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# Breaking Ice For Arctic Oil The Epic Voyage Of The Ss Manhattan Through The Northwest Passage

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Polar Icebreakers in a Changing World  
Oil and Gas Technologies for the Arctic and Deepwater  
Governmental Intervention in the Market Mechanism: the Petroleum Industry  
Canada Today  
Eleventh Meeting of the United States-Japan Cooperative Program in Natural Resources (UJNR) Panel on Marine Facilities, May 1982

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Oil in the Sea III UBC Press

Frontiers in International Environmental Law is a collection of essays that showcases how law and legal scholarship can responded to challenges to our oceans and climate governance regimes.

### **Environmental Assessment of the Alaskan Continental Shelf** Springer Nature

This book provides an overview of the many issues relevant to offshore oil and gas development in the Arctic. Topics covered in this book include a brief historical background of Arctic oil and gas development; a discussion of the economic importance of oil in Alaska; challenges of Arctic oil spill response; Arctic subsistence resource issues; an overview of important ecological resources in the Arctic; data gaps relevant to future oil and gas decision-making; an analysis of crude oil production in the Arctic National Wildlife Refuge and potential impacts of proposed oil and gas development on the Arctic Refuge's coastal plain.

### **Breaking Ice for Arctic Oil** BRILL

Once ice-bound, difficult to access, and largely ignored by the rest of the world, the Arctic is now front and center in the midst of many important questions facing the world today. Our daily weather, what we eat, and coastal flooding are all interconnected with the future of the Arctic. The year 2012 was an astounding year for Arctic change. The summer sea ice volume smashed previous records, losing approximately 75 percent of its value since 1980 and half of its areal coverage. Multiple records were also broken when 97 percent of Greenland's surface experienced melt conditions in 2012, the largest melt extent in the satellite era. Receding ice caps in Arctic Canada are now exposing land surfaces that have been continuously ice covered for more than

40,000 years. What happens in the Arctic has far-reaching implications around the world. Loss of snow and ice exacerbates climate change and is the largest contributor to expected global sea level rise during the next century. Ten percent of the world's fish catches comes from Arctic and sub-Arctic waters. The U.S. Geological Survey estimated that up to 13 percent of the world's remaining oil reserves are in the Arctic. The geologic history of the Arctic may hold vital clues about massive volcanic eruptions and the consequent release of massive amount of coal fly ash that is thought to have caused mass extinctions in the distant past. How will these changes affect the rest of Earth? What research should we invest in to best understand this previously hidden land, manage impacts of change on Arctic communities, and cooperate with researchers from other nations? The Arctic in the Anthropocene reviews research questions previously identified by Arctic researchers, and then highlights the new questions that have emerged in the wake of and expectation of further rapid Arctic change, as well as new capabilities to address them. This report is meant to guide future directions in U.S. Arctic research so that research is targeted on critical scientific and societal questions and conducted as effectively as possible. The Arctic in the Anthropocene identifies both a disciplinary and a cross-cutting research strategy for the next 10 to 20 years, and evaluates infrastructure needs and collaboration opportunities. The climate, biology, and society in the Arctic are changing in rapid, complex, and interactive ways. Understanding the Arctic system has never been more critical; thus, Arctic research has never been more important. This report will be a resource for institutions, funders, policy makers, and students. Written in an engaging style, *The Arctic in the Anthropocene* paints a picture of one of the last unknown places on this planet, and communicates the excitement and importance of the discoveries and challenges that lie ahead.

*Arctic Imperatives* D & M Publishers

This book sheds light on how global warming has caused the

ongoing environmental disaster in the Arctic, namely its melting. This development, if left unabated, will have a major negative environmental impact, not only on the Arctic itself, but on the entire planet, including the worsening of global warming and rising sea levels. The latter is a major threat to all island countries and all countries having coastlines with open seas with major environmental, social, economic, political and military/security implications. The Arctic melting is bringing about challenges while opening doors for certain opportunities. These are the accessibility of the region's large oil, gas and coal reserves and minerals, including rare earth elements. They are in demand both in the Arctic littoral states (Canada, Denmark/Greenland, Norway, Russia and USA) and the Greater Arctic countries (Iceland, Finland and Sweden) as well as in other parts of the world. In particular, major oil and gas importers (China, India, Japan and South Korea) are interested in the Arctic energy resources, the main non-regional countries with a capability to engage in the region. The obvious importance of the regional energy and mineral resources makes the division of the region among the regional countries crucial. The melting of the Arctic ice will also lead to the availability for at least a few months a year of a Northern Sea Route and a Northwest Passage connecting Europe to North America and the North-Eastern part of Asia. The importance of these northern routes and the Arctic mineral and energy resources is contributing to a growing military presence of mainly the USA and Russia in this region, which could lead to an arms race. This book offers invaluable insights on the issues that have grave implications for energy security and geopolitics in the arctic. Contents: Introduction (Hooman Peimani) Is the Arctic Melting? From White to Blue: The Shrinking Arctic Cryosphere (Shawn J Marshall) Possible Changes of the Russian Arctic Environment Under the Influence of Natural and Anthropogenic Factors (Vyacheslav Mikhailovich Makeev) What are the Stakes for the Littoral States? The Transnational Arctic and Russia (Nadezhda Klimovna Kharlampyeva) Norway and Russia: Neighbours with

Strong Interests in the Arctic (Arild Moe) What are the Interests of the Non-Regional Large Economies? The Arctic: Geopolitics, International Relations and Energy Security — A View from India (Neil Gadhihoke) The Arctic and Japan: Energy Security and Climate Security (Hiroshi Ohta) The Arctic Governance and the EU “Soft Power” (Danila Bochkarev) Conclusion (Hooman Peimani)

Readership: Graduates and researchers studying energy economics, governments, embassies, military institutes, research institutes, international organizations, environmental entities, energy (oil, gas and coal) and mining corporations and shipping companies. Keywords: Arctic; Melting Arctic Ice; Arctic Shrinkage; Arctic Council; Northern Sea Route; Northwest Sea Passage; Oil Exploration; Gas Exploration; Energy Security; Geopolitics; Global Warming; Rising Sea Levels

Key Features: Only book on the Arctic focussing not just on environmental issues, but also on political, economic, energy and military/security issues geared towards the Arctic. Signifies the emerging climate change-energy security-conflict nexus. Policy-oriented work designed for decision-makers

#### **Challenge of Arctic Shipping** Twenty-First Century Books

A sea captain’s beautifully written tour of our planet, our oceans, and our ever-changing atmosphere “An extraordinary book by a modern-day Melville.”—Mark Vanhoenacker • “Immensely rewarding and entertaining.”—Lincoln Paine • “Full of history, wisdom, and hilarious stories from life on the open seas.”—Daniel Stone

What’s in a cloud? Did you know that water vapor is invisible and actually lighter than dry air? What separates a tropical storm from a winter blizzard? And what exactly is El Niño? Elliot Rappaport, a professional captain of traditional sailing ships, has spent three decades at sea, where understanding weather is crucial to the safety of vessels and their crews. In *Reading the Glass*, he offers a sailor’s-eye view of the moving parts of our atmosphere and unveils the larger patterns it holds: global winds, storms, air masses, jet streams, and the longer arc of our climate. Told through a series of tall ship voyages, Rappaport’s narrative takes readers from the icy seas of Greenland to the Roaring Forties, places where one can experience all four seasons in an hour. He navigates the turbulent waters of the Strait of Gibraltar, en route to storied port cities of the Mediterranean. In the vast tropical Pacific he crosses the equator, where heat, moisture, and unsettled winds churn out powerful squalls, and drops anchor in

isolated ports of call. He explores wide swathes of ocean to explain how the trade winds have carried ships westward for centuries, and how ancient Polynesian explorers pushed back the other way, leveraging their mastery of waves and weather to achieve what may be humanity’s greatest navigational achievement. Written in stunning prose, brimming with wisdom, curiosity, and humor, *Reading the Glass* brilliantly blends science and memoir to reveal how weather has shaped our oceans, our history, and ourselves.

#### Coast Guard Miscellaneous: Domestic and Polar ice breaking operations Springer Science & Business Media

Since the early 1970s, experts have recognized that petroleum pollutants were being discharged in marine waters worldwide, from oil spills, vessel operations, and land-based sources. Public attention to oil spills has forced improvements. Still, a considerable amount of oil is discharged yearly into sensitive coastal environments. *Oil in the Sea* provides the best available estimate of oil pollutant discharge into marine waters, including an evaluation of the methods for assessing petroleum load and a discussion about the concerns these loads represent. Featuring close-up looks at the Exxon Valdez spill and other notable events, the book identifies important research questions and makes recommendations for better analysis of—and more effective measures against—pollutant discharge. The book discusses: Input—where the discharges come from, including the role of two-stroke engines used on recreational craft. Behavior or fate—how oil is affected by processes such as evaporation as it moves through the marine environment. Effects—what we know about the effects of petroleum hydrocarbons on marine organisms and ecosystems. Providing a needed update on a problem of international importance, this book will be of interest to energy policy makers, industry officials and managers, engineers and researchers, and advocates for the marine environment.

#### Arctic Oil and Gas Routledge

This report was prepared in response to Secretary of Energy Ernest J. Moniz’s request and provides a comprehensive study that considers research and technology opportunities to enable prudent development of U.S. Arctic offshore oil and natural gas resources. Today, there is both increasing interest in the Arctic for economic opportunity, and concern about the future of the culture of the Arctic peoples and the environment in the face of changing

climate and increased human activity. Other nations, such as Russia and China, are moving forward with Arctic economic development. Facilitating exploration and development in the U.S. Arctic would enhance national, economic, and energy security, benefit the people of the north and the U.S. as a whole, and position the U.S. to exercise global leadership. Despite these benefits, there are diverse views on how to balance this opportunity with environmental stewardship.

#### **Quest** Nova Science Pub Incorporated

Global energy problems will remain a challenge in the coming decades. The impact of climate change and the melting of polar sea ice opening up access to offshore hydrocarbon resources in the Arctic Ocean, raises questions for both civil society and the scientific community over drilling opportunities in Arctic marine areas. Disparities in approach to the governance of oil and gas extraction in the Arctic arise from fundamental differences in histories, cultures, domestic constraints and substantive values and attitudes in the Arctic coastal states and sub-states. Differing political systems, legal traditions and societal beliefs with regard to energy security and economic development, environmental protection, legitimacy of decision making, and the ownership and respect of the rights of indigenous people, all affect how governance systems of oil and gas extraction are designed. Using a multidisciplinary approach and case studies from the USA, Norway, Russia, Canada, Greenland/Denmark and the EU, this book both examines the current governance of extraction and its effects and considers ways to enhance the efficiency of environmental management and public participation in this system.

#### Arctic Rising University of Alaska Press

Elliot L. Richardson The United States is finally awakening to the fact that it has a major stake in the future of the Arctic. Recognition of the national importance of the Arctic has been slow in coming despite the resource wealth that Arctic Alaska has thus far yielded. Although the United States has had strategic interests in the Arctic since World War II and active oil and gas interests there since the discovery of oil at Prudhoe Bay in 1968, its interest in the Arctic has been low in comparison with that of its Arctic neighbors, Canada and the Soviet Union. What has been described by some as an attitude of neglect toward the Arctic is now changing. The notion of change has become central in most

current discussions about the future of the Arctic. It is apparent that the Arctic region is entering a period of greatly accelerated economic, social, strategic, and is political change. The driving force behind the changes taking place resource development activity, and although the present scale of this activity is not inconsequential, it is small in comparison to its projected growth in the next two decades. In short, the Arctic is about to come alive. However, knowledge of the Arctic and experience in the Arctic is comparatively limited. Moreover, competing interests and differing values exist among national groups and between countries in the Arctic, just as they do in the lower latitudes.

[Arctic Potential](#) McGill-Queen's Press - MQUP

Reviews economic impact of Federal regulations on the petroleum industry. Focuses on crude oil supplies, domestic competition, restrictions on less expensive foreign crude oil imports, the need to maintain higher domestic prices as development incentive and regional allocation inequities, especially in the Northeast.

[Breaking Ice for Arctic Oil](#) National Academies Press

U.S. Arctic waters north of the Bering Strait and west of the Canadian border encompass a vast area that is usually ice covered for much of the year, but is increasingly experiencing longer periods and larger areas of open water due to climate change. Sparsely inhabited with a wide variety of ecosystems found nowhere else, this region is vulnerable to damage from human activities. As oil and gas, shipping, and tourism activities increase, the possibilities of an oil spill also increase. How can we best prepare to respond to such an event in this challenging environment? Responding to Oil Spills in the U.S. Arctic Marine Environment reviews the current state of the science regarding oil spill response and environmental assessment in the Arctic region north of the Bering Strait, with emphasis on the potential impacts in U.S. waters. This report describes the unique ecosystems and environment of the Arctic and makes recommendations to provide an effective response effort in these challenging conditions. According to Responding to Oil Spills in the U.S. Arctic Marine Environment, a full range of proven oil spill response technologies is needed in order to minimize the impacts on people and sensitive ecosystems. This report identifies key oil spill research priorities, critical data and monitoring needs, mitigation strategies, and important operational and logistical issues. The Arctic acts as an integrating, regulating, and

mediating component of the physical, atmospheric and cryospheric systems that govern life on Earth. Not only does the Arctic serve as regulator of many of the Earth's large-scale systems and processes, but it is also an area where choices made have substantial impact on life and choices everywhere on planet Earth. This report's recommendations will assist environmentalists, industry, state and local policymakers, and anyone interested in the future of this special region to preserve and protect it from damaging oil spills.

**Oil Under the Ice** Harper Collins

New from Smithsonian Books, *After the Ice* is an eye-opening look at the winners and losers in the high-stakes story of Arctic transformation, from nations to native peoples to animals and the very landscape itself. Author Alun Anderson explores the effects of global warming amid new geopolitical rivalries, combining science, business, politics, and adventure to provide a fascinating narrative portrait of this rapidly changing land of unparalleled global significance.

*United States Arctic Interests* Routledge

Global warming has transformed the Earth, and it's about to get even hotter. The Arctic Ice Cap has all but melted, and the international community is racing desperately to claim the massive amounts of oil beneath the newly accessible ocean. Enter the Gaia Corporation. Its two founders have come up with a plan to roll back global warming. Thousands of tiny mirrors floating in the air can create a giant sunshade, capable of redirecting heat and cooling the earth's surface. They plan to terraform Earth to save it from itself—but in doing so, they have created a superweapon the likes of which the world has never seen. Anika Duncan is an airship pilot for the underfunded United Nations Polar Guard. She's intent on capturing a smuggled nuclear weapon that has made it into the Polar Circle and bringing the smugglers to justice. Anika finds herself caught up in a plot by a cabal of military agencies and corporations who want Gaia Corporation stopped. But when Gaia Corp loses control of their superweapon, it will be Anika who has to decide the future of the world. The nuclear weapon she has risked her life to find is the only thing that can stop the floating sunshade after it falls into the wrong hands. At the Publisher's request, this title is being sold without Digital Rights Management Software (DRM) applied.

[Reading the Glass](#) Taylor & Francis

In 1969, an icebreaking tanker, the SS Manhattan, was commissioned by Humble Oil to transit the Northwest Passage in order to test the logistical and economic feasibility of an all-marine transportation system for Alaska North Slope crude oil. Proposed as an alternative to the Trans-Alaska Pipeline, the Manhattan made two voyages to the North American Arctic and collected volumes of scientific data on ice conditions and the behavior of ships in ice. Although the Manhattan successfully navigated the Northwest Passage—closing a five-hundred-year chapter of Arctic exploration by becoming the first commercial vessel to do so—the expedition ultimately demonstrated the impracticality of moving crude oil using icebreaking ships. *Breaking Ice for Arctic Oil* details this historic voyage, establishing its significant impact on the future of marine traffic and resource development in the Arctic and setting the stage for the current oil crisis.

**Arctic Geopolitics, Media and Power** National Academies Press

Articles on the risks involved in the development of the oil industry in the Canadian Arctic, and government exploitation of the environment and the rights of native peoples. Includes information on land and offshore drilling, transportation of oil, environmental effects of industry in the north. Contains references.

*A Farewell to Ice* Macmillan

This book analyzes the expanding oil and gas activities in the Arctic from the perspective of Sustainable Development (SD) and Corporate Social Responsibility (CSR). The focus is on the territories of the Arctic rim where the current and future oil and gas activities in the Arctic are and will be located. The book raises a number of questions including how sustainable development has been framed in the Arctic and the interaction between indigenous peoples, governments and oil and gas companies. The book is divided into three parts. In the first part of the book, oil and gas are approached through the concepts of sustainable development (SD) and Corporate Social Responsibility (CSR) together with the challenge of climate change. The second part consists of case studies from Alaska, Canada, Norway and Russia where the discourses on oil and gas in the Arctic are explored and the final part of the book draws together the material from the country studies in a comparative manner.



**Energy Security and Geopolitics in the Arctic** Oxford University Press

Study explores the range of technologies required for exploration and development of offshore energy resources and assesses associated economic factors and financial risk. It also evaluates the environmental factors related to energy activities in frontier regions and considers important government regulatory and service programs.

**Who Owns the Arctic?** National Academies Press

In April 1988, after years of failed negotiations over the status of the Northwest Passage, Brian Mulroney gave Ronald Reagan a globe, pointed to the Arctic, and said “Ron that’s ours. We own it lock, stock, and icebergs.” A simple statement, it summed up Ottawa’s official policy: Canada owns the icy waters that wind their way through the Arctic Archipelago. Behind the scenes, however, successive governments have spent over a century trying to figure out how to enforce this claim. Drawing on recently declassified material, Lajeunesse guides readers through the

evolution of Canada’s Arctic sovereignty, showing how the Northwest Passage and the surrounding waters became Canadian.

**Proceedings of the International Field Exploration and Development Conference 2018** World Scientific

The Challenge of Arctic Shipping presents a collection of candid essays on the future of Arctic waters. A number of distinguished contributors address critical issues in Arctic development examining the implications for both policy-making in the North and the impact of that policy on native people. The intricacies of decision-making in an atmosphere of uncertainty are explored in detail, as is the impact of access to information, influence, and power. The Challenge of Arctic Shipping also examines activities and events associated with commercial proposals to develop and transport hydrocarbons through environmentally sensitive waters. The editors observe that the resulting political maneuvering is evidence that new approaches to this and other problems of the North are needed.

**Governance of Arctic Offshore Oil and Gas** National Academies Press

In 1969, an icebreaking tanker, the SS Manhattan, was commissioned by Humble Oil to transit the Northwest Passage in order to test the logistical and economic feasibility of an all-marine transportation system for Alaska North Slope crude oil. Proposed as an alternative to the Trans-Alaska Pipeline, the Manhattan made two voyages to the North American Arctic and collected volumes of scientific data on ice conditions and the behavior of ships in ice. Although the Manhattan successfully navigated the Northwest Passage—closing a five-hundred-year chapter of Arctic exploration by becoming the first commercial vessel to do so—the expedition ultimately demonstrated the impracticality of moving crude oil using icebreaking ships. Breaking Ice for Arctic Oil details this historic voyage, establishing its significant impact on the future of marine traffic and resource development in the Arctic and setting the stage for the current oil crisis.

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- [How To Catch A Leprechaun](#)
- [Baking Yesteryear: The Best Recipes From The 1900s To The 1980s](#)
- [Ugly Love: A Novel By Colleen Hoover](#)
- [Hello Beautiful \(oprah's Book Club\): A Novel](#)
- [Twisted Love \(twisted, 1\) By Ana Huang](#)
- [The Housemaid's Secret: A Totally Gripping Psychological Thriller With A Shocking Twist By Freida Mcfadden](#)