Arctic Politics in an Era of Global Change

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Over the last five years, the Arctic has moved to center stage in the thinking of diplomats based in national capitals and corporate executives located in commercial centers. Driven by the impacts of climate change—such as the collapse of sea ice in the Arctic Basin—and the forces of globalization—such as the actions of those eager to engage in commercial shipping and the development of energy resources—this region has become a focus of attention not only among policy makers operating in the Arctic states themselves but also among their counterparts located in such widely separated places as Beijing, Berlin, and Brasilia. As *The Economist* notes in a March 2012 article on new currents in Arctic politics, the Arctic "was once a backwater, both bureaucratically and literally. Not any more."[1] The article goes on to quote Gustaf Lind, the Swedish diplomat responsible for managing the Arctic Council during Sweden's chairmanship, as saying that "the Arctic is hot," a condition that highlights the importance of the efforts of Lind and others to sort out the roles that the European Union and major non-Arctic states will be allowed to play in deliberations regarding the role of the Arctic in world affairs.[2]

What impacts will these developments have on the well being of both the Arctic's human inhabitants and the region's sensitive ecosystems? Will developments in the Arctic have global consequences? More specifically, what steps are needed to ensure that the Arctic remains a zone of peace and to strengthen the resilience of the region's socioecological systems? This article addresses these questions in three steps. The first section examines the policy agenda of what

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many regard as the "new" Arctic, focusing both on shifting priorities and the framing issues now making their way to the top of the Arctic agenda.[3] The next section turns to an appraisal of the implications of such agenda shifts for efforts to sustain and enhance international cooperation in the Arctic. It pays particular attention to the role of the Arctic Council, the principal forum that has emerged during the last two decades for the promotion of cooperation in the region. The concluding section identifies and comments on several concrete policy steps that are both politically feasible and likely to improve the prospects for cooperative approaches to Arctic issues in the coming years.

Shifting Priorities: The New Arctic Agenda

Policy agendas in all settings are both crowded and fluid. Numerous actors engage in strategic efforts to advance their own interests by influencing the ways in which major issues are framed for consideration in policy processes and by seeking to push the issues they most value to the top of the agenda. Still, it is possible to discern broad patterns of change and major points of inflection in policy agendas in most settings.

Prior to the late 1980s, the core issues of the Cold War dominated the Arctic agenda.[4] The Arctic was divided into two armed camps, with the Soviet Union occupying nearly half the region on one side and the remaining Arctic coastal states—Canada, Denmark, Norway, and the United States—allied with each other as NATO members on the other side.[5] Classical security issues occupied center stage in Arctic politics. The region was heavily militarized. The Arctic Basin served as a prominent theater of operations for nuclear-powered submarines and manned bombers carrying cruise missiles. Arctic territories offered prime locations for the deployment of increasingly sophisticated early-warning systems.

The collapse of the Soviet Union led to a sharp reorientation of the Arctic agenda, separating the region from global concerns and generating a variety of initiatives aimed at fostering regional cooperation among the eight Arctic states—the five Nordic states plus Canada, Russia, and the United States. Often traced back to President Gorbachev's "Arctic zone of peace" speech in October 1987, this new era ushered in the creation of the International Arctic Science Committee (1990), the launching of the Arctic Environmental Protection Strategy (1991), and the establishment of the Arctic Council (1996).[6] The emergence of subregional and subnational arrangements such as the Barents Euro–Arctic Region (1993) and the Northern Forum (1991) reinforced the sense of the

Arctic as a more or less self-contained region with a distinct policy agenda. The result was a conscious effort to focus on matters of environmental protection, the health and welfare of the region's permanent residents, and increasingly the broader concerns of maintaining resilient socioecological systems indicating a clear preference for avoiding issues related to military security and the deployment of armed forces.[7]

The center of gravity for the Arctic policy agenda has shifted again in the wake of the collapse of sea ice in the Arctic Basin in 2007 and the resulting rise in expectations—warranted or unwarranted—regarding the accessibility of globally significant shipping routes and valuable natural resources in the region.[8] Once again, the Arctic has become an area of interest to various outside actors, but this time the driving forces are economic and commercial factors rather than the imperatives of national security. Four themes capture the essential features of the new Arctic policy agenda.

The Arctic has become a focus of global attention. The recession of sea ice in the Arctic Basin has fueled worldwide interest in opening commercial shipping lanes in the Arctic and exploiting reserves of oil and gas that are becoming increasingly accessible. Enhanced prospects for ship-based tourism and industrial fishing have come into focus as well. Future developments in this realm are uncertain. There are many hurdles to be overcome before commercial shipping occurs on a globally significant scale.[9] Recoverable reserves of oil and gas in the Arctic may prove disappointing.[10] In any case, Arctic oil and gas will always be expensive to produce and deliver to markets, which makes the attractiveness of these resources highly sensitive to world market prices. Nonetheless, there is intense interest in the prospects for commercial shipping and resource development in the Arctic. The drivers of this development are global economic forces. The security issues of the Cold War era are, for the most part, a thing of the past. This development has brought the Arctic to the attention of major powers around the world, including China, India, and the European Union—attracted by the region's natural resources—and Korea, Japan, and Singapore—interested in the prospects for commercial shipping in the region. The Arctic policy agenda for the foreseeable future will focus on such global concerns, extending beyond the more limited regional concerns on the region's policy agenda since the collapse of the Soviet Union.

Arctic Ocean issues have taken center stage. The issues now rising to the top of the Arctic policy agenda signify a reorientation away from terrestrial issues and toward marine issues. The recent explosion of interest in the Arctic is linked to

the prospects for developing commercial shipping and exploiting large offshore reserves of oil and gas in the region as well as activities involving fishing and ship-based tourism. It is not surprising under the circumstances that policy makers have devoted increasing attention to matters like the preparation of the Arctic Council's Arctic Marine Shipping Assessment (AMSA 2009), the negotiation of an Arctic search and rescue agreement (Arctic Council 2011), and the ongoing effort to reach agreement on the terms of a legally binding Polar Code covering the design, construction, and operation of ships plying Arctic waters.[11]

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There is nothing inherently wrong with this reorientation of the Arctic policy agenda. But the rise of these marine issues does tend to deflect attention previously devoted to matters such as securing the health and well-being of the Arctic's permanent residents, dealing with the impacts of contaminants—such as persistent organic pollutants and discarded nuclear reactors—and finding ways to enhance the sustainability of the small and often isolated communities of the circumpolar Arctic. It also highlights the role of the five Arctic coastal states (the A5) in contrast to the full membership of the Arctic Council (the A8). Among other things, this development could dilute the influence of the indigenous peoples' organizations that have acquired a prominent role in the Arctic Council as Permanent Participants.

Managed development is overshadowing sustainable development. Corporate leaders concerned with activities such as offshore oil and gas development and the future of commercial shipping in the region are not insensitive to matters of environmental protection. They know that the Arctic is an environmentally sensitive region and that extra precaution is needed to avoid environmental disasters under the harsh conditions prevailing in the region. On the other hand, there is no escaping the fact that the rising pressure to develop the Arctic's resources is driven by global economic imperatives instead of a quest for socioecological resilience within the Arctic itself. The corporations drilling for oil in the Beaufort and Chukchi Seas and in the coastal waters around Greenland are prepared to accept relatively strict regulations. Much the same is true of German, Japanese, Korean, and Norwegian shipping companies desiring to inaugurate regular commercial operations in the Northern Sea Route. These actors envision a form of managed

development driven by the economic needs of the advanced industrial societies of the north and newly industrializing societies of the south. This perspective takes precedence over an effort to reorient human–environment relations in a manner sensitive to the idea of the triple bottom line—adding environmental and social concerns to economic performance as criteria for choosing among available options—associated with sustainable development. Furthermore, policy makers and corporate decision makers dealing with offshore oil and gas development and commercial shipping are, for the most part, located far outside the Arctic. They lack both deep knowledge of the conditions prevailing in the Arctic and a strong attachment to the goal of achieving socioecological resilience in the region. In terms of policy, this means that we are witnessing a shift from a focus on Arctic-specific issues to an emphasis on issues of interest to global players—such as shippers and energy companies—that simply happen to involve the Arctic. The current buzz regarding the Arctic could evaporate quickly if there is a shift in the attention of energy companies or if new shipping routes open up in other areas that seem more attractive than the Arctic routes.[12]

Arctic issues have become matters of high politics. Hard-nosed observers claim that we are witnessing a remilitarization of the Arctic and that "armed clashes" may occur in the region sooner rather than later.[13] Both the logic of this argument and the evidence supporting it are flimsy. Although proposals to turn the Arctic into a nuclear weapons–free zone are not likely to gain traction in the foreseeable future, the region is remarkably free of serious international conflicts of the sort likely to precipitate armed clashes. There is no reason to expect that matters relating to military security will rise to the top of the Arctic agenda soon. In fact, most observers have commented on the willingness of the Arctic states to address contentious issues—such as the delimitation of coastal state jurisdiction over the prolongation of the seabed beyond the limits of Exclusive Economic Zones—in a peaceful manner. Nonetheless, the integration of the Arctic into the global economy as a resource frontier and a locus for commercial shipping has brought the region to the attention of great powers on a global scale. China has demonstrated a clear desire to acquire a voice in Arctic affairs.[14] The European Union has taken steps to devise an Arctic policy.[15] Other major players, including not only Japan and Korea but also Brazil and India, have begun to follow Arctic affairs with interest. As a result, the Arctic is now being drawn into the global system of high politics. Arctic issues, such as the exploitation of oil and gas reserves in the region's offshore areas, will be influenced by both the economics and the politics of global energy markets. Great power rivalries,

often driven by matters that have little or nothing to do with the Arctic, will manifest themselves in efforts to address Arctic issues, including the delimitation of coastal state jurisdiction over the seabed and the provisions of the proposed Polar Code designed to regulate Arctic shipping. None of this precludes the maintenance or even the enhancement of the Arctic as a zone of peace. It does mean, however, that the fate of such arrangements will often be affected by global developments—such as relations between China and the United States—that have little to do with the Arctic as such.

These shifts in the Arctic agenda will not drive from the region's policy agenda issues such as the health and well-being of the Arctic's permanent residents or the sustainability of the mixed economies of widely dispersed Arctic communities. Policy agendas often contain a wide range of discrete issues. Nonetheless, these large-scale developments are reordering the Arctic agenda and bringing new players into the game. A cursory examination of the explosion of newspaper articles and the flood of popular books dealing with the Arctic is sufficient to make this clear.[16] Such publications focus almost inevitably on topics such as the race to exploit the Arctic's natural resources, real or imagined jurisdictional conflicts among the Arctic states, and prospects that the resulting competition could trigger armed clashes in the region. Whether or not these analyses are well founded is somewhat beside the point. The fact is that they are byproducts of a marked shift in perceptions regarding the content of the Arctic policy agenda and that they cannot be ignored in efforts to maintain the Arctic as a zone of peace and to enhance socioecological resilience in the region.

Arctic Governance: Implications for International Cooperation

How will the emergence of a new Arctic policy agenda affect efforts to maintain and enhance the cooperative arrangements that have evolved in the region during the last two decades? Can existing arrangements like the Arctic Council adjust to changing circumstances without a loss of effectiveness? Will new arrangements emerge that are compatible with existing arrangements? While shifts in the region's policy agenda will present a serious challenge to the existing political order of the Arctic, there is no reason to conclude that this will lead either to a breakdown of the current order or to the emergence of a "Wild West" condition conducive to escalating conflicts or even armed clashes.[17]

Internal challenges. Post-2007 developments in the Arctic are challenging from the perspective of the Arctic Council, an entity that was created during the 1990s

as a relatively weak and informal arrangement but that has since developed into a surprisingly effective body focusing on matters of environmental protection and sustainable development.[18] Some of the resulting challenges are internal in nature. The five Arctic coastal states (the A5), for example, have demonstrated a marked and in some ways understandable propensity to address the new Arctic policy agenda among themselves rather than within the forum provided by the Arctic Council. Emerging issues direct attention to the Arctic Ocean, the domain of the A5. These issues are enmeshed increasingly in high politics, a fact that has led some to call for cooperation among Canada, Russia, and the United States (the A3) to ensure orderly development in the central Arctic.[19] The Arctic Council (AC) retains its status as the principal international forum for addressing Arctic issues. Under the terms of the 1996 Ottawa Declaration, the council's founding document, however, the AC is barred from considering matters of military security. It lacks the authority to take the lead in forming regulatory regimes designed to ensure that activities like oil and gas development, commercial shipping, and ship-based tourism develop in a manner that is orderly and responsive to demands for environmental protection in an ecologically and socioculturally sensitive region.

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The A5 states maintain that they will act responsibly in addressing Arctic Ocean issues, basing their actions on the law of the sea as codified in the UN Convention on the Law of the Sea, acting in good faith to sort out jurisdictional issues, and taking all necessary steps to ensure that resource development and shipping do not prove destructive.[20] Obvious dangers lurk in this way of thinking. What is the appropriate division of labor between the A5 and the Arctic Council with regard to large-scale development in the central Arctic and the environmental concerns associated with such development? Is there a need for a mechanism to ensure effective consultation between the A5 and the other members of the AC—Finland, Iceland, and Sweden?[21] What are the consequences of these developments for the AC's Permanent Participants and the interests of the Arctic's indigenous peoples more generally? Currently, the Arctic states are making a concerted effort to address these questions in a constructive manner, emphasizing the role of the council. In 2011, for example, the members of the AC signed a legally binding agreement on search and rescue in the Arctic,

launched a new initiative on the regulation of oil and gas development, took steps to apply the concept of ecosystem-based management to the region, and agreed to provide the council with a permanent secretariat to support its core activities.[22] These are all constructive steps that bode well for the maintenance of region-wide cooperation in the Arctic. But they do not eliminate the sources of tensions between the A8 and the A5, much less an even smaller A3.

External pressures. These internal dynamics are not the only challenge that the emergence of the new Arctic policy agenda poses to Arctic governance. An important aspect of this situation is growing interest in Arctic issues on the part of major powers that are not Arctic states in geographical terms but are hard to ignore when it comes to sustaining cooperation and ensuring that the Arctic remains a zone of peace and a resilient region in socioecological terms. China and the EU have been particularly active in asserting Arctic interests and taking steps designed to communicate to the Arctic states their real and growing interest in Arctic affairs. Others, including Brazil, India, Korea, Japan, and Singapore, are beginning to pay attention to the Arctic and are likely to weigh in with increasing force given the contents of the new Arctic policy agenda.[23]

What is to be done about this development? It will not do for the A8, the A5, or even the A3 to ignore the interests of outside actors, hoping that they can go on dealing with the Arctic as a somewhat self-contained region in which matters of policy are handled by the Arctic states alone. The idea that the A8 would welcome non-Arctic states as members of the Arctic Council, however, is a political nonstarter. For their part, the A5 have acted precisely to assert their own authority in the region and, in the process, to communicate to the outside world the message that the Arctic coastal states will not welcome the intervention of outsiders in Arctic affairs. For the moment, the way forward is surely to emphasize the role of the Arctic Council—including Finland, Iceland, Sweden, and the A5—as the principal "high level forum" for the consideration of Arctic issues. It would also help to develop an informal but generally recognized mechanism to provide major non-Arctic states with a politically acceptable way to ensure that their concerns are given suitable attention in addressing matters of Arctic policy.[24] There is no guarantee that this strategy will be successful. The A5 may

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drag their feet in recognizing the primacy of the council as the appropriate forum for addressing most Arctic issues. Key non-Arctic states and bodies—such as China and the EU—may find it increasingly unacceptable to be denied a more formal opportunity to weigh in regarding the treatment of Arctic policy issues. Still, this strategy almost surely offers the best prospect for maintaining cooperation regarding Arctic issues during the next five to ten years. It should be embraced and pursued vigorously by all parties concerned.

An Arctic regime complex. Even if this approach does prove effective, it is apparent that the Arctic Council cannot handle the full range of issues now making their way toward the top of the Arctic agenda by itself. Established under the terms of the 1996 Ottawa Declaration, an instrument that is not legally binding, the council is characterized as a "high level forum for promoting cooperation, coordination and interaction among the Arctic states, with the involvement of the Arctic indigenous communities and other Arctic inhabitants on common Arctic issues."[25] It lacks the authority to make formal decisions and the capacity to administer agreements adopted in other settings. Given these limitations, the AC has performed remarkably well, carving out a significant role in generating knowledge about Arctic issues, framing these issues in ways that influence how they are handled in other settings, and drawing attention to the urgency of addressing Arctic concerns sooner rather than later. Despite recent steps intended to strengthen the capacity of the council—such as the establishment of a permanent secretariat—no one expects the AC to tackle many of the issues on the new Arctic policy agenda.

What is more likely to work is a strategy featuring the development of a regime complex for the Arctic or, in other words, a set of distinct elements that deal with a range of related issues in a nonhierarchical but interlocking fashion. In such a complex, the AC would be able to play a significant role in coordinating the various elements and nudging key players in each element toward arrangements compatible with the principles and practices of ecosystem-based management (EBM), which focuses on the integrity of socioecological systems rather than the conservation of individual species.[26] There is already movement in this direction:

- The Polar Code, intended to take the form of a legally binding agreement governing commercial shipping in the Arctic (and the Antarctic), is undergoing negotiation under the auspices of the International Maritime Organization, a UN specialized agency whose membership includes all the key players.

- The International Arctic Science Committee (IASC), which coordinates scientific research on the Arctic, is open to all states, Arctic or non-Arctic, with a serious interest in membership. [27]
- Some of the concerns of the Arctic's indigenous peoples are addressed in the provisions of the International Labor Organization's Convention on Indigenous and Tribal Peoples in Independent Countries; the ILO could serve as a venue for tackling some of the newly emerging concerns of the Arctic's indigenous peoples.[28]
- The Northeast Atlantic Fisheries Commission, whose membership includes most of the European states, has jurisdiction over some of the fisheries of the Norwegian and Barents Seas beyond the limits of coastal state jurisdiction.[29]
- Interest is growing in the development of an association of tour operators modeled on the existing International Association of Antarctic Tour Operators to devise and administer a regulatory system or code of conduct governing ship-based tourism in the Arctic.

To tie these elements together into a coherent governance system for the Arctic, there is a need for a mechanism that can monitor and assess on an ongoing basis the extent to which the activities of the various elements are producing results compatible with the overall goal of maintaining both peace and socioecological resilience in the Arctic. This must be accompanied by an ability to exert pressure on those responsible for the individual elements to adapt or adjust their activities in a manner that brings them in line with the requirements of peace and socioecological resilience. The AC in its current form lacks sufficient authority and resources to play this role effectively. Strengthening the council with an eye toward performing this role, however, is not a far-fetched proposition in the political climate now prevailing in the Arctic. Handled properly, such a move could serve the interests of many, without running afoul of deep-rooted opposition from members of the A8, the A5, or the set of non-Arctic states with legitimate interests in the future of the Arctic.

Next Steps

How can those concerned with the future of the Arctic ensure that the region remains both peaceful and resilient in socioecological terms without thwarting economic initiatives coming into focus as a result of the increasing accessibility of the Arctic in the wake of the collapse of sea ice in the

Arctic Basin? There is no simple answer to this question. Yet any strategy designed to meet this challenge will need to include at least three components:

- A reaffirmation of the role of the Arctic Council as the primary venue for the consideration of overall Arctic concerns coupled with an effort to strengthen the council to play this role.
- The development of a mutually agreeable mechanism to allow the voices of key non-Arctic states to be heard in a meaningful way in dealing with the new Arctic policy agenda.
- A vigorous effort to make progress in devising key elements of an interlocking complex of governance arrangements for the region.

Strengthening the Arctic Council. To begin, it would be helpful for all interested parties to reaffirm their commitment to the proposition that the Arctic Council is the principal venue for considering matters of international cooperation in the Arctic. This applies at least as much to the A5 as to major non-Arctic players like China and the European Union. There is no implication here that the council can or will become a powerful regulatory body with jurisdiction over all Arctic matters and authority to make and implement decisions about a wide range of issues. Such a role is neither feasible nor desirable. It would help, however, to put the council on a firmer footing with regard to its existing role in assessing trends and framing issues and its emerging role as a coordinator of the Arctic regime complex.[30] The decisions taken at the 2011 AC ministerial meeting in Nuuk—including the establishment of a permanent secretariat, the move to initiate an Arctic Resilience Report and a project on Adaptation Actions for a Changing Arctic, and the embrace of EBM as an overarching perspective for the work of the council—all constitute steps in the right direction. Yet further steps are needed to strengthen the Arctic Council. The most important ones are the establishment of a secure (though modest) revenue stream to support the basic operations of the council and the articulation of a more operational understanding of the requirements of EBM as it applies to conditions arising in the Arctic. Sweden as the current chair of the council is making an effort to address some of these concerns.

Listening to non-Arctic voices. It is essential to devise a suitable mechanism that allows the voices of major non-Arctic states and other relevant bodies such as the EU to be heard in addressing Arctic issues. This is needed in order to be responsive to the legitimate interests of states like China, Japan, and Korea in

the future of commercial shipping in the Arctic and of actors like the EU in the sustainable development of the Arctic's natural resources. It is also a necessity if the governance system for the Arctic is to prove effective in the face of ongoing geopolitical and geoeconomic developments that make it impossible to ignore the concerns of China and others, including Brazil, India, Japan, and Korea. One obvious option—the use of the mechanism of permanent observer status in the AC—will not suffice to meet this challenge. The constraints imposed on observers by the council's rules of procedure make this role inadequate to fulfill the legitimate expectations of the non-Arctic states.[31] In any case, the issue of permanent observership in the council has become highly politicized. Under the circumstances, there is a need for innovation in this realm. Experience in other areas may prove useful in this regard. Examples like the informal North Sea Conferences within the formal system established under the OSPAR Convention, the activities of the World Economic Forum, and even the relationship between the Standing Committee of Parliamentarians of the Arctic Region and the Arctic Council itself come to mind. There is a need now to devise a new arrangement to meet this challenge in the Arctic sooner rather than later.[32]

Integrating the Arctic regime complex. Finally, it will be important not only to forge ahead with the individual components of the regime complex for the Arctic but also to find ways to strengthen the integration of the resultant governance system. First and arguably foremost is the need to reach agreement on the provisions of the Polar Code. Negotiating the terms of a major legally binding agreement is never easy, but there is a need to reach closure and bring this arrangement on stream at the operational level as a matter of priority.[33] Another area in need of improvement at this stage is the relationship between the policy community represented in the Arctic Council and the science community represented in the International Arctic Science Committee.[34] The emerging project on Arctic Adaptations to Climate Change could become a useful vehicle for taking steps to strengthen this relationship in more general terms. Other steps that should follow include strengthening the capacity of indigenous peoples' organizations to participate effectively in Arctic governance, adopting a regulatory regime covering the activities of Arctic tour operators, and establishing appropriate regional fisheries management organizations, especially in the western Arctic. Each of these arrangements must be capable of operating effectively on its own, including all the relevant actors and wielding the authority needed to address key issues effectively. Taken together, however, they must add up to an interlocking set of arrangements coordinated and facilitated with the assistance of the

Arctic Council that can maintain the Arctic as a zone of peace and enhance the resilience of regional socioecological systems well into the future.

Notes

1. "Cosy Amid the Thaw: The Arctic Council Works Well—Because of the Region's Riches," *Economist,* March 24, 2012, www.economist.com/node/21551029/print.

2. Ibid.

3. Alun Anderson, *After the Ice: Life, Death, and Geopolitics in the New Arctic* (New York: Smithsonian Books, 2009).

4.Gail Osherenko and Oran R. Young, *The Age of the Arctic: Hot Conflicts and Cold Realities* (Cambridge: Cambridge University Press, 1989).

5. Iceland is a member of NATO but not generally regarded as an Arctic coastal state.

6. Mikhail Gorbachev, "The Speech in Murmansk at the Ceremonial Meeting on the Occasion of the Presentation of the Order of Lenin and the Gold Star Medal to the City of Murmansk" (speech, Murmansk, October 1, 1987).

7. The 1996 Ottawa Declaration on the Establishment of the Arctic Council, for example, states, "The Arctic Council should not deal with matters related to military security." See: "Document Archive," Arctic Council Chairmanship Secretariat, http://www.arctic-council.org/index.php/en/about/documents/file/13-ottawa-declaration.

8. Anderson, *After the Ice: Life, Death, and Geopolitics in the New Arctic* (New York: Smithsonian Books, 2009); Roger Howard, *The Arctic Gold Rush: the New Race for Tomorrow's Natural Resources* (London and New York: Continuum, 2009); Richard Sale and Eugene Potapov, *The Scramble for the Arctic: Ownership, Exploitation and Conflict in the Far North* (London: Frances Lincoln, 2010).

9. "Arctic Marine Shipping Assessment," Arctic Council (2009); see: "Oceans," Arctic Council Chairmanship Secretariat, http://www.arctic-council.org/index.php/en/oceans; David Fairhall, *Cold Front: Conflict Ahead in Arctic Waters* (London and New York: I.B. Tauris, 2010).

10. United States Geological Survey 2008, "Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle," *USGS Fact Sheet 2008-3049* (2008), http://pubs.usgs.gov/fs/2008/3049; Donald L. Gautier et al., "Assessment of Undiscovered Oil and Gas in the Arctic," *Science* 234 (2009): 1175–79. The U.S. Geological Survey projects that the Arctic may contain up to 13 percent of the world's supply of undiscovered oil, 30 percent of the undiscovered natural gas, and 20 percent of the undiscovered natural gas liquids. It is important to note, however, that these projections are not based on extensive fieldwork, much less exploratory drilling.

11. Arctic Marine Shipping Assessment; Agreement on Cooperation in Aeronautical and Maritime Search and Rescue in the Arctic, Arctic Council, May 12, 2012, text available at www.arctic-council.org.

12. The shale gas revolution, for example, is already casting doubt on the commercial viability of developing some Arctic gas fields. For an account exploring both opportunities and risks associated with Arctic development from a business perspective, see: Charles Emmerson with Glada Lahn, "Arctic Opening: Opportunity and Risk in the High North," a report prepared for Lloyd's and Chatham House, London, http://lloyds.com/News-and-insight/Risk-insight/Reports/Arctic-Report-2012.

13. Scott Borgerson, "Arctic Meltdown: The Economic and Security Implications of Climate Change," *Foreign Affairs* 87: 63–77; Rob Huebert, et al., "Climate Change and International Security: The Arctic as a Bellwether," Center for Climate and Energy Solutions (2012).

14. Linda Jakobson, "China Prepares for an Ice-Free Arctic," *SIPRI Insights on Peace and Security* (2010).

15. Adele Airoldi, *The European Union and the Arctic: Policies and Actions* (Copenhagen: Nordic Council of Ministers, 2009).

16. For a review of a collection of recent popular books on the future of the Arctic, see: Oran R. Young, "The Future of the Arctic: Cauldron of Conflict or Zone of Peace?" *International Affairs* 87 (2011): 183–93.

17. Hans Corell, "The North is not the Wild West," *Globe and Mail,* April 28, 2008.

18. Paula Kankaanpää and Oran R. Young, "The Effectiveness of the Arctic Council," *Polar Research*

(forthcoming).

19. Franklyn Griffiths, "Proposal for a Trilateral Agreement on Arctic Passage Management," (paper presented at the annual meeting of the International Studies Association, April 3, 2012).

20. Ilulissat Declaration, issued by representatives of Canada, Denmark (Greenland), Norway, Russia, and the United States, May 28, 2008, text available at www.arcticgovernance.org/.

21. In preparing for the May 2008 meeting of the A5 in Ilulissat, the coastal states made no serious effort to consult with the other members of the Arctic Council, much less the Permanent Participants.

22. Nuuk Declaration, Seventh Ministerial Meeting of the Arctic Council, May 12, 2011, text available at www.arctic-council.org.

23. Among other things, the non-Arctic states have taken to asserting that the Arctic Basin is part of the common heritage of humankind and subject to the governance arrangements set forth in the UN Convention on the Law of the Sea.

24. Oran R. Young, "Listening to the Voices of Non-Arctic States in Arctic Ocean Governance," (paper prepared for the North Pacific Arctic Conference, Honolulu, August 8–10, 2012).

25. Ottawa Declaration on the Establishment of the Arctic Council, text available at www.arctic-council.org.

26. F. Stuart Chapin III et al., "Building Resilience and Adaptation to Manage Arctic Change," *Ambio* 35 (2006): 198–202; Oran R. Young, "If an Arctic Treaty is not the Solution, What is the Alternative?" *Polar Record* 47, (2010): 327–34; for a more general discussion of the idea of a regime complex, which has become an influential concept among students of international cooperation, see: Amandine Bled Orsini, Jean Frederic Morin, and Oran R. Young, "Regime Complexes: a Buzz, a Boom, or a Boost for Global Governance?" *Global Governance* (forthcoming).

27. IASC now has 19 members, including all of the A8 and 11 other countries.

28. Adopted in 1989, the indigenous people's convention is commonly known as ILO Convention 169.

29. The commission operates under the authority of the Northeast Atlantic Fisheries Convention signed initially in 1959 and revised in 1980. Members include Denmark (for the Faroe Islands and Greenland), Iceland, Norway, Russia, and the European Union.

30. Timo Koivurova, "Limits and Possibilities of the Arctic Council in a Rapidly Changing Scene of Arctic Governance," *Polar Record* 46 (2010): 75–83; Oran R. Young, "Whither the Arctic? Conflict and Cooperation in the Circumpolar North," *Polar Record* 45 (2009): 73–82.

31. Oran R. Young, "Listening to the Voices," (paper prepared for the North Pacific Arctic Conference, Honolulu, August 8–10, 2012). Permanent observers have little opportunity to participate in the deliberations of the Council. They are rarely allowed to speak in the meetings of the Senior Arctic Officials and virtually never in the Arctic Council Ministerial Meetings. Recent changes in the Arctic Council's rules of procedure have tended to diminish rather than enhance the status of permanent participants.

32. Ibid.

33. The fact that the intention now is to make the Polar Code bipolar has added complications to the effort to reach agreement on some of its substantive provisions. Recent news regarding progress in these negotiations is not encouraging. Still, agreement is within reach.

34. Oran R. Young, "A peaceful Arctic," *Nature* 478 (2011): 180–81.