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THE NEW ARCTIC OCEAN: IMPLICATIONS FOR RESEARCH AND POLICY

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The rapid retreat of summer sea ice in the Arctic Ocean is effectively opening a new ocean for the first time in human history. The loss of ice affects the regional and global climate system, Arctic and subarctic ecosystems, and national and international policies concerning the region and its resources. To date, most research and activity in the Arctic Ocean has taken place on the continental shelves, within the Exclusive Economic Zones of the Arctic rim nations. Human activity in these regions, such as shipping, oil and gas development, or fisheries, may have lasting effects on ecosystems and economic well being. This deserves, and is receiving, extensive study, including international collaboration.

The central Arctic Ocean, on the other hand, has seen less research, and access to international waters is open to all nations. As sea ice ceases to be a barrier to this region, international governance mechanisms will have to be applied or developed here in order to avoid damaging the ecosystem and potentially undermining management efforts within national jurisdictions. Studying the central Arctic Ocean is logistically challenging and expensive, yet many nations have sent icebreakers to the region and are expected to continue to do so. Making the best use of this collective research capacity can help build knowledge about the ecosystem and the changes it is undergoing. That knowledge, together with the commitment to cooperation shown in research, can support national and international efforts to manage human activities in the Arctic Ocean to minimize impacts to an already rapidly changing ecosystem.

We examine the implications of "the New Arctic Ocean" for Arctic research and policy by developing a "Roadmap for the Future".