recurs in history. President Kennedy, himself an experienced naval officer, directed the blockade of Cuba personally, in order to curtail needless escalation (Zelikow and Allison 1999, 230–36). Nonetheless, aspects of the prosecution of the blockage were put in place without the president's foreknowledge and consent—specifically, procedures for dealing with Soviet submarines escorting the merchant vessels transporting cargo to Cuba (ibid.). The submarines were armed with nuclear torpedoes (ibid.).

One additional aspect of command and control of relevance to the BDMZ proposal is assurance of communications: in particular, submarine communications. While SSBNs can remain in continuous and instantaneous communications with shore installations if they only have to receive (Hennessy and Jinks 2015, 228), two-way communications with SSNs may be much more difficult to assure, and in periods of tension, the problems may be exacerbated by deliberate jamming.[41] Reducing the requirement for time-sensitive, critical decision approval,

[40] See Toti (2014) for an outline of the Full Spectrum ASW concept.
[41] For an overview of submarine communications, see John Hervey, *Submarines* (London: Brassey's, 1994), 163–78. Mike Rossiter, *Sink the Belgrano* (London: Transworld Publishers, 2008) gives a similar general

without having to rely heavily on rules of engagement, confers an additional safeguard to command and control.

Previous Measures to Limit Arctic Conflict

> "Let the North of the globe, the Arctic, become a zone of peace."
> (Mikhail Gorbachev, October 1, 1987)

Historically, demilitarized zones have tended to be agreed upon at the cessation of a conflict in order to preserve a peace agreement (Boutros-Ghali 1992).[42] However, thought has been given to them as preventive measures (ibid.). In 1987 Mikhail Gorbachev issued his now famous proposal, quoted above. While the Arctic has not become the zone of peace envisaged in the speech, significant political progress has nonetheless been achieved. The Arctic region now has in place a number of treaties and a system of international governance that appears to be robust and practical.

For the archipelago of Svalbard, the treaty of 1920 includes an assurance of minimal military activity (Svalbard Treaty, article 9). In exchange for the recognition of its sovereignty over the region, Norway pledges that it will neither create nor allow the establishment of any naval base or fortification in the territory, "which may never be used for warlike purposes" (ibid.). In practice, military activity in Svalbard is confined largely to the activities of the Norwegian Coast Guard. This is critical to the preservation of peace in the region, because of the strategic geography of the archipelago. Unlike the Gorbachev proposal and the Svalbard Treaty, the BDMZ proposed here is a measure designed specifically to halt escalation, rather than to diminish military activity as a whole. It would be a political and military space only during periods of crisis. Indeed, given the inconvenience and economic penalties associated with the existence of the zone, parties to the agreement would be unlikely to countenance its

description, plus an insight into the problems HMS Conqueror encountered with WT mast damage and the limits of satellite coverage.

[42] Report of the Secretary-General pursuant to the statement adopted by the Summit Meeting of the Security Council on 31 January 1992. SC Doc. S/24111, June 17, 1992.

duration for any longer than strictly necessary.[43] It would constitute an adjunct to a dispute procedure, established in advance of a possible crisis, and activated by either party to the conflict. Similar measures to prevent the use of nuclear weapons through misunderstanding exist in a number of countries. The first hotline[44] linking the Soviet and US governments came shortly after the Cuban Missile Crisis (Davenport and Medvedeva 2018). Today, similar arrangements exist between France and Russia, Russia and the UK, and between India and Pakistan (ibid.). A set of telephone links between North and South Korea have been put in place, although North Korea has failed to respond during some periods of tension (ibid.). China is reported to have high level communications links with India, Russia, South Korea, the US, and Vietnam (ibid.). Clearly, a willingness to agree to a dormant facility such as a BDMZ would evidence an earnest desire to preserve peace in the Arctic.

Historical Aspects—Precedents and Likelihood of Success

In her detailed 2003 statistical analysis of the durability of peace agreements, Virginia Fortna argues persuasively that particular mechanisms contribute materially to success. Specifically, she identifies three benefits of demilitarized zones: changing the incentives to break a ceasefire, reducing uncertainty regarding actions and intentions, and preventing accidental violations. In the case of "full" DMZs, which she characterizes as those "2 km wide or more, running the full length of the cease-fire line," she reports a clear stabilizing effect, reducing the hazard of a subsequent war by some 90 percent (Fortna 2003, 357).

Of particular interest to this article, she continues:

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[43] For an interesting example of the potential marine insurance penalties for merchant vessels operating in zones in which they may be regarded as "war risk" at Lloyds, see Steven Prokesch, "Insuring 'War Risks' at Lloyd's," *New York Times Archives*, January 16, 1991, https://www.nytimes.com/1991/01/16/business/insuring-war-risks-at-lloyd-s.html.

[44] This was the *Memorandum of Understanding Between the United States of America and the Union of Soviet Socialist Republics Regarding the Establishment of a Direct Communications Link*, of June 20, 1963. For a history of the system and similar provisions between nuclear powers, see Kelsey Davenport and Daria Medvedeva, "Hotline Agreements," Arms Control Association, last modified April 2018, https://www.armscontrol.org/factsheets/Hotlines. A technical history of the Moscow-Washington Hotline may be found at Crypto Museum (2018).

> If demilitarized zones or peacekeeping can help maintain peace after war, can they do so beforehand? Obviously, one cannot answer this question definitively without a wider study, but at least in theory, the measures discussed above should be effective preemptively. The challenge is likely to be in convincing states to implement them.
> (Fortna 2003, 366)

It is noteworthy that amongst the cases Fortna examines is the Korean War Armistice. This agreement has held for over half a century, despite a failure to resolve the underlying issues, and the disputed status and location of the seaward extension of the military demarcation line drawn up on the cessation of hostilities (Roehrig 2011). Moreover, while a number of violent incidents, including vessels sunk by belligerent action and cases of fatalities have occurred at this maritime border (ibid.), they have not escalated into a full reignition of the conflict. It must of course be recognized that no agreement such as that proposed for the BDMZ can be enforced on two parties determined to war against each other. Nor can any mechanism such as a demilitarized zone alone provide enduring peace. Nonetheless, even a disputed maritime border can play a role in separating and controlling the military forces of entrenched political antagonists—as demonstrated in Korea, the location of a war that has never been formally concluded by a peace treaty, and following which a number of armed clashes have occurred.

The Korean Armistice is notable also because the signatories were a representative of the United Nations Command, which is a coalition of nations' military forces acting in support of the Republic of Korea, a representative of the Korean People's Army, and a representative of the Chinese People's Volunteer Army. In short, this agreement, which among other things, created the Korean Demilitarized Zone, was successfully negotiated by multiple parties. In the case of the proposed BDMZ, one of the potential impediments is the fact that it would rest on an agreement concluded between Russia and NATO—a single state and a formal alliance of states. And, while such agreements may be administratively challenging, the Korean Armistice is evidence that treaties between alliances and individual states can be made to work. Indeed,

under these circumstances, *it is desirable for Russia that NATO remains a politically unified entity*. Hybrid operations undertaken by Russia to divide NATO treaty partners and thereby reduce the force levels it faces could prove disastrous once a process of escalation was underway, as it could sabotage the very BDMZ mechanism that contributed to Russia's security.

The Risks of De-Escalation

> "A central strategic puzzle of modern war is that the tactics best suited to dominating the conventional battlefield are the same ones most likely to trigger nuclear escalation…the leaders of U.S. adversaries will face life-and-death incentives to use their nuclear arsenals to force a cease-fire and remain in power."
>
> (Lieber and Press 2009, 43)

The change to Russian policy that provides for circumstances in which first use of nuclear weapons could be made in response to circumstances in which "the very existence of the state is threatened,"[45] has led to discussion of a potential Russian escalate-to-de-escalate policy; the first use of nuclear weapons as a demonstration of intent.[46] It is not the purpose of this article to determine whether such a policy exists. However, *should such a strategy be applied*, the potential benefits of a BDMZ agreement may become irremediably lost.

History has revealed a taboo against the first use of nuclear weapons (Tannenwald 1999). Since the end of the Second World War, nations with nuclear weapons have not deployed them against states possessing only conventional arms, even in circumstances in which nuclear retaliation was impossible; for example, the United States before the Soviet Union developed a nuclear capability, or during the Korean and Vietnam wars (ibid). Other nations have similarly refrained from first nuclear use. The Soviet Union did not deploy nuclear weapons in its extensive war in Afghanistan, nor did Israel during its wars against Arab states

[45] *The Military Doctrine of the Russian Federation* op. cit.

[46] See Richard Sokolsky, "The New NATO-Russia Military Balance: Implications for European Security," Carnegie Endowment for International Peace, March 13, 2017, https://carnegieendowment.org/2017/03/13/new-nato-russia-military-balance-implications-for-european-security-pub-68222.

in 1967 and 1973 (ibid.). The international opprobrium and long-term political costs of such an act in the modern era would be severe, to say the least, and any trust that the BDMZ agreement would be honoured would likely evaporate. Any attempt to use the BDMZ as part of a stratagem in which a nuclear strike was followed by retreat behind the demilitarized region would most likely prove more provocative than a preemptive strike alone, appearing cowardly and deceitful. The role of contempt in political decisions has a sobering literature. John Stoessinger (1985, 208–9) notes the effect of distorted views of an adversary's character in precipitating a conflict. Even if an Arctic conflict remained conventional in nature, a perception that the initiation of the BDMZ was duplicitous in nature would probably negate its value. Hence for example, the combination of an amphibious assault against Svalbard by Russian forces, combined with the declaration of BDMZ activation to consolidate potential political and military gains, would be unlikely to succeed.[47]

Time, Prestige, and a Negotiating Space

The activation of the BDMZ would constitute political language. It would be a warning, similar to increasing a military readiness state. But it would also be an invitation to negotiate and reach an acceptable political solution without displaying weakness. In addition to separating the maritime combat assets of each side, it reduces the likelihood of misinterpretation that may result from some aspects of conventional warfare. As Posen notes in the context of the Cold War:

> A deliberate conventional campaign against Soviet SSBNs could be understood by the Soviets as the beginning of a damage-limiting strategic first-strike. Given the importance of nuclear weapons and nuclear war in Soviet doctrine, even the appearance of such a campaign could trigger dire consequences.
>
> (Posen 1982, 43)

[47] There has been some speculation that Russian forces have exercised an amphibious invasion of Svalbard (Stormark 2017). A report quoting Norway's counter-espionage chief Eirik Haugland suggested "a foreign agent" had travelled to northern Norway to map the landing point of an underwater communications link between Svalbard and the mainland (Associated Press 2014).

At the same time, however, both parties would know that a failure to respect the activation of the BDMZ could be interpreted as escalation in itself. It would indicate that the recipient party has no interest in peace or does not believe that an accommodation can be achieved with the initiating nation.

Receiving such a signal might be more challenging than being faced with the dilemma of a choice between nuclear war and political humiliation.

Technological and Geospatial Change

A DMZ is not an invincible barrier, and it is not intended to be. Its value lies in the extent to which it contributes to the three functions noted above: namely, changing the incentives to break a ceasefire, reducing uncertainty regarding actions and intentions, and preventing accidental violations (Fortna 2003). Certainly, novel technology may impede the enforcement of DMZ rules. For example, a stealth aircraft may defeat the ability of a UN ship using a monostatic radar[48] to detect it penetrating the BDMZ.[49] But in the case of such a violation, the perpetrator could not have absolute assurance of being undetected, either by the peacekeeping assets or the opposing force. Moreover, such behavior risks losing the very benefits conferred by the treaty. A similar argument might be made against a submarine incursion.

As climate change proceeds, the ice edge is likely to retreat for much of the year. Thus, the ice may no longer form a barrier to the north of the BDMZ. Should it retreat to the extent that open water to the north of the Barents permits safe passage for surface ships around Svalbard and then south via the Fram Strait, the UN surface ship patrol would have to extend

[48] A radar in which the transmit and receive functions are collocated in a single antenna array. Bistatic radars utilise transmitter and receiver antennae with significant physical separation. Arend Westra, *Radar Versus Stealth: Passive Radar and the Future of US Military Power* (Washington, DC: National Defense University, Institute for National Strategic Studies, 2009) gives an overview of this approach to defeating stealth technology.

[49] Or it may not. Stealth technology tends to be optimized against a limited frequency spectrum. See Guy Plopsky and Fabrizio Bozzato, "The F-35 vs. the VHF Threat," *Diplomat*, August 21, 2014, https://thediplomat.com/2014/08/the-f-35-vs-the-vhf-threat/, for a discussion of this and also the incident in which an F-117 stealth aircraft was shot down over Yugoslavia in 1999.

north also to police the SAR Treaty boundary (figure 1). ASW aircraft are not so limited, and it may be that organic[50] air assets on UN peacekeeping vessels can be supplemented by UN maritime patrol aircraft (MPA) operating out of Svalbard. This would certainly be in keeping with the spirit of the 1920 Treaty as the aircraft would not be using runway facilities for any warlike purpose per se—quite the reverse, they would be operating to maintain peace, and as both Norwegian and Russian interests are represented on the archipelago, all parties could be kept informed of operations.

However, it must be acknowledged that Arctic ASW is a highly specialized undertaking, requiring not only the use of specialized equipment but also the maintenance of perishable and specific skills.[51] Such equipment and skills may be in limited supply in prospective candidate nations for the peacekeeping function. Consider the situation in which a Russian submarine proceeds north from the Barents, under the polar pack, then south through the Fram Strait and into the Greenland Sea, using the sea ice to the East of Greenland to mask its approach to the Atlantic. It might evade detection by UN ASW assets, but would risk detection and destruction by NATO forces. Fortna's (2003) observations are pertinent here. A maritime DMZ is as porous as any terrestrial DMZ, which can be flown over, fired across, or tunnelled under. The establishment of the BDMZ does nothing to inhibit the *defensive* operations of either side; in fact, it enhances them, enabling both sides to concentrate their search operations. However, it inhibits *offensive* operations such as NATO penetration into the Barents or Russian deployment into the Norwegian Sea. Breaking a ceasefire under these conditions abandons such advantage and risks the return to escalation and potentially the use of nuclear weapons. The BDMZ also reduces uncertainty regarding the actions and intentions

[50] Shipborne.

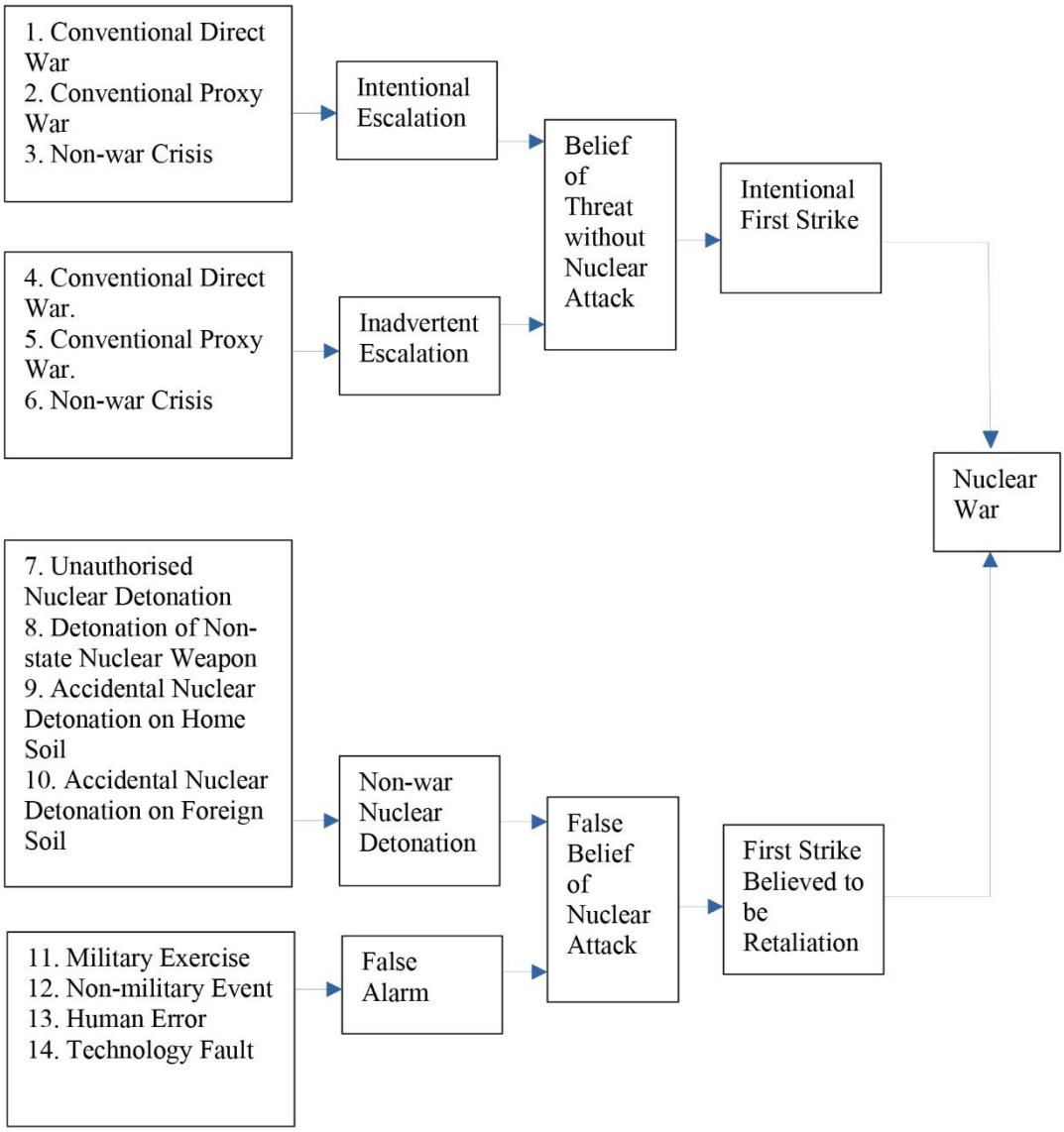
[51] For further information regarding the complex nature of Arctic ASW, Carl Hoffman, "Orion the Hunter," *Air & Space* 9, no. 5 (Dec 1994/Jan 1995): 70–79, Reports on a training mission in a maritime patrol aircraft. Similarly, Captain Thomas Le Marchand describes problems associated with Arctic ASW from the perspective of a submarine Commanding Officer (Le Marchand 1985).

of the other party; crossing the boundary is by definition a hostile act, and accidental violations are also likely to be reduced, since the forces are physically separated and under the observation of neutral assets.

Scenarios—The BDMZ in a Prospective Real-World Incident

Under what circumstances might the BDMZ be activated, and what role would it play in specific cases? Baum, de Neufville, and Barrett (2018), in a very carefully researched model of nuclear war initiation, classify causal agency into fourteen scenarios (figure 2). Their analysis is richly illustrated with historical instances of potentially influential and causal events (ibid.). Six scenarios occur when a state makes an intentional first-strike nuclear attack: three involve intentional escalation, and three follow inadvertent escalation (ibid.). Eight of the scenarios arise when a state falsely believes that a nuclear attack has already occurred and retaliates (ibid.).

Figure 2: scenarios leading to nuclear war (after Baum, de Neufville and Barrett 2018).



In reviewing the scenarios, the prospective benefits of a BDMZ agreement are evident. Baum, de Neufville, and Barrett identify four basic causal processes, which will be considered in turn:

1. Intentional escalation: where one side perceives that the other is pursuing a deliberately escalatory course, and that such behavior could lead to a nuclear exchange, activating the BDMZ brings four benefits. First, it signals the gravity with which one party views the situation, without having to embark on military action involving the discharge of weapons or the occupation of a physical part of the battlespace. Second, it indicates to

all state players on the international stage that the instigating party is open to dialogue and peaceful resolution to the crisis. Third, it forces the other side to clarify their intentions—they either honor the agreement and command their forces to behave accordingly or reveal a belligerent desire to engage in combat. Finally, it makes clear to state players and own forces an intention to maintain tight political control of nuclear weapons.

2. Inadvertent escalation: in addition to the above benefits, activating the BDMZ during a period of political tension confers confidence that military commanders on both sides will not either misinterpret or evade the instructions of the political leadership. It brings much needed time in which to make decisions as events unfold.
3. Nonwar nuclear detonation: a single nuclear detonation does not constitute a counterforce[52] strike per se. Until the cause of the event is clarified, activating the BDMZ would bring both NATO and Russia confidence that both sides intend to resolve the incident peacefully, while neither surrenders strategic advantage.
4. False alarm: if the reason for the false alarm is a military exercise that appears to be a cover for an invasion or nuclear attack, activating the BDMZ signals concern rapidly. However, monitoring system errors are likely to create a crisis with such rapidity that only strict failsafe measures and human intervention will provide appropriate management of the risk.

The Kennedy Dilemma, and the Kennedy Solution

The focus of this article has been the choice between nuclear war and political retreat that leaders face in a prospective future escalation. 1962 that dilemma was solved by President Kennedy and his advisers. The solution was not founded on simple threats, but on political

[52] A counterforce strike is one designed to eliminate an enemy's nuclear weapons. A countervalue strike is one designed to destroy an enemy's population, civil infrastructure, and economy.

discourse. While demonstrating resolve, the situation was not addressed as a zero-sum game. Moreover, without surrendering military advantage, negotiation achieved de-escalation. In exchange for the removal of Soviet missiles, President Kennedy pledged to end the "quarantine" (naval blockade) of Cuba and gave an assurance that the island would not be invaded. He was also prepared, under mutually agreed conditions of secrecy, to withdraw the obsolescent PGM-19 Jupiter medium range ballistic missiles from their bases in Turkey.[53] Thus, while preserving the political credibility of both sides, he was prepared to grant reassurance. Critically, he sought to exercise tight political control over military assets.

The BDMZ approach to Arctic de-escalation is designed to provide the same factors: demonstration of resolve, an opportunity for diplomatic exchange, the preservation of political credibility, and tight control over military forces. In 1962 escalation was halted. In a future situation, there may not be individuals with Kennedy's military and political experience in office.

Conclusions

Ultimately, the strategy proposed in this article is about maintaining proper command and control of nuclear forces under circumstances of escalating international tension in the Arctic maritime environment. Above all, in a future conflict, the concept is designed to buy time for deliberation and negotiation and to preserve the fundamental strategic priorities of both NATO and Russia, while simultaneously providing both sides with a scenario that is domestically defensible.

The Arctic is an ancient battlespace and has been cited as a potential source of conflict, due to a perception that the increased logistical availability of Arctic hydrocarbons as climate

[53] There is some doubt as to whether the Jupiter missiles in Italy formed part of the agreement. In the event, they were removed also. For an analysis of the agreement regarding the Jupiter missiles, see Jim Hershberg, "Anatomy of a Controversy: Anatoly F. Dobrynin's Meeting with Robert F. Kennedy, Saturday, 27 October 1962," *The Cold War International History Project Bulletin* 5 (Spring 1995), https://nsarchive2.gwu.edu//nsa/cuba_mis_cri/moment.htm.

change develops will lead to aggressive competition at the state level. The reality is more subtle. Melt may impede, as well as facilitate oil development, while the key controlling factor is oil price. However, in a conflict between Russia and NATO, the Arctic would become an inevitable battlespace. This is for two reasons: first, the Russian Northern Fleet is based primarily on the Kola Peninsula, and the Russians may predicate the protection of their submarine nuclear force on an Arctic "bastion" concept; second, a conflict between Russia and NATO would likely involve attempts to contain the Northern Fleet, and a contest to control the sea lanes resupplying Europe across the Atlantic could commence.

Russia does not currently possess conventional naval parity with NATO forces. A military situation could develop rapidly in which the Russian leadership considered that the "very existence of the state" was threatened; a circumstance for which current policy permits the use of nuclear weapons. Indeed, a reported recent shift in Russian military thought is to redress the shortfall with a "de-escalatory" first use strike using a nuclear weapon in a tactical role. The dilemma confronting political leadership on both sides of the conflict would be that which arose during the Cuban Missile Crisis: a choice between deploying nuclear weapons and a humiliating political retreat.

To arrest the process of escalation, it is proposed in periods of heightened tension to establish a maritime demilitarized zone isolating the bastion used by the Russians to protect their ballistic missile submarines. This would be based on the existing delimitation of search and rescue responsibilities mandated by treaty, and would prevent belligerent forces crossing, or exchanging fire across a twenty-nanometer-wide zone straddling the boundary. The DMZ could be activated by either party, but once established, could only be deactivated with the consent of both.

DMZs have a long history, principally associated with the cessation of conflict. The attraction of a DMZ as considered here is that it avoids the dilemma that arose in the Cuban

case, not only because it would arrest the process of escalation, including the use of nuclear weapons but because both belligerents could claim the measure as a political victory.

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