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Arctic 2015 and Beyond
A Strategy for U.S. Leadership in the High North

POLICY BRIEF

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Strong U.S. Arctic policy and leadership are increasingly fundamental to the United States' strategic and economic interests. Such leadership and focus in this area will be essential to underpinning U.S. initiatives on Arctic matters in multilateral forums, such as the Arctic Council (AC).[1]

If the United States wants to realize broad national interests in this region, particularly in an era of tense relations with Russia (the current pre-eminent power in the High North), it must prioritize greater resource commitments and attention to the region. The United States must accelerate its rate of investment in Arctic infrastructure, operations and legal and regulatory capacities to be able to set the terms for the coming era of expanded Arctic activity. The United States must also implement binding international agreements on such matters as search and rescue, oil spill response and polar shipping codes, among others, to attract opportunity, manage risk and help establish a solid framework for international engagement in this region in the years to come.

Rapid and unprecedented climactic shifts in the Arctic's environmental, economic, social and geopolitical landscapes[2] are signaling the dawning of a new era of focus on the region. The Arctic is poised to leave its backwater legacy behind and become a prominent player on the world's stage. Forecasting the exact moment of this transition, as with most predictions about the future, is nearly impossible.[3] However, failure of current policymakers to recognize and anticipate the approaching Arctic epoch will leave the United States playing a game of strategic and economic catch-up or worse, while other nations solidify their own interests and claims in the region.

The AC remains unquestionably the world's foremost venue for intergovernmental Arctic engagement.[4] One metric of the AC's importance on the world stage is the doubling in the number of countries applying for observer status, now held by 12 nations.[5] Starting in April 2015,[6] the United States has a rare chance to showcase its international credibility as an Arctic leader. At that time, the United States will assume a two-year chairmanship of the AC, a situation that will not recur until 2031. The United States has but a brief window of opportunity to assume responsibility for shaping international policies to advance U.S. national interests tied to far northern resources and territorial management, and improve the livelihoods of Arctic peoples.

Unfortunately, the U.S. national-level focus on Arctic issues and policy is quite modest, a factor that will undermine and limit U.S. capabilities as leader of the AC. Though this organization is not the only platform to influence Arctic policy and activity, it is an important one deserving of increased U.S. attention. Despite the recent appointment of former U.S. Coast Guard Commandant Admiral Robert J. Papp Jr. as special representative for the Arctic and a number of recently released national roadmaps and strategies,[7] the Arctic remains a policy and investment afterthought.[8]

This paper describes the enormous changes taking place in the Arctic and the benefits and opportunities the United States can realize from those changes. It also describes challenges of these changes, including those related to the establishment of a sustained, effective physical presence in the region. After analyzing U.S. policy in light of these opportunities and challenges, the paper provides five recommendations for national Arctic policy and initiatives the United States should champion as chair of the AC. If adopted, these recommendations would advance U.S. interests described in the *National Strategy for the Arctic Region* and help to ensure an Arctic that is "peaceful, stable, and free of conflict."[9]

Dawning of the Arctic Epoch: Environmental, Economic, Social and Geopolitical Change

WAKE UP AND SMELL THE MISIRAQ[10]

The Arctic has been warming since the 1960s,[11] and regional warming has accelerated significantly in the past three decades.[12] Increasingly, scientists predict the Arctic will change from ice-covered to seasonally ice-free by the 2030s, and what ice remains will be more variable in both coverage and thickness.[13]

If the United States wants to realize broad national interest in this region, particularly in an era of tense relations with Russia, it must prioritize greater resource commitments and attention to the region.

With decreased sea ice, more ships are traversing the Arctic, and opportunities are expanding for mineral extraction, commercial shipping and fishing, tourism, research and the public-private partnerships that could make such expanded activity more sustainable and better-managed. Arctic tourism doubled from 2004 to 2007, and intra- and trans-Arctic transport has risen at a similar rate,[14] with the Northern Sea Route traversed by a supertanker for the first time in 2011[15] and voyages from or through the Northeast Passage growing from near zero in 2008 to 44 in 2013.[16] Maritime transits through the Bering Strait increased 118 percent between 2008 and 2012.[17] These trends are expected to continue in the coming decades, although year-to-year data will likely show considerable variance.[18]

According to the U.S. Geological Survey, the Arctic may contain 25 percent of the world's oil and gas resources. An estimated 20 percent of this amount, the equivalent of about 85 billion barrels of oil, lies within U.S. territory.[19] The Arctic also contains an as-yet-unknown amount of non-energy mineral resources.[20] With many valuable minerals (including rare earth elements) already mined in the Arctic, on-shore and offshore exploration is expected to gradually increase in the coming years.[21] Already, the Alaskan Red Dog mine is the world's largest zinc producer.

As both Arctic tourism and business increase, Alaskan ports, airports and cities will become more important conduits for global commerce. Private, domestic and multinational companies seeking to realize these opportunities will become a driving engine of local economies and scientific communities, as well as a potential source of tax and other revenue for state and federal bureaus. With similar investment opportunities opening in non-U.S. Arctic areas, the decision on whether these companies choose to invest in the United States will be based in part on the comparative infrastructure and regulatory climate of U.S. jurisdictions.

LOCAL NEEDS, *TITANIC* II AND BORDER HOLES

Rapidly shifting environmental and economic conditions, along with the influx of permanent and transitory residents, are causing substantial changes to the cultural, economic, health and safety conditions of indigenous Arctic peoples. This change is driven in large part by the rapid and poorly understood evolution of the biology and food webs in the Arctic Ocean.[22]

Traditional subsistence economies are becoming less predictable or even untenable. Shoreline encroachment and erosion, caused by a combination of rising sea levels and larger ocean waves, are decimating buildings and infrastructure and forcing entire communities to relocate. In response to these social upheavals, indigenous people are now more active and vocal in their desire and ability to shape Arctic policymaking through information-sharing and participation in the local political processes, the Arctic Council and other venues. As Arctic markets open, the significance of U.S. Arctic safety and security policies increases proportionally. Greater ship traffic[23] and mineral exploration[24] create an increased risk of ice-trapped ships, maritime collisions and groundings and catastrophic oil spills.

Additional human and economic activity also raises the potential for volatile boundary disputes, illegal border-crossings and ecosystem disruption brought about by the inadvertent introduction of invasive species. Were, for example, a *Deepwater Horizon*-scale oil spill or a *Titanic*-scale, or larger, cruise ship disaster to occur within U.S. Arctic jurisdiction, the consequences to U.S. citizens, investments and interests could be devastating, global and long-lasting. Furthermore, the Arctic coast of Alaska is a maritime U.S. border in the same manner as the coast of California or the Gulf of Mexico, with parallel immigration, customs, trade and security considerations. The United States spends $12 billion per year on border security[25] but leaves its Alaskan border almost completely open and unregulated.

A GLOBAL FOCUS ON THE ARCTIC

With global attention shifting north, the Arctic is a fertile landscape for targeting and leveraging U.S. international interests, particularly with Russia.

A major expansion of Arctic governance — from both without and within — is the result of rising Arctic environmental, social and economic risks and opportunities. In May 2014, six non-Arctic nations (China, Italy, Japan, South Korea, Singapore and India) obtained permanent Arctic Council observer status.[26] This was the first expansion of non-Arctic nation observers since the AC was formed in 1996 (when six non-Arctic nations were granted observer status: France, Germany, the United Kingdom, Netherlands, Poland and Spain). Additionally, the European Union (EU) will likely become an official observer in the near future.[27]

Arctic Council expansion reflects the internal recognition by AC permanent members that including observers increases the council's global prestige and resources and strengthens the AC's de facto position as the international coordination body for Arctic matters. The interplay of these

internal factors with external Artic interests will continue to strengthen the relationship between international Arctic interest and activity, and Arctic global governance in the coming decades.

As Arctic importance grows, so too does Russia's importance. Russia is the dominant Arctic power, based on its extensive and sustained commitment to the expansion of land claims, port facilities, infrastructure and population, all of which go far beyond those of any other Arctic nation.[28] More than 60 percent of Arctic land area is in Russia, and over 80 percent of the Arctic's population lives in Russia.[29] Russia controls access to roughly half of the Arctic continental shelf, an area essential for Arctic research, exploration and operations. Russia also has the biggest Arctic military footprint of any nation and is expanding this footprint.[30] Additionally, as new waterways open in the Arctic, Russia will gain new access and transit opportunities to better nurture and develop its regional ambitions.

The Arctic is, for the time being, a "zone of peace" largely immune from geopolitical tensions. Nevertheless, extra-Arctic conflicts can and do impact Arctic affairs. For example, sanctions imposed by the United States and the EU on Russia's Arctic and unconventional oil production brought to a halt international cooperation on Arctic energy exploration in the Kara Sea and some international technical cooperation on unconventional energy technologies that could be used in the Russian Arctic. The sanctions will frustrate Russia's efforts to develop long-term oil assets and partner with U.S. and European companies in the Arctic in the future. Additionally, Canada boycotted an April 2014 Arctic Council meeting in Moscow in protest over Russia's aggression in Ukraine.[31]

Access Denied: Limitations of U.S. Arctic Capacity

Notwithstanding the Arctic's clear importance to U.S. national interests, the U.S. government has not dedicated significant resources to bolster its presence and economic development in the region. The United States falls short on a number of key Arctic infrastructure and regulatory issues. Though federal and state officials recognize these shortcomings, they fail to prioritize them sufficiently or dedicate funds to address them seriously. These shortcomings can be summed up under a singular theme: access.

Access through the ice: Adequate ice-breaking capabilities are fundamental to allowing long-term Arctic access for such things as scientific research, search and rescue, defense of U.S. Arctic interests, resupply of Alaska's ports and points north of the Bering Strait (for example, Nome) and other law enforcement and monitoring activities.[32] Of the three U.S. government-owned icebreakers (for use in both Arctic and Antarctic ice), *Polar Sea* is inactive; the recently repaired *Polar Star*, originally commissioned in 1976, will reach the end of its expected service life in the early 2020s; and *Healy* (a medium icebreaker) cannot be used in thick winter ice. In contrast, Russia has access to more than three dozen icebreakers[33] and is constructing what is projected to be the world's most powerful icebreaker. While many other nations (including China) are commissioning new icebreakers,[34] the United States has no active icebreaker construction, although President Barack Obama did request long-lead funding for a new icebreaker in the FY15 budget submission. Even considering that different countries have different ice-breaking requirements, no other Arctic nation has let its ice-breaking capability and capacity atrophy like the United States has done.

Access to shore: Alaska completely lacks ports north of the Bering Strait capable of harboring ships of any significant size, and ship-to-shore communications infrastructure is inadequate. As a result, helicopter, or even amphibious vehicle support, is necessary for transporting people, goods and equipment to offshore vessels — leaving critical logistics resupply and operations at the mercy of constantly changing weather and ice conditions. Dramatic seasonal weather variability has meant that piers and offshore deep water ports are similarly lacking. Likewise, on-shore roads and pipelines are insufficient to meet the demands of increasing industrial, tourist and migrant populations — particularly if significant mineral resources are to be harvested from coastal and offshore areas. Melting permafrost exacerbates the situation.

Access to maritime domain awareness[35] data: Due to shifting ice patterns, vessel captains and ice pilots must rely on real-time aviation reconnaissance, infrequent satellite imaging, marine surveys and variable-quality ice charts to navigate Arctic routes. However, even the most advanced measurements of ice thickness remain unreliable,[36] publicly available U.S. Arctic satellite imagery lags far behind the capabilities of the international community, and existing surveys and charts for many areas in the Arctic are based on grossly out-of-date 19th-century exploration surveys.

Access to those in need: Due to harsh weather and the locations of U.S. Coast Guard bases, Arctic search and rescue (SAR) operations can take hours by air and days or even weeks by sea. As Arctic ship traffic increases, infrastructure (such as available air and sea vessels, ports and airstrips) and information (for example, communications, navigation, weather, ocean and ice conditions) capabilities are insufficient to meet SAR needs.

Although the United States has done commendable work in promoting and shaping new SAR and oil spill response agreements established by the Arctic Council, work is needed to build response capacity and then to test and refine these agreements in national and international exercises. The Arctic Council's formal SAR Agreement, which went into effect in 2013, coordinates international SAR coverage and response in the Arctic and divides the Arctic like a pie into distinct areas of SAR responsibility for each state.[37] Similarly, the Arctic Council's formal agreement on marine oil pollution preparedness and response, signed in 2013, also coordinates international oil spill response operations and sets forth a pie-like division of responsibility.[38] In light of these specific, binding responsibilities, the United States has yet to illustrate it possesses realistic Arctic capacity in the event of an oil spill or major SAR incident.[39]

The United States falls short on a number of key Arctic infrastructure and regulatory issues.

Access in authorization and planning: The United States' continued failure to accede to the United Nations Convention on the Law of the Sea (UNCLOS) is a growing danger for the credibility, passage and rights of all public and private American interests in the Arctic. As the Arctic is predominantly a maritime environment, UNCLOS is of paramount importance to the region's governance. In addition to providing legal guidance on a host of issues, from navigation to fishing to piracy, UNCLOS provides

detailed internationally recognized mechanisms for claiming extended continental shelf areas (and resources contained therein), resolving disputes over contested areas and resources and granting access to continental shelf and exclusive economic zones (EEZs) that make up much of the Arctic.[40] These measures are increasingly important as Arctic sea ice melts and extraction of subsurface minerals becomes more feasible. Furthermore, Americans are left without legal recourse should Russia (or other UNCLOS member states) decide to deny U.S. researchers access to waters within their EEZs or surface/subsurface continental shelf (as has happened in the past) under UNCLOS Article 246.[41]

For investment to flourish in U.S. Arctic territory, U.S. regulations must be better attuned to the realities of private investment in this environment. Companies seeking to invest in the region demand regulatory guidance and certainty, clear communication with state and federal regulators in the Arctic and adaptation of some conventional rule-making processes to suit Arctic conditions. For example, U.S.-granted Outer Continental Shelf (OCS) leases last only 10 years, yet Arctic fossil fuel and mineral exploration requires enormous upfront capital investment and multi-decade resource commitments (perhaps 25 years before a return on investment is realized).

Access to funding: The common thread with most of the access challenges described above is lack of access to funding to provide appropriate capacity and capability. Until the White House prioritizes a focus on the Arctic, the Office of Management and Budget will likely not support and endorse the dedication of new money, or significant reallocation of existing funds, for Arctic activities. Moreover, if Congress is not asked to appropriate the needed funds for the Arctic (as expressed in the president's budget), it is not realistic to expect Congress to support this priority on its own.

Globally, investment in the Arctic could reach $100 billion over the next decade and, by one estimate, as much as $20 trillion by 2038.[42] With Arctic appropriations extremely limited going into the United States' tenure as Arctic Council chair,[43] and in an environment of permanent budget austerity, another option may be to pursue greater resources for U.S. Arctic capacity through private and international channels, outside of the U.S. government.

Arctic Nation or Nation with an Arctic State? Analyzing U.S. Credibility as an Arctic Leader

The U.S. government recognizes its "access" shortcoming and has proposed solutions, but they are not being implemented soon enough or effectively enough. The United States' greatest assets to leadership in Arctic affairs are in superior scientific research and industry technology. Yet, these assets do not of themselves offer the U.S. government credibility in its leadership on Arctic issues.

CREDIT EARNED

The United States' proposed Arctic Council (AC) agenda, if successfully implemented, is a roadmap to building U.S. Arctic credibility by leveraging many of the United States' Arctic leadership strengths and engaging other Arctic stakeholders on their major interests. Although the U.S. Department of State has yet to formally release its AC agenda, a PowerPoint released by the special representative's office provides a glimpse of the United States' draft AC plan.[44] The agenda outlines three overarching council goals during the U.S. tenure: Strengthen the council as an intergovernmental forum, introduce new long-term priorities into the council and raise Arctic and climate change awareness within the United States and across the world. Additionally, the draft agenda offers specific action plans targeting three major

thematic areas: addressing the impacts of climate change in the Arctic; encouraging stewardship of the Arctic Ocean (to include promotion of the International Maritime Organization's Polar Code); and improving economic and living conditions. Other focus areas are likely to include improving public outreach and strengthening the internal workings of the AC.

The research-focused agenda capitalizes on important contributions U.S. researchers and institutions have made as a cutting-edge scientific and private industrial presence in the Arctic. Promotion of the Polar Code through the AC furthers the considerable work U.S. representatives have already done in other forums.[45] Additionally, robust focus on environmental and local economic challenges supports the interests of most other Arctic nations and indigenous groups. By focusing on its strengths and devoting more resources to its articulated priorities, the United States has an opportunity to bolster its own Arctic credibility. The open question remains, though, whether sufficient attention and resources will be allocated to the Arctic, improving both the actual and the international perception of U.S. reliability and attention to the region.

BUILDING RELATIONSHIPS FOR THE FUTURE

Arctic-related policies and investments made in Washington must be better-integrated with growing domestic and international Arctic interests and requirements. Policymakers in the United States can better achieve Arctic-related interest by strengthening relationships on the domestic and international level and with nongovernmental stakeholders, including the private sector. Preparing for contingencies and future development in the Arctic is the joint responsibility of numerous state, federal and local organizations.[46] The United States must have an empowered senior leader and build stronger interagency relationships to synchronize Arctic-related budgets, activities and priorities and to guide agencies in cohesive and long-term execution of the various national Arctic strategies, implementation plans, resources and relationships.

Although the secretary of state appointed a U.S. special representative to the Arctic to represent the United States in international forums and with a variety of Arctic stakeholders, the office was not given formal high-level responsibility to set priorities for all of the U.S. government on Arctic issues and manage coordination and resources among agencies. Additionally, other Arctic nations designate their senior Arctic representative as an ambassador in rank. As a response to some of these concerns, members of Congress have introduced a bill to establish a U.S. ambassador at large for Arctic affairs and elevate Papp to that role.[47]

An area of specific focus where the U.S. government needs stronger relationships is with the private sector. The lack of both adequate infrastructure and regulatory certainty in U.S. Arctic areas raises costs and risks associated with commercial Arctic investment — creating a negative feedback loop of low demand and therefore low investment. As a result, investors may opt to push capital toward non-U.S. areas with greater regulatory certainty and longer time horizons, where there is perceived to be more commitment to work with the private sector to develop resources. Amid a variety of competing budgetary considerations, forging strong lines of communication and creative mechanisms to leverage ships, ice-breaking capabilities, shore infrastructure and port development will advance common goals further than either the public or private sector can do independently.

Actively leveraging coordination with international counterparts, Russia in particular, will demonstrate the seriousness of U.S. purpose in the Arctic. First, U.S. failure to accede to UNCLOS has harmed its credibility among Arctic neighbors, as well as its own interests. Ratifying UNCLOS would bolster

U.S. credibility and help to promote a governance framework for the region more harmonious and encouraging for trans-Arctic investments and development. Second, as no pan-Arctic initiative or policy can succeed without Russian support, fostering constructive and technical bilateral engagement on Arctic issues is profoundly important for the United States and the entire region.

Fortunately, Russian and U.S. officials still enjoy a positive Arctic working relationship bolstered by keen awareness of common interests and necessity in a harsh environment with limited resources. Notwithstanding tensions elsewhere, there is opportunity for the United States to engage Russia on technical and operational issues in the Arctic. Effective engagement would serve as a risk management measure for human or environmental disaster in the Arctic, maintain important and increasingly rare lines of communication between the countries and prevent misunderstandings that might otherwise lead to unnecessary, costly and dangerous escalation of tensions.

Recommendations

Now is the time for U.S. policymakers to expand and institutionalize a steady, long-term focus on the Arctic that recognizes the region for the economic and strategic challenges and opportunities it presents today and tomorrow. The United States must commit to a reliable, sustained and funded policy. As the Arctic spotlight turns toward the United States, its national Arctic policy will be inextricably linked to its AC agenda; shortcomings in one will degrade effectiveness in the other.

The following five recommendations encompass both U.S. national Arctic policy as well as actions to take in leading the council. Taken as a whole, these recommendations will maximize the impact of the upcoming U.S. AC chairmanship, demonstrate the United States to be a serious and sustained Arctic partner and further U.S. interests and strategic objectives.

ELEVATE U.S. ARCTIC COMMITMENTS AND ENGAGEMENT - TIME, ATTENTION, MONEY AND LEADERSHIP

- Expand government resources dedicated to the Arctic (time and attention of senior staff as well as funding) to signal the United States' commitment to Arctic issues, forge high-level partnerships and improve deficient infrastructure. This will also help clarify for the American public the significance and potential of responsible Arctic development for all U.S. citizens.

- Foster stronger U.S. federal government interagency coordination on Arctic issues, particularly on operations and regulations. The president should issue an executive order to empower a federal government lead Arctic official, reporting directly to the White House, to manage and coordinate the Arctic policy of various government agencies and budget submissions for Arctic-related resources. In coordination with the secretary of state, the president should also elevate the Arctic special representative to the rank of ambassador. These steps will help to harmonize Arctic policy execution among the numerous federal agencies with Arctic-related responsibilities and signal a serious commitment on Arctic issues to international counterparts.

- Implement a realistic and funded plan to expand the icebreaker fleet to build credibility, establish capability in all manner of Arctic maritime operations (search and rescue, oil spill cleanup, research, access to and from ports and platforms, commercial escort, etc.) and enable the United States to be a responsible Arctic partner.

- Assign the U.S. Navy the lead Arctic role within the U.S. Department of Defense. The Navy has demonstrated for the past five years its sustained interest in the region and is the component of the Defense Department that naturally works most closely with the U.S. Coast Guard, often procuring resources for it. The Navy, along with Coast Guard and NOAA officials, should lead the broader U.S. government maritime presence in the Arctic.

BUILD FOUNDATIONS FOR SUSTAINABLE, RESPONSIBLE ECONOMIC EXPANSION

- Expand infrastructure, particularly temporary and shore capacity equipment (such as ports, communications, refueling stations, vehicles, roads, floating platforms, undersea and aerial autonomous vehicles) in the Arctic. This will raise the capacity to support research, commerce and indigenous people's development with services such as search and rescue operations and oil spill preparedness and response, drastically reducing the chances of catastrophe and enabling safer maritime operations. Such capacity will also enable transport of people, goods and equipment to offshore vessels, even in harsh weather.

- Direct the Arctic Council to expand research and engagement on Arctic environmental effects (black carbon, methane, etc.) in an effort to maintain Arctic ecological integrity in the face of increasing industry activity, inhibit the dangers to local and global ecosystems and economies caused by rapidly melting ice and mitigate the impacts of climate change.

- Build technical, public-private partnerships for developing shared infrastructure, communications, satellites, weather and ice prediction and maritime domain awareness. This will allow some critical Arctic expenses to be underwritten while retaining high-level executive and legislative commitment. A pay-as-you-go use structure, similar to the Panama Canal or International Space Station, that recovers capital cost and maintenance will reduce the burden on U.S. taxpayers and help align resources with the most urgent demands. Committing to and constructing a deep water port north of the Bering Strait under a public-private partnership should be a particular priority.

ENSURE SAFETY AND SECURITY OF ARCTIC OCEANS AND BORDERS

- Implement traffic separation schemes to prevent maritime collisions and promote standardization of Arctic maritime regulation.

- Procure, deploy and lead an international effort to ensure adequate monitoring and predictions of changing weather, ocean and ice conditions. These observations would serve a variety of Arctic stakeholders, supporting climate monitoring and navigational data activities, as well as constituencies pursuing economic investment and military and paramilitary operations.

- Initiate and lead an international partnership of nations to create an organization similar to the European Centre for Medium-Range Weather Forecasts (ECMWF), but focused on Arctic weather, ocean and ice predictions. ECMWF, in the course of 20 years, has established itself as the world's premier global weather forecasting organization through sustained adequate resourcing by its member nations, astute management and continual focus on a well-defined mission. This organizational and technical success should be replicated for the Arctic.

- Partner with, advocate for and help fund the

international "Polar Prediction Program"[48] and commit to the success of the "Year of Polar Prediction"[49] scheduled to take place in the Arctic from mid-2017 to mid-2019. These actions will improve polar prediction capabilities and foster constructive relationships in the region.

- Elevate border security to reduce the rising possibility of illegal border entry through Alaska as Arctic traffic increases.

DEVELOP BROAD COOPERATION WITH RUSSIA ON ARCTIC RESOURCE USE

- Recognize and leverage Russia as the current pre-eminent Arctic power. Strong, technical working relationships with Russia are essential not only to maintain the Arctic as a "zone of peace," but also to facilitate maritime access and the sharing of financial, human and technological resources. The Arctic Council is an opportune venue to hold Russia accountable for commitments to Arctic development and to ensure that the Arctic develops consistent with shared interests.

- Actively coordinate on specific policy prerogatives, such as maritime traffic management, data-sharing, environmental protection, oil spill response, search and rescue activities and border and customs affairs, to leverage the strong technical and infrastructural capabilities that Russia has and the United States does not. This coordination should occur through various international forums, including and beyond the Arctic Council, and leverage Coast Guard and marine scientific and industry communities.

FORGE LONG-TERM PARTNERSHIPS AND NEW COORDINATING MECHANISMS

- Establish a sustained public-private dialogue bringing together government and industry to discuss stakeholder priorities and responsible resource management in the Arctic and enhance shared commitment, activity and leadership in the region. Such a dialogue will be particularly important in the energy and minerals sphere, where operators have a keen and immediate interest in investment, leasing and operations. As with Russia, private industry has expertise and resources to share with the U.S. government in the Arctic domain — and industry has needs that only the U.S. government can fulfill.

- Work with public, private and indigenous Alaskan stakeholders to integrate and leverage that state's assets and capacity in order to support Arctic Alaskan economic development in a broad and sustainable manner. Local and native peoples have not only the most legitimate long-term interests in the Arctic, but also expertise that cannot be found elsewhere.

- Commit to Arctic-related international agreements (notably, UNCLOS) and build international partnerships on data-sharing. U.S. accession to UNCLOS is fundamental for improving American international credibility, staking claims to resources on the Arctic extended continental shelf, resolving disputes over contested areas and resources and gaining consistent and predictable access to exclusive economic zones. Heightened data-sharing partnerships allow existing technologies to be better distributed for increased safety, efficiency and coordination among Arctic stakeholders.

- Consider a partnership with the Baltic nations that would enable the United States to use Baltic waters as a test for Arctic infrastructure, ship design and concepts of operations. The Baltic Sea annually freezes in the early winter and remains frozen until spring, with ice

thicknesses approaching 1 meter. While not a perfect analogue to a future Arctic Ocean, much could be learned in a winter-time Baltic operating environment without having to endure or pay for the costs of coping with extremely long distances and sparse infrastructure that characterize today's Arctic. Such a partnership would also enhance Arctic dialogue and cooperation with Sweden, Finland, Russia and other interested countries.

Conclusion

In 2015, the United States will take its two-year turn as chair of the Arctic Council — an opportunity that will not arise again until 2031. As the Arctic's environmental, economic, social and geopolitical importance grows exponentially, the need for a strong U.S. national Arctic policy cannot be overstated. This national policy must symbiotically co-exist with a credible Arctic Council action plan. Prompt implementation of the aforementioned recommendations will spur investment and interest in the Arctic, improve U.S. credibility as a global leader in Arctic affairs and inform and shape the nation's Arctic ethos, policy and investments for decades to come.

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43. See, for example, U.S. Senate S 2444, U.S. House HR 4186, and U.S. House HR 4870.

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45. Commendable U.S. work within the International Maritime Organization (IMO) developing and promulgating a "Polar Code" will facilitate Arctic maritime navigation safety and other shipping. The Polar Code is expected to consist of a binding international code of safety for ships operating in polar waters, covering the full range of relevant design, construction, equipment, operational, training, SAR and environmental protection matters. It will likely be finalized in 2015 and could enter into force as early as January 2017. With the Polar Code, the United States is taking a major step forward in improving the safety of all ships traversing the North Pole. IMO, "Shipping in polar waters: Development of an international code of safety for ships operating in polar waters (Polar Code)," imo.org, http://www.imo.org/MediaCentre/HotTopics/polar/Pages/default.aspx.

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