ARCTIC LAW & POLICY
YEAR IN REVIEW: 2018

A review of major developments, with background information and current events

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I. INTRODUCTION: ARCTIC NEWS HIGHLIGHTS

The Arctic region in 2018 continued to demonstrate the effects of climate change, with the sea ice extent at year’s end hitting the third lowest level in the satellite record, according to the National Snow and Ice Data Center. On December 11, 2018, the U.S. National Oceanic and Atmospheric Administration (NOAA) released its annual Arctic Report Card for 2018. It paints a stark picture of warming air temperatures, diminishing sea ice, declining snow cover, and rising microplastic contamination of Arctic waters.

The Fourth National Climate Assessment was released on November 23, 2018. Among its many findings was that “Without substantial and sustained global mitigation and regional adaptation efforts, climate change is expected to cause growing losses to American infrastructure and property and impede the rate of economic growth over this century.” In addition, it warns that “Climate change increasingly threatens Indigenous communities’ livelihoods, economies, health, and cultural identities by disrupting interconnected social, physical, and ecological systems.”

On October 3, 2018, the five states bordering the Arctic Ocean, Canada, Denmark (Greenland and the Faroe Islands), Norway, Russia, and the U.S., together with Iceland, Japan, South Korea, China, and the EU (on behalf of its member-states), signed a legally binding international accord that will protect over one million square nautical miles of the Central Arctic Ocean from unregulated fishing. The Central Arctic Ocean Fisheries Agreement was signed in Ilulissat, Greenland, and will enter into force after the signing states have ratified it. The Agreement, which builds on the 2015 “Oslo Declaration” by the five states that border the Arctic Ocean described in earlier editions of this Year-in-Review, will prevent commercial fishing in the high seas of the Arctic Ocean for at least 16 years, while scientific research is conducted to learn more about its marine life and resources. The Agreement comprises 15 articles, incorporates a precautionary approach, and is to be implemented consistently with the 1982 UN Convention on the Law of the Sea, the 1995 Straddling Fish Stocks Agreement and the 1995 Code of Conduct for Responsible Fisheries.

Finland’s 2017-2019 chairmanship of the Arctic Council continued this year. During its chairmanship Finland has emphasized the implementation of the Paris Agreement on climate change and the UN Sustainable Development Goals (SDGs) while working to strengthen Arctic cooperation and its continuity at the highest political level. The four focus areas of the Council during Finland’s chairmanship include (1) environmental protection, (2) connectivity, (3) meteorological cooperation, and (4) education. Finland has hosted a variety of meetings over the year, bringing together Senior Arctic Officials, indigenous organizations, scientists, observers, and environmental ministers. In 2019, Iceland will assume the Council chairmanship, and is expected to put greater emphasis on marine issues.

In January, China published a White Paper setting out its Arctic Policy. The paper declares that China is a “near-Arctic state.” Published goals are “to understand, protect, develop and participate in the governance of the Arctic, so as to safeguard the common interests of all countries and the international community in the Arctic, and promote sustainable development of the Arctic.” The paper appears to fold the concept of a “Polar Silk Road” into China’s Belt and Road Initiative It calls upon all states to “respect the sovereignty, sovereign rights, and jurisdiction enjoyed by the Arctic States in this region, respect the tradition and culture of the indigenous peoples, as well as
respect the rights and freedom of non-Arctic States to carry out activities in this region in accordance with the law, and respect the overall interests of the international community in the Arctic.” In October 201 (the year China completed its ninth Arctic scientific cruise) 8, the Ocean University of China edited a blue book, which declared that China has become an “indispensable force in Arctic affairs.” China was also among the states that participated in developing the historic 2018 Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean.

After hitting high of $86.74 per barrel on October 3, 2018, the price of Brent crude dropped by year’s end, casting doubt on the economic viability of offshore oil exploration in the Arctic. Brent crude opened in 2019 at $53 per barrel (down from $69 per barrel one year earlier) and West Texas Intermediate crude opened at $45 per barrel (down from $60 per barrel one year earlier).

Finally, as 2018 drew to a close, an impasse between the President and congressional Democrats eying the 2020 elections resulted in a lapse in federal appropriations and a partial shutdown in federal government operations beginning December 22, 2018. Approximately 420,000 federal workers were required to work without pay, while the remainder were furloughed.

**Arctic Council Ministerial**

Finland will host the 2017-19 Ministerial in Rovaniemi, Finland May 6-7, 2019, at which time the Council chairmanship will be transferred to Iceland. Under Finland’s chairmanship, the Senior Arctic Officials met in Finland from October 25-26, 2017 in Oulu, from March 22-23, 2018 in Levi, and from November 1-2, 2018 in Rovaniemi.

**Arctic Scientific Cooperation**

The Arctic Council member States adopted the Agreement on Enhancing International Arctic Scientific Cooperation at the May 2017 Ministerial in Fairbanks, Alaska. It is the Council’s third binding agreement. The Agreement went into effect on May 23, 2018, and will make it easier for scientists to collaborate in understanding what is happening in the Arctic. International scientific cooperation is expected to make research more efficient in a region known for harsh conditions, long distances, and high costs.

Finland hosted the 2nd Arctic Biodiversity Congress from October 9-11, 2018 in Rovaniemi, Finland. Following the Congress, the Finnish Chairmanship arranged an Arctic Environment Minister’s meeting (AEMM) in Rovaniemi from October 11-12, 2018. The meeting brought together the Ministers of the Environment from the eight member states, six indigenous Permanent Participant organization, working groups, and observers. Themes of the meeting were climate change, biodiversity, and pollution prevention.

**Arctic Climate Conditions**

According to the NOAA Arctic Report Card, 2018 was the second warmest year on record, with average Arctic air temperatures about 3.1 degrees warmer than the 1981-2010 average. Greatest temperature increases were recorded in the Chukchi Sea, eastern Siberia and over the Arctic Ocean. The Report Card cites the loss of reflective snow and sea ice as a causative factor. Sea ice is an important component of the Arctic ecosystem. Ice slows the heat exchange between the ocean and atmosphere. The Report Card also cites a “general hypothesis” that a rapidly warming Arctic is causing the jet stream to slow and meander more, leading to an increase in extreme weather events.
**Arctic Ice Conditions**

Older sea ice tends to be thicker, stronger, and better able to bounce back from unfavorable conditions. Sea ice more than four years old has nearly disappeared from the Arctic. In 2018, the sea ice extent at the winter maximum was the second smallest on record, according to the National Snow and Ice Data Center (NSIDC). The sea ice extent maximum on March 17, 2018 reached 5.59 million square miles (14.48 million square kilometers). This year’s maximum extent is 448,000 square miles (1.16 million square kilometers) below the 1981 to 2010 average maximum of 15.64 million square kilometers (6.04 million square miles).

A model developed by scientists at the University of Washington (the Pan-Arctic Ice Ocean Modeling and Assimilation System) estimated that total Arctic sea ice shrank from over 15 trillion tons in September 1979 to just 4.66 trillion tons in September 2018. Some observers are now predicting that by 2045, ice conditions in the central Arctic Ocean will permit seasonal trans-Polar shipping, rendering both the Northwest Passage and the Northern Sea Route less relevant.

One particularly alarming change was evident in what some refer to as the “Last Ice Area,” the oldest and thickest area of the “permanent” ice pack located north of Greenland and Canada’s Arctic Archipelago. **Fissures up to 100 kilometers wide opened in the ice pack**, exposing the northern Greenland coast to the sea.

**Oil and Gas Activities.** Arctic oil and gas leasing, exploration, and exploration activities remain largely on hold in the U.S. and Canada. Only Norway and Russia were active in 2018.

- On January 17, 2017—three days before leaving office—Secretary of Interior Sally Jewell approved a 2017-2022 OCS Oil and Gas Leasing Program. Under the Obama Administration program, some 94 percent of the OCS, including all of the federal OCS lease areas in the Chukchi and Beaufort Seas, were to be off limits for oil and gas leasing. Upon taking office, the Trump Administration announced that it would revisit the decision. On April 28, 2017, Executive Order 13795 (Implementing an America First Offshore Energy Strategy), directed the Secretary of the Interior to give consideration to revising the schedule Secretary Jewell approved shortly before leaving office. On January 4, 2018, the Interior Department’s Bureau of Ocean Energy Management released a draft National Outer Continental Shelf Oil and Gas Leasing Program for 2019-2024, which proposes to make over 90 percent of the total OCS acreage available to consider for future exploration and development. In response, several members of Congress introduced bills to put selected offshore areas off limits to oil and gas leasing.

- Russian President Vladimir Putin and Chinese President Xi Jinping met on June 8, 2018, at a welcome ceremony in Beijing after Russia and China partnered on the Yamal LNG project. Novatek, which owns a majority share in Yamal LNG, is reportedly planning a second project, commonly referred to as Arctic LNG 2. Partners reportedly include Japan, China, and Saudi Arabia. The plant’s annual production is expected to ready 19.8 million tons of LNG, with production expected to begin in 2022 or 2023.
To service LNG exports, Yamal LNG commissioned up to 16 LNG icebreaker/LNG tanker ships. The ships were designed by Finland’s Aker Arctic Technology and built by South Korea’s Daewoo Shipbuilding and Marine Engineering. Designed to operate year around, they are capable of breaking ice up to 2.5 meters thick. The ships are operated by Sovcomflot, Dynagas, Teekay LNG Partners, and Japan’s Mitsui OSK Line.

The recommended Bering Sea/Bering Strait traffic scheme jointly proposed by the U.S. and Russia and approved by the IMO entered into effect on December 1, 2018. This proposal is the first internationally recognized vessel traffic regulation approved by the IMO for Polar waters in compliance with the International Convention for the Safety of Life at Sea (SOLAS 74/78). In December 2018 the U.S. Coast Guard launched a second Port Access Route Study (PARS), this one for the Alaskan Arctic Coast (AACPARS).

Northern Sea Route (NSR): The Northern Shipping Administration (NSRA) established a new web site in 2017. As this YIR Report was being compiled no published statistics on 2018 traffic was available; however, a Northern Sea Route Administration official reported in October 2018 that cargo shipping via the route was expected to total 17 million tons by the end of the year.

Northwest Passage: Reportedly, there were only two complete transits of the Northwest Passage by commercial vessels in 2018, prompting some observers to declare the Passage “irrelevant” in comparison to the Northern Sea Route.

On October 3, 2018, the U.S. joined the other Arctic Ocean states and key distant water fishing states in signing the Agreement to Prevent Unregulated High Seas Fishing in the Central Arctic Ocean.

The Arctic Council Agreement on Enhancing International Scientific Cooperation entered into effect on May 23, 2018.

The FY 2018 National Defense Authorization Act authorized funds to begin the construction of a Polar Class heavy icebreaker to replace the aging Polar Star; however, Congress failed to appropriate the funds necessary to begin construction (such expenditures require both authorization and appropriation).

The Frank LoBiondo Coast Guard Authorization Act of 2018 has apparently extended the life of the aging icebreaker Polar Star through 2025 and called for a report on U.S. strategic assets in the Arctic.

Some in Congress continue to push for a Deep-Water Port in the Alaska Arctic by requiring the U.S. Army Corps of Engineers to “expedite” its languishing study (Water Resources Development Act of 2018).

Carbon Tax? Rep. Sheldon Whitehouse reintroduced the bill proposing the “American Opportunity Carbon Fee Act” in 2018. The bill would impose fees on: (1) fossil fuel products producing carbon dioxide emissions, including coal, petroleum products, and natural gas; (2) fluorinated greenhouse gases; (3) emissions of any greenhouse gas from any greenhouse gas emissions source; and (4) associated emissions (attributable to venting, flaring, and leakage across the supply chain). The bill was referred to the Committee on Finance in
February 2018 and has not moved forward since then. Readers may recall that in June 2016 the House of Representatives passed a resolution (237-163) listing the pitfalls of a tax on carbon dioxide emissions and concluding that such a policy “would be detrimental to American families and businesses, and is not in the best interest of the United States.”

- In October, Washington voters rejected Ballot Initiative 1631, a measure that would have established a carbon tax. The final vote was 44 percent in favor and 56 percent against.

II. TREATIES AND OTHER INTERNATIONAL AGREEMENTS

A. U.N. CONVENTION ON THE LAW OF THE SEA.

In the 2008 Ilulissat Declaration, the five coastal nations bordering the Arctic Ocean (Canada, Denmark/Greenland, Norway, Russia, and the U.S.), jointly affirmed their commitment to settle any Arctic maritime disputes within the framework provided by the Law of the Sea. In doing so, they rejected calls for a new treaty regime, similar to the Antarctic Treaty System. The declaration concludes that the Law of the Sea framework “provides a solid foundation for responsible management by the five coastal States and other users of this Ocean through national implementation and application of relevant provisions. We therefore see no need to develop a new comprehensive international legal regime to govern the Arctic Ocean.”

The five Arctic coastal states, indigenous groups, and members of the Arctic Council celebrated the Ilulissat Declaration’s tenth anniversary this year on May 23, 2018, in Ilulissat, Greenland. The group discussed peace, borders, and scientific cooperation.

This year brought no significant progress on possible U.S. accession to the 1982 U.N. Convention on the Law of the Sea. At an Arctic economic development event hosted by the Center for International and Strategic Studies in DC, Senator Murkowski (R-Alaska) and Senator King (I-Maine), both members of the Arctic Caucus, spoke strongly in support of the United States ratifying the LOS Convention. Senator King called the Senate’s failure to ratify the pact “a huge self-inflicted wound” that limits the country’s power in deciding broad maritime issues.

Opponents argue accession relinquishes too much sovereignty to a dispute resolution regime proven ineffective at checking territorial aggression, for example by China in the South China Sea. Proponents—which include every president since Bill Clinton, the Navy, the U.S. Coast Guard, and the Alaska Arctic Policy Commission—point out that accession would help the United States maximize international recognition and legal certainty regarding the outer limits of the U.S. continental shelf.

The LOS Convention is supported by two implementation agreements. The first agreement implements (and amends) Part XI of the Convention, which addresses mineral resources of the deep seabed beyond national jurisdiction. The second deals with straddling and highly migratory fish stocks. The latter agreement, to which the United States is a party,
will likely figure in management of fish stocks in the Central Arctic Ocean.

In 2018, he 53-member states of The Commonwealth met in London and New York for and adopted the Commonwealth Blue Charter, a multi-faceted plan to reverse the decline of ocean health. The Commonwealth Blue Charter protects vast ocean areas beyond national jurisdiction (“BBNJ”).

B. U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC).

The UNFCCC, which entered into force on March 21, 1994, sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. It recognizes that the climate system is a shared resource that can be degraded by industrial and other emissions of carbon dioxide and other greenhouse gases. Under the Convention, governments: (1) gather and share information on greenhouse gas emissions, national policies, and best practices, (2) launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries, and (3) cooperate in preparing for adaptation to the impacts of climate change.

The convention provides a framework that is then implemented by a series of protocols designed to limit average global temperature increases and the resulting climate change, and to cope with climate change impacts. On April 22, 2016, in Paris, France, States agreed upon a new framework.

Paris Agreement

The Paris Agreement’s central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives.

The Paris Agreement entered into force on November 4, 2016. By December 2017, 171 States had ratified the Agreement.

COP 24 [The 24th Conference of Parties to the United Nations Framework Convention on Climate Change]

The 24th UNFCC Conference of Parties (COP 24) met in Katowice, Poland, from December 3-15, 2018. The final Katowice accord, reached by 196 states, outlines plans for a common rulebook (dubbed the “Paris rulebook”) for all of the signing-states to achieve the goal set out in the 2016 Paris Agreement of limiting global temperature rises to well below 2°C. The rulebook will govern the details of how the states will reduce carbon emissions, provide financial assistance to developing states, and monitor compliance. Although President Trump has indicated his intent to withdraw the U.S. from the Paris Agreement (a move that cannot legally be done before 2020), the U.S. participated in the COP24 negotiations.
The Arctic Council and Finland hosted an official side event during COP24 on December 10 entitled, “Black carbon in the Arctic and snow-covered regions – a climate forcer and an air pollutant.” The event presented current knowledge on black carbon, and its climate and health impacts, as well as initiatives to reduce emissions by the Arctic Council and other stakeholders.

C. INTERNATIONAL CONVENTION FOR PREVENTION OF POLLUTION FROM SHIPS (MARPOL).

The MARPOL Convention establishes a framework for the prevention and control of vessel-source pollution that is then implemented by six annexes. The U.S. is a party, and MARPOL is implemented in the U.S. by regulations promulgated under the Act to Prevent Pollution from Ships, 33 U.S.C. §§ 1901-1915. The six annexes include: Annex I Prevention of pollution by oil, Annex II Control of pollution by noxious liquid substances, Annex III Prevention of pollution by harmful substances in packaged form, Annex IV Prevention of pollution by sewage from ships, Annex V Prevention of pollution by garbage from ships, and Annex VI Prevention of air pollution from ships.

MARPOL Annex VI prescribes global limits on vessel exhaust emissions of sulfur and nitrogen oxides (SOx and NOx) and particulate matter, and prohibits deliberate emissions of ozone depleting substances (ODS). It also allows states to seek IMO approval of sulfur special emissions control areas (SECA), within which stricter emission limits may be set.

The IMO approved an application by the U.S., Canada, and France to establish a SECA for North America in 2010. It entered into force in 2011 and its 0.1% sulfur emissions limit went into effect January 1, 2015.

The North American SECA does not presently extend into the Arctic (see above). As a result, the less stringent global Annex VI emissions standards apply in those waters.

The IMO’s MEPC set a January 1, 2020 deadline for implementing the 0.5% sulfur limit for marine fuel (outside of any of the Emission Control Areas, where lower limits (0.1%) apply). The stricter requirements raised concerns about the availability of marine fuel meeting the low-sulfur content requirements.

To meet regional vessel emission restrictions in IMO-adopted Emission Control Areas and the global emission caps set for implementation in 2020, a number of companies are building new vessels or converting existing vessels to run on LNG. LNG-powered vessels reported emit up to 25% less carbon dioxide, 99% less sulfur, 99% fewer particles, and 85% less nitrogen oxides. The advent of LNG-fueled vessels will necessitate a commitment to LNG bunkering capacity building.

D. BALLAST WATER MANAGEMENT CONVENTION

The International Convention for the Control and Management of Ships’ Ballast Water and
Sediments (BWM), adopted in 2004, received the requisite number of ratifications entered into force on September 28, 2017. Arctic Council Chair Finland provided the necessary ratification. Amendments made to the BWM during the 72nd session will go into effect in October 2019. The U.S., which is not a party to the BWM Convention, operates under the Vessel Incident Discharge Act of 2018 (“VIDA”).

ARCTIC COUNCIL AGREEMENTS

The Arctic Council has negotiated three legally-binding agreements among its member states: (1) Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic, (2) Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic, and (3) Agreement on Enhancing International Scientific Cooperation.

E. AGREEMENT ON COOPERATION ON MARINE OIL POLLUTION PREPAREDNESS AND RESPONSE IN THE ARCTIC

The Marine Oil Pollution Cooperation Agreement was signed by all Arctic Council member-states in 2013. The Agreement builds on frameworks established by UNCLOS, the Oil Pollution Preparedness, Response and Co-Operation Convention (OPRC), and the 1969 International Convention Related to Intervention on the High Seas in Cases of Oil Pollution Casualties.

F. AGREEMENT ON COOPERATION ON AERONAUTICAL AND MARITIME SEARCH AND RESCUE IN THE ARCTIC

The Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic (SAR) was the first binding agreement negotiated under the auspices of the Arctic Council. The agreement coordinates international search and rescue coverage and response in the Arctic, and establishes the area of SAR responsibility of each state party (see graphic below).

G. AGREEMENT ON ENHANCING INTERNATIONAL SCIENTIFIC COOPERATION

The Arctic Council’s third legally binding agreement was adopted at the Fairbanks ministerial on May 11, 2017 and went into effect on May 23, 2018. The purpose of the Agreement on Enhancing International Arctic Scientific Cooperation is “to enhance cooperation in Scientific Activities in order to increase effectiveness and efficiency in the development of scientific knowledge about the Arctic.” The Agreement calls on signatories to provide full and open access to scientific metadata, promote opportunities for early career scientists and students at all levels of education to get involved with research activities conducted under the Agreement, and encourage the utilization of traditional and local knowledge as appropriate.

ARCTIC OCEAN FISHERIES

Although the five states bordering on the Arctic Ocean control access to commercial fishing in their waters, the Central Arctic Ocean waters beyond any state’s exclusive economic zone are,
absent an agreement to the contrary, open to fishing by vessels of all states.

**H. AGREEMENT TO PREVENT UNREGULATED HIGH SEAS FISHING IN THE CENTRAL ARCTIC OCEAN.**

The *Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean* was officially published in June 2018. The agreement, which follows the 2015 Oslo Declaration reported in earlier issues and applies to the 2.8 million square mile area of the Central Arctic Ocean beyond national waters depicted below, was negotiated by the Arctic coastal states (Norway, Russia, U.S., Denmark, Canada) and the five key fishing entities (China, the E.U., Iceland, Japan, and South Korea).

The finalized agreement followed two years and six rounds of negotiations. The United States signed the Agreement on October 3, 2018. The Agreement will enter into force once all 10 parties ratify it, and will remain in effect for 16 years. It will be automatically extended for additional 5-year periods if the parties agree.

**III. STATE PRACTICE**

**A. UNITED STATES: FEDERAL GOVERNMENT**

1. **U.S. CONGRESS**

**Arctic Caucus.** Alaska Senator Lisa Murkowski and Maine Senator Angus King announced in March 2015 the creation of an Arctic caucus that will focus on building U.S. leadership in the region and provide a forum for discussion on defense, energy, environment and trade.

Within the House, Representatives Don Young of Alaska and Rick Larsen of Washington formed the Congressional Arctic Working Group on January 23, 2015.

Senator King joined Alaska’s and Washington’s senators to advocate for increased funding for the Coast Guard budget to build additional U.S. icebreakers. These vessels, explained Senator King, are essential to maintaining shipping routes in the Northwest Passage which is the “highway of the Arctic.”

**Federal Authorizations and Appropriations Legislation.**

**Frank LoBiondo Coast Guard Authorization Act of 2018.** In December 2018, the President signed the Coast Guard Authorization Act of 2018, which contains important Arctic provisions. The three sections on Arctic policy are:

- **Section 821: Polar Icebreakers.** Requires enhanced maintenance of the *Polar Star* to extend its service life until at least Dec. 31, 2025.

- **Section 822: Strategic Assets in the Arctic.** In consultation with DOD, to report on progress toward implementing the strategic objectives described in Coast Guard’s 2013 Arctic Strategy.
• **Section 823: Arctic Planning Criteria.** Rewrites Alternative Planning Criteria for pollution response in U.S. Arctic and required a detailed report to Congress.

• **Title IX: Vessel Incident Discharge Act of 2018 (“VIDA”)** significantly amended U.S. regulation of vessel ballast water discharges. Among other things, VIDA repeals the EPA’s 2014 Small Vessel General Permit (“SVGP”), amends the Clean Water Act to establish “Uniform National Standards for Discharges Incidental to Normal Operation of Vessels,” and authorizes the EPA to promulgate new regulations to establish federal standards of performance for marine pollution control devices for each type of discharge incidental to the normal operation of covered vessels, including ballast water and graywater. The new regulations will replace the EPA’s 2013 Vessel General Permit (“VGP”).

**Save our Seas Act**

In a bipartisan White House ceremony on October 10, 2018, President Trump signed the **Save Our Seas Act (“SOS Act”) of 2018** into law. The Act, which passed both houses of congress unanimously, is divided into three titles. **Title I** amends the Marine Debris Act (MDA). The MDA seeks to identify, determine the sources of, assess, prevent, reduce, and remove marine debris from the oceans with a particular focus on marine debris posing a threat to living marine resources or navigation safety.

The **Ocean Conservancy** estimates that more than half of the estimated eight million metric tons of plastic polluting the world’s oceans comes from a handful of nations. Acknowledging the international nature of the problem, the SOS Act calls upon the U.S. Department of State to engage other nations to redouble research efforts to reduce marine debris and to negotiate one or more international agreements aimed at, among other things, mitigating the discharge of land-based solid waste into the sea.

The SOS Act renews the marine debris program for five years and authorizes $10 million/year for the NOAA marine debris program for FY 2018 through 2022, along with up to $2 million/year for the Coast Guard.

**National Defense Authorization Act for FY 2018**

President Trump signed the FY 2018 **National Defense Authorization Act (NDAA)** into law on December 12, 2017. Although section 122 of the Act authorized construction of one Polar class heavy icebreaker, the authorization act does not appropriate the necessary funds.

**Some in Congress Continue to Push for an Arctic Deep-Water Port.** The Water Resources Development Act (WRDA) of 2018 was signed into law on October 23, 2018. The legislation, which is part of **America’s Water Infrastructure Act of 2018**, seeks to improve water infrastructure throughout the United States. Section 1203 of the Act requires the Secretary of
the Army to expedite the completion of a feasibility study for the “project for navigation in Nome” (i.e., expansion of its existing port into a deep-water port), and if the Secretary determines that the project is justified in a completed report, the Secretary may proceed directly to preconstruction planning, engineering, and design of the project.

In February 2015, The U.S. Army Corps of Engineers first released a draft study on the feasibility of expanding the port of Nome into a deep-water port, but the study was paused a few months later when Shell announced they would not continue oil exploration in the U.S. Arctic, making the economic imperative of the port more uncertain. Three years later, in February of 2018, the Corps once again raised the prospect of a deep-water port in Nome, entering into an agreement with the city to examine the feasibility of “constructing navigation improvements.” In July 2018, Bruce Sexauer, the chief of Army Corps Civil Works for the Alaska Branch, said they were at least six months away from releasing the final report. At this writing, the final report has yet to be released. Interestingly, despite repeated calls for public-private partnerships to fund Alaskan infrastructure, at the December 2018 Arctic Circle event in South Korea Michael Perkinson, senior managing partner of the Guggenheim Partners investment firm, admitted that an Arctic deep-water port does not yet make financial sense.

2.  **PRESIDENT**

Donald J. Trump took office as the 45th president of the United States on January 20, 2017. As expected, the new administration revisited several decisions made by its predecessors.

**Withdrawal from Paris Agreement.** In May 2017, President Trump announced that the U.S. would withdraw from the Paris Agreement.

**Elimination of Bering Sea Climate Resilience Area.** On April 28, 2017, President Trump issued an Executive Order outlining an “America-First Offshore Energy Strategy” that repealed President Obama’s executive order issued four months earlier establishing the Bering Sea Climate Resilience Area.

**U.S. Science and Technology Policy.** The White House’s Office of Science and Technology Policy’s National Science and Technology Council revealed its draft plan to the public in June 2018. The draft, addressing pressing concerns for the next decade, was open to public comment until the end of August. The five goals for the organization are: to understand the ocean in the Earth system; promote economic prosperity; ensure maritime security; safeguard human health; and develop resilient coastal communities.

**Executive Order Regarding Ocean Policy.** President Donald Trump issued an executive order on June 19, 2018 regarding the ocean policy to advance the economic, security, and environmental interests of the United States. The executive order revoked Executive Order 13547 (Stewardship of the Ocean, Our Coasts, and the Great Lakes) of July 19, 2010 issued by President Obama.

3. **DEPARTMENT OF STATE**

On April 26, 2018, Mike Pompeo was sworn in as Secretary of State, succeeding Rex Tillerson. Mr. Pompeo was formerly Director of the Central Intelligence Agency.

The Department of State’s Office of Ocean and Polar Affairs (OPA) is a part of the Bureau of Oceans and International Environmental and
Scientific Affairs (OES). Julia Gourley has served as the U.S. Senior Arctic Official since 2005. As previously reported, the first U.S. Special Representative for the Arctic, retired Coast Guard Admiral Robert Papp, resigned in early 2017, and no replacement has been named. In addition, Ambassador David Balton who, as Deputy Assistant Secretary for Oceans and Fisheries, led Department of State negotiations on the principal Arctic Council agreements, retired from federal service in 2017 and accepted a Senior Fellow position with the Polar Institute in Princeton’s Wilson Center. William Gibbons-Fly has served as the Acting Deputy Assistant Secretary for Oceans and Fisheries since January 2018.

The State Department imposed sanctions on 33 Russian individuals and businesses on September 20, 2018. The total number sanctioned has grown to 72 Russians since Trump took office.

**New Sanctions on Russia for Attack.** On August 22, 2018, the State Department imposed new sanctions on Russia pursuant to the Chemical and Biological Weapons Control and Warfare Elimination Act of 1991 (CBW Act). The sanctions follow the use of a “Novichok” nerve agent in an attempt to assassinate UK citizen Sergei Skripal and his daughter Yulia Skripal. The U.S. government determined that the Russian government used the weapons in violation of international law, and against its own nationals.

**Russian Consulate in Seattle Ordered Closed.**

In March 2018, the Trump Administration requested the closure of the Russian consulate in Seattle due in part to its proximity to the U.S. Navy’s Kitsap-Bangor nuclear submarine base, and the UK assassination attempt using a nerve agent by the Russian government. Sixty Russian diplomats were expelled as well. State Department spokeswoman Heather Nauert said that the closure of the Seattle consulate was intended to send a message to Russia about the incident.

4. DEPARTMENT OF HOMELAND SECURITY/U.S. COAST GUARD

On December 6, 2017, Kirstjen Nielsen was sworn in as Secretary of Homeland Security, replacing John F. Kelly.

Admiral Karl Schultz took over as the 26th Commandant of the U.S. Coast Guard replacing Admiral Paul Zukunft on June 1, 2018. Prior to taking over as commandant from 2018-2022, Schultz served as the Coast Guard Atlantic Area commander since August 2016. Admiral Charles Ray took over as the 31st Vice Commandant on May 24, 2018. He replaced Adm. Charles D. Michel, who retired after 33 years of service.

The U.S. Coast Guard is the largest section within the Department of Homeland Security. It comprises 56,000 active duty, reserve, and civilian Coast Guardsmen and 24,000 volunteer Coast Guard Auxiliarists.

Admiral Schultz issued several key policy documents upon taking command. His [Commandant’s Guiding Principles: 2018-2022](#) set out the theme that will define his term: a Coast Guard that is ready, relevant, and responsive. On October 11, 2018, he released the Coast Guard’s [Maritime Commerce Strategic Outlook](#), and on November 15, 2018 he released the [Coast Guard Strategic Plan 2018-2022](#).

**State of the Coast Guard.**
Admiral Paul Zukunft, Commandant of the U.S. Coast Guard, Delivered his State of the Coast Guard address on March 1, 2018.

Regarding the Arctic areas protected by the Coast Guard, Adm. Zukunft said, “We are trusted in the Arctic to preserve our sovereignty over precious oil and minerals, to ensure access to opening shipping routes, and, let’s not forget, to keep our border secure in a region with an emerging U.S. coastline and a mounting Russian footprint.”

He also announced the planned release of a request for proposal to acquire a heavy icebreaker; however, at year’s end congress had failed to appropriate funds for its construction. His successor, Adm. Schultz, elected to refer to the replacement “heavy” polar icebreakers as “Polar Security Cutters.”

Arctic Coast Guard Forum

The Department of Homeland Security released a joint statement on October 30, 2015, officially establishing the Arctic Coast Guard Forum (ACGF).

The ACGF aims to achieve cooperative action as an operationally focused, consensus-based organization with the purpose of leveraging collective resources to foster safe, secure and environmentally responsible maritime activity in the Arctic. Membership includes Canada, Denmark, Finland, Iceland, Norway, Sweden, the Russian Federation and the United States.

The Arctic Coast Guard Forum Experts met in Helsinki, Finland this year to discuss the Polaris Live Exercise to be held in April 2019.

At the first principals’ meeting, representatives approved the ACGF Terms of Reference and a Joint Statement of the participating states.

The ACGF’s Experts met in Helsinki, Finland this year for a three-day meeting in mid-October 2018. The meeting was the main planning conference for the upcoming Polaris 2019 Live Exercise to be held in Finland in April 2019. Participants in the Polaris Live Exercise include vessels from Finland, Sweden, Russia and Norway, airplanes from Iceland and Denmark and SAR helicopters from Finland and Norway. The final planning conference will take place in Iceland in January 2019.

In addition to the Polaris Live Exercise, the ACGF Secretariat discussed other activities of the Forum, mainly the upcoming Chairmanship of the Icelandic Coast Guard, as they will take over the Chairmanship from Finland in April 2019. During their Chairmanship the Icelandic Coast Guard aims to deepen cooperation between the ACGF and some of its key stakeholders, such as the Association for Arctic Expedition Cruise Operators (AECO) and the Arctic Council’s Working Group on Emergency Prevention, Preparedness and Response (EPPR).

New Study on Alaskan Arctic Coast Port Access Routes. On December 21, 2018, the Coast Guard announced it is initiating a Port Access Route Study for the Alaskan Arctic Coast (AACPARS). The information gathered during the AACPARS may result in the establishment of one or more vessel routing measures. The notice states: “Sea ice extent in the Arctic Ocean, Chukchi Sea, and Beaufort Sea is declining. These changes in the arctic are affecting the people, wildlife and habitat of the region which in turn has resulted in increased levels of government attention, media attention, scientific research, natural resource exploration, eco and adventure tourism, and increasing commercial use of the Northwest Passage and the Northern Sea Route as alternative shipping routes. As the federal agency most responsible for coastal and marine spatial planning, the Coast Guard, via the PARS process, is initiating the study to analyze current vessel patterns, predict future vessel needs and balance the needs of all waterway users by developing and recommending vessel routing measures for the arctic coast.” The study is expected to take 48 months.

USCG Icebreakers. On November 30, 2018, the U.S. Coast Guard’s icebreaker Healy (WAGB 20) returned to its homeport in Seattle following the cutter’s annual Arctic deployment, during which the cutter completed three science missions in partnership with the National Science Foundation (NSF), the National Oceanic and Atmospheric Administration (NOAA) and the Office of Naval Research (ONR). According to the cutter’s public statement, the NSF research included studying the physical oceanography and offshore ocean currents in the Chukchi and Beaufort Seas. Their findings will aid scientists who are charting biological conditions in the Polar region. The ONR project is part a larger, multi-year effort to detail the effects of water inflow and surface force changes on ocean stratification and sea ice in the Beaufort Sea. The Healy crew fixed special instruments on ice floes and anchored subsurface moorings to the seafloor, which will remain in place until they return next year. Healy, a 420-foot “medium” icebreaker with a permanent crew of 87, is one of only two active U.S. Polar class icebreakers. The other, USCGC Polar Star (WAGB 10), a “heavy” Polar class icebreaker built in 1976, serves as the annual Operation Deep Freeze vessel, to break the ice necessary to resupply the U.S. Antarctic research station in McMurdo Bay. She departed for the 2019 mission in December 2018, less than two months after a six-month long drydocking in Vallejo, California. She arrived in Antarctica on January 17, 2019. Congressional appropriations to replace the 42-year old vessel remain in doubt. The Coast Guard has been the sole provider of the nation’s polar icebreaking capability since 1965.

Updated Alternative Planning Criteria National Guidelines. The U.S. Coast Guard published updated Alternative Planning Criteria Guidelines for vessel spill response in the Federal Register on October 16, 2017. The updated national guidelines provide the maritime industry with current information on developing and submitting alternative planning criteria and are intended to facilitate consistency in the Coast Guard’s review of proposed alternatives.
On March 22, 2017, Admiral Zukunft testified before the Senate Committee on Commerce, Science and Transportation, Subcommittee on Oceans, Atmosphere, Fisheries and the Coast Guard. Referring to the joint Navy-Coast Guard Integrated Program Office, he reported that this approach will leverage the expertise of both organizations and is already delivering results with plans to release a request for proposal (RFP) for Detail Design and Construction in FY 2018.

**Arctic Shield 2018.** As part of Operation Arctic Shield 2018, the Coast Guard deployed two MH-60 Jayhawk helicopters in Kotzebue, and three icebreakers from Dutch Harbor to engage in missions in the Bering Strait, Chukchi, and Beaufort Seas. Arctic Operation Shield is intended “to support Coast Guard missions in response to increased maritime activity in the Arctic.” The objectives are to:

- Perform Coast Guard missions and activities in the Arctic
- Enhance Arctic Maritime Domain Awareness (MDA)
- Broaden partnerships in support of Coast Guard Arctic operations
- Enhance and improve preparedness, prevention, and response capabilities

The U.S. Coast Guard’s Arctic Strategy objectives are: Improving Awareness, Broadening Partnerships and Modernizing Governance.

**Coast Guard Center for Arctic Study and Policy (CASP)**

The Coast Guard established the Center for Arctic Study and Policy (CASP) in September 2014. SES Michael Emerson, Director of the Coast Guard’s Marine Transportation Systems Management Directorate (CG-5PW), provides overall direction for CASP.

The CASP mission is to promote academic research on Arctic policy and strategy by facilitating collaboration, partnerships, and dialogue among specialists from academia, government, tribal organizations, NGOs, industry, and the Coast Guard. The core CASP team is assisted by four research fellows: Roger Rufe (Vice Admiral, U.S. Coast Guard, retired and former president of Ocean Conservancy), Lawson W. Brigham, James B. Ellis, and Craig H. Allen Sr.

On November 2, 2018, the CASP fellows met with senior Coast Guard leaders, along with David Kenney (Senior NOAA Advisor for the Arctic) and Heather Conley (Vice President for Europe, Eurasia, and the Arctic at CSIS). The agenda included CASP accomplishments, visibility of near-term initiatives, and strategic planning for future projects.

**DHS Arctic Domain Awareness Center**

The Department of Homeland Security’s Arctic Domain Awareness Center (ADAC) is a research and development center hosted by the University of Alaska. Although a formal ribbon-cutting ceremony was held in Anchorage in 2015, the Center has been operating since August 2014, bringing together academics, industry groups, stakeholders, and government agencies working on technology in the Arctic. Reportedly, the Center will offer scholarships and other opportunities for studies to research navigation simulation and Arctic modeling.

ADAC hosted the North American Arctic Maritime and Environmental Security Workshop from September 18-20, 2018, at the University of Alaska Anchorage. The purpose of the workshop was “to collaboratively assess domestic and environmental security in the North American Arctic maritime region.”
The Center is currently studying capabilities to track Arctic oil spills, map new sea lanes, forecast sea ice, and improve situational awareness. ADAC is also working to develop a Great Lakes Ice Classification System that could be applied in the Arctic.

Other Coast Guard Developments

- In July 2018, the Coast Guard released a request for information (RFI) related to the Service Life Extension Project (SLEP) for the 42-year-old USCGC *Polar Star*. Until a replacement heavy icebreaker is procured, the Coast Guard plans to use *Polar Star* for polar missions.

- Two, small cube satellites and their ground stations were purchased as pilot program technology for advancing Coast Guard intelligence and communications in the Arctic. The 6U CubeSats were launched from California in December 2018 as part of the Polar Scout project.

- Rear Admiral Matt Bell took over as commander of the U.S. Coast Guard District 17 in early May 2018. Adm. Bell is based in Juneau, Alaska.

- Starting July 20, 2018, towing vessels are now subject to inspection and certification by the Coast Guard. The requirements are jointly set by the Marine Transportation Act of 2004.

5. DEPARTMENT OF COMMERCE / NOAA

Wilbur Ross was sworn in as Secretary of Commerce on February 28, 2017, replacing Penny Pritzker. Timothy Gallaudet, Ph.D., USN Ret., is acting NOAA Administrator.

On June 19, 2017, Chris Oliver, formerly Executive Director of the North Pacific Fishery Management Council, was appointed Assistant Administrator for Fisheries (commonly referred to as the National Marine Fisheries Service).

2018 Arctic Report Card. The U.S. National Oceanic and Atmospheric Administration (NOAA) posted its 2018 Arctic Report Card on December 11, 2018. Key findings in the 2018 Report Card (the 13th such annual report) included:

- Surface air temperatures in the Arctic continued to warm at twice the rate relative to the rest of the globe. Arctic air temperatures for the past five years (2014-18) have exceeded all previous records since 1900.

- In the terrestrial system, atmospheric warming continued to drive broad, long-term trends in declining terrestrial snow cover, melting of the Greenland Ice Sheet and lake ice, increasing summertime Arctic river discharge, and the expansion and greening of Arctic tundra vegetation.

- Despite increase of vegetation available for grazing, herd populations of caribou and wild reindeer across the Arctic tundra have declined by nearly 50% over the last two decades.
• In 2018 Arctic sea ice remained younger, thinner, and covered less area than in the past. The 12 lowest extents in the satellite record have occurred in the last 12 years.

• Pan-Arctic observations suggest a long-term decline in coastal landfast sea ice since measurements began in the 1970s, affecting this important platform for hunting, traveling, and coastal protection for local communities.

• Spatial patterns of late summer sea surface temperatures are linked to regional variability in sea-ice retreat, regional air temperature, and advection of waters from the Pacific and Atlantic oceans.

• In the Bering Sea region, ocean primary productivity levels in 2018 were sometimes 500% higher than normal levels and linked to a record low sea ice extent in the region for virtually the entire 2017/18 ice season.

• Warming Arctic Ocean conditions are also coinciding with an expansion of harmful toxic algal blooms in the Arctic Ocean and threatening food sources.

Charting the Arctic.

According to the U.S. National Oceanic and Atmospheric Administration (NOAA), 1.5 percent of U.S. Arctic waters have been surveyed with modern survey methods. Many of the charts, including those covering the waters off western Alaska and the Aleutian Islands, contain information dating back to before World War II. Other regions remain entirely unsurveyed. NOAA’s 2018 Hydrographic Survey plan included several areas off Alaska, including Point Hope and Vicinity, an area of which seventy percent remains unsurveyed, and the area west of Prince Wales Island, last surveyed in 1916.

Ocean Acidification.

Ocean acidification is spreading rapidly in the western Arctic Ocean in both area and depth, potentially affecting shellfish, other marine species in the food web and communities that depend on these resources, according to new research published in Nature Climate Change by NOAA, Chinese marine scientists and other partners. Ocean acidification combined with warming of the world oceans and loss of oxygen is having a severe impact on key Arctic marine species such as polar cod in the Barents Sea, according to a study conducted by German scientists.

Ringed Seal Critical Habitat. The ringed seal is the smallest and most common seal in the Arctic. They are commonly associated with ice floes and pack ice. Ringed seals are a primary food source for polar bears and share the polar bears’ reliance on ice and snow in the Bering, Chukchi, and Beaufort Seas.

Photo Credit: NOAA

The total Alaska ringed seal population is estimated to be over 300,000. All ringed seals
are protected under the Marine Mammal Protection Act. Some ringed seal stocks are also protected as threatened or endangered under the Endangered Species Act, which requires designation of critical habitat areas. In December 2014, NOAA proposed to designate roughly 350,000 square miles of Alaska’s north and west coasts as critical habitat for ringed seals. Threats to ringed seals include the reduction in sea ice and on-ice snow cover, entanglement in fishing gear, increased use of waterways, and oil and gas exploration. The proposed designation includes “no regulatory restrictions, only a consultation requirement for federal agencies.” The public comment period closed on March 31, 2015. No further action has been reported.

Beluga Whales

Beluga Whale stocks are found in Alaska’s Beaufort Sea, Bristol Bay, eastern Bering Sea, and eastern Chukchi Sea waters. In 2016, the National Marine Fisheries Service (NMFS) designated the Sakhalin Bay-Nikolaya Bay-Amur River stock of beluga whales as a depleted stock under the Marine Mammal Protection Act (MMPA).

Ocean Noise Strategy Roadmap

In late 2016, NOAA released the final Ocean Noise Strategy Roadmap, which will guide the agency’s efforts to manage ocean noise effects on marine life. The Roadmap highlights a path to expand NOAA’s historical focus on protecting specific species by additionally addressing noise impacts on high value acoustic habitats. According to NOAA, the Strategy Roadmap will serve as an organizing tool to rally its multiple agency offices that address ocean noise impacts around a more integrated and comprehensive approach. The roadmap suggests key roles for continuing partnerships and starting new ones with other federal agencies, industries, academic researchers, environmental advocates, and others.

6. DEPARTMENT OF INTERIOR / BOEM / BSEE / USGS

A widely cited 2008 report on the oil and gas potential north of the Arctic Circle by the DOI’s U.S. Geological Survey (USGS) concluded that the area north of the Arctic Circle has an estimated 90 billion barrels of undiscovered, technically recoverable oil, 1,670 trillion cubic feet of technically recoverable natural gas, and 44 billion barrels of technically recoverable natural gas liquids in 25 geologically defined areas. That represents 13 percent of the undiscovered oil, 30 percent of the undiscovered natural gas, and 20 percent of the undiscovered natural gas liquids in the world. About 84 percent of the estimated resources are expected to occur offshore.

In July 2015, USGS issued its Arctic Science Strategy 2015–2020. The Strategy supports five of the goals established by the President’s National Strategy for the Arctic Region.

Oil and Gas Royalty Rates Will Not Be Lowered.

Interior Secretary Ryan Zinke said in March 2018 that he will not lower royalty rates for offshore oil and gas lease sales. Zinke cited the success of President Donald Trump’s energy strategy as a reason for not adhering to the recommendation of his appointed Royalty Policy Committee. The Committee had advised him to slash the royalty rate for offshore drilling by nearly one-third to 12.5 percent in February. The committee’s intent in lowering the rates was to encourage more U.S. energy production.

2017-2022 OCS Lease Program
Oil and Gas leasing under the Outer Continental Shelf Lands Act begins with a five-year plan developed by the Department of Interior. On March 15, 2016, former Secretary of Interior Sally Jewell announced the Proposed Program for 2017-2022. As planning got underway, there were 13 potential lease sales in four program areas in all or parts of six outer continental shelf planning areas. That included 10 sales in the combined Gulf of Mexico Program Area, and one sale each in the Chukchi Sea, Beaufort Sea, and Cook Inlet Program Areas offshore Alaska. No lease sales are proposed for the Pacific or Atlantic OCS.

According to the Department, the Arctic sales were not scheduled until late in the five-year program in order “to provide additional opportunity to evaluate and obtain information regarding environmental issues, subsistence use needs, infrastructure capabilities, and results from any exploration activity associated with existing leases.” However, President Obama later struck most of the Beaufort and Chukchi Seas Planning Areas from the list of BOEM sites.

On April 28, 2017, President Trump issued Executive Order 13795 titled “Implementing an America-First Offshore Energy Strategy.” In response, on January 4, 2018, Secretary Zinke announced a proposed 2019-2024 OCS plan that would open 90 percent of the U.S. outer continental shelf to leasing.

**BOEM Preparing Environmental Impact Statement for Potential 2019 Beaufort Sea Lease Sale.**

The Bureau of Ocean Energy Management (BOEM) is preparing an environmental impact assessment off the northern coast of Alaska in the Beaufort Sea. The assessment will analyze the potential effects of oil and gas leasing, exploration, development, and production in the area. A 30-day public comment period, opened November 16, 2018, will inform a final decision on whether to hold the proposed sale of leases. The last lease sale in the Beaufort Sea was in April 2007.

**Lawsuit Challenges Trump Administration over Oil Leasing in Beaufort and Chukchi Seas.** Environmental groups are challenging President Trump’s Executive Order that would undo President Obama’s withdrawal of the Beaufort and Chukchi Seas from oil leasing due to environmental risks (League of Conservation Voters v. Trump, (D. Alaska). The arguments center on whether Congress has delegated the power to revoke withdrawals to the President via the Outer Continental Shelf Lands Act. It states: “The President of the United States may, from time to time, withdraw from disposition any of the unleased lands of the outer Continental Shelf.”

The outcome of the litigation may impact the Trump Administration’s plans to hold a lease sale in the areas next year.

**No Threatened Species Status for Pacific Walrus**
In October 2017, the Trump administration announced it would not list the **Pacific walrus** as a threatened species despite diminished Arctic Ocean sea ice. U.S. Fish and Wildlife Service officials said they cannot determine with certainty that walruses are likely to become endangered "in the foreseeable future," which the agency defines as the year 2060. In 2011, agency officials indicated that the walruses did deserve the additional protection of being labeled as threatened, but then delayed the listing because other species were a higher priority at the time and later changed course as a result of new information.

**Public Comments on Eni Beaufort Sea Exploration Plan.** In June 2017, BOEM announced that Eni US Operating Co., Inc. had met the regulatory requirements for its Beaufort Sea exploration plan (EP) to be “deemed submitted,” and invited public comment on the plan. Eni US is a subsidiary of Italian multinational oil and gas company Eni S.p.A. If approved, the company’s work program would take 18 months, according to the proposed work plan submitted to the agency. The work would start with the drilling of the first well in December 2017 and end when the flow test of the final well would be complete in May of 2019.

**Draft Environmental Impact Statement on the Liberty Development and Production Plan in the Beaufort Sea Planning Area**

The Bureau of Ocean Energy Management (BOEM) announced the availability of a Draft Environmental Impact Statement (EIS) for the Liberty Development and Production Plan (DPP) in the Beaufort Sea Planning Area and accepted public comments through November 17, 2017. The Draft EIS analyzed the potential environmental impacts of the proposed action described in the Liberty DPP and reasonable alternatives to the proposed action.

**Draft Environmental Impact Study in Arctic National Wildlife Refuge Complete.**

Congress lifted the three-decade long ban on oil leasing in the Arctic National Wildlife Refuge (ANWR) in late 2017. The Department of Interior hopes to begin lease sales in the ANWR in 2019. Joe Balash, assistant Department of the Interior secretary for lands and minerals management, announced the completed draft Environmental Impact (EIS) Study in December 2018. The EIS was in the Federal Register on December 28, beginning a 45-day public review. Following the review, a final EIS will be drafted and oil companies will be solicited for suggestions on areas they would like offered for lease.

Potential lease sales in the Arctic refuge have drawn criticism from environmental advocates. Jamie Rappaport Clarke, President of Defenders of Wildlife, vowed a legal fight.

### 7. DEPARTMENT OF DEFENSE

Patrick M. Shanahan became Acting Secretary of Defense on January 1, 2019, replacing former Marine General James Mattis. A Boeing engineer for over 30 years, Shanahan had served as Deputy Secretary of Defense since July 19, 2017.
The Department of Defense’s Arctic Strategy sets out the Department’s desired end-state for the Arctic: a secure and stable region where U.S. national interests are safeguarded, the U.S. homeland is protected, and nations work cooperatively to address challenges. It articulates two main supporting objectives: (1) ensure security, support safety, and promote defense cooperation, and (2) prepare to respond to a wide range of challenges and contingencies—operating in conjunction with other nations when possible, and independently if necessary—in order to maintain stability in the region.

The strategy identifies the ways and means DOD intends to use to achieve these objectives as it implements the National Strategy for the Arctic Region. The ways include (1) exercise sovereignty and protect the homeland, (2) engage public and private sector partners to improve domain awareness in the Arctic, (3) preserve freedom of the seas in the Arctic, (4) evolve Arctic infrastructure and capabilities consistent with changing conditions, (5) support existing agreements with allies and partners while pursuing new ones to build confidence with key regional partners, (6) provide support to civil authorities, as directed, (7) partner with other departments and agencies and nations to support human and environmental safety, and (8) support the development of the Arctic Council and other international institutions that promote regional cooperation and the rule of law.

The United States Navy, in its 2014-2030 Arctic Roadmap, predicted that the region will remain a low threat security environment characterized by peaceful resolution of differences. The Navy considers its present Arctic posture sufficient for near-term defense requirements, but recognizes that increased activity in shipping, oil and gas development, and fishing will alter the strategic importance of the Arctic. With particular attention on increasingly open Arctic Sea shipping routes, the Navy’s objectives seek to ensure Arctic sovereignty and homeland defense, provide naval forces ready to respond to crisis and contingencies, preserve freedom of the seas, and promote international partnerships. In a September 12, 2016 speech to the Center for American Progress, U.S. Chief of Naval Operations (CNO) John Richardson observed that melting polar caps would have a profound impact on how the Navy does business. He acknowledged that the U.S. Navy’s presence in the Arctic has been limited due to constrained budgets and urgent needs elsewhere in the world but stated that future ships should still be designed with potential Arctic operations in mind.

A New Navy Arctic Strategy?

Navy Secretary Richard V. Spencer and Chief of Naval Operations Adm. John Richardson told the Senate Armed Services Committee in April 2018 to expect a revised Navy Arctic Strategy in the summer. At year’s end, the strategy had yet to be released.

Navy Report to Congress Validates Low Risk in Arctic. The Navy’s June 2018 report to Congress aligned with DOD’s assessment that the Arctic is at low risk for conflict, and that DOD has the capability to execute the 2016 Arctic Strategy, according to a November 8, 2018, Government Accountability Office (GAO) report.

Navy Sees Need for Increased Missions in the Arctic. Navy Secretary Richard Spencer expressed the importance of establishing a greater U.S. Navy presence in the Arctic while
addressing an audience at the Center for Strategic and International Studies in December 2018. Mr. Spencer said, “We need to have a strategic Arctic port up in Alaska. We need to be doing [freedom of navigation operations] in the northern passage. We need to be monitoring it.” The threat posed by the Russian buildup in the Arctic is a top priority for Mr. Spencer. Naval experts are concerned about Russia’s claims to the Northern Sea Route, including the claim that shippers should pay the Russian government to use it. However, the Northern Sea Route extends mostly across international waters. By traversing the route via Arctic missions, the Navy plans to ensure the continued freedom to navigate the passage.

**Navy Re-established Second Fleet**

The Navy’s Second Fleet was re-established on July 1, 2018, in Norfolk, Va. to respond to a changing security environment. Adm. Richardson stated, “Our national defense strategy makes clear that we’re back in an era of great power competition as the security environment continues to grow more challenging and complex.” The command post will manage assets closer to the U.S. and, according to a memo written by Secretary of the Navy Richard V. Spencer, “Second Fleet will exercise training and operational authorities over assigned ships, aircraft, and landing forces in conducting maritime, joint and combined operations in support of designated Unified and Allied Commanders.” The command is set to have 85 officers, 164 enlisted, and seven civilians.

**Deep-Water Arctic Ports Feasibility Still on Hold.**

The Army Corps of Engineers and the Alaska Department of Transportation and Public Facilities released a draft report on the continuing Deep-Draft Arctic Port System Study in February 2015. After spending several years considering possible locations, the study recommended expanding the capacity of Nome Harbor, and found no significant adverse impact on species or historic sites protected under various federal laws. The plan objectives included addressing the need for enhanced marine infrastructure to support multiple maritime missions, facilitating holistic economic growth, being compatible with cultural, subsistence and natural resources, taking into account existing land uses, encouraging shared responsibility for development in the Arctic, and allowing for multi-purpose use of Arctic resources.

The estimated project cost, which includes lands, easements, facilities and construction of general navigation features, is $210.8 million, with an estimated additional $8.3 million for deepening the navigation features, and roughly $244,000 in annual operation and maintenance costs. These costs would be apportioned between Federal and non-Federal sources in accordance with the Water Resources Development Act of 1986 (see below).

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<th>Portion of Project</th>
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<th>Non %</th>
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<tr>
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In October 2015, the Corps of Engineers suspended work on the Nome deep-water feasibility study, following Shell’s September 28 announcement that it was suspending its Arctic exploration activities for the “foreseeable future.” Nevertheless, some in Congress continue to press the issue upon the Corps, most recently in the above-mentioned Water Resources Development Act (WRDA) of 2018.

8. NASA

The National Aeronautics and Space Administration’s Cryospheric Science Program is a major contributor to the nation’s Arctic science effort. Among other missions, NASA provides ice observations by satellite and aircraft.

9. ENVIRONMENTAL PROTECTION AGENCY

EPA Administrator Scott Pruitt resigned on July 9, 2018 and was succeeded by Andrew Wheeler, who was appointed by the President to serve as Acting Administrator.

EPA leads U.S. government participation in the Arctic Council’s Arctic Contaminants Action Program (ACAP) Working Group, which seeks to reduce contamination from hazardous chemicals and waste, improve air quality and reduce emissions of black carbon and other short lived climate forcers. EPA also serves as the U.S. head of delegation to the Project Support Instrument (PSI), the new funding mechanism for Arctic Council projects.

On December 11, 2018, the EPA and U.S. Army Corps of Engineers jointly proposed a new definition of “Waters of the United States,” which will replace the agencies’ 2015 definition.

In July 2018, EPA issued its report on Assessment, Monitoring and Adaptation to Food and Water Security Threats to the Sustainability of Arctic Remote Alaska Native Villages. The project was extended through June 30, 2019.

10. SIGNIFICANT U.S. COURT DECISIONS

District of Columbia Circuit Judge Brett Kavanaugh was sworn in as the Supreme Court’s 114th justice on October 6, 2018. He filled Justice Anthony Kennedy’s seat.


In its initial decision in the case the district court denied the defendant’s motion to dismiss and held that the potential harm to the oceans from President Trump’s executive order was sufficiently imminent, geographically specific, and particularized to establish standing under Article III.

Juliana v. U.S. Climate Lawsuit Updates

A number of youth plaintiffs filed a constitutional climate lawsuit against the U.S. government in the District Court for the District of Oregon in 2015. The plaintiffs’ argument is that the federal government has violated the youngest generation’s constitutional rights to life, liberty, and property through affirmative actions that cause climate change. The complaint also asserts that the government has failed to protect essential public trust resources.

As we reported last year, trial was stayed pending an interim appeal to the Ninth Circuit. However, on March 7, 2018, the Ninth Circuit unanimously rejected the appeal, and the district court trial was rescheduled to start October 29, 2018.

Cases of Continuing Interest

The state of Alaska was joined by oil and gas interests in a challenge to the Department of Interior’s Fish and Wildlife Service decision to designate 187,000 acres of Alaska’s coast and waters as critical habitat for polar bears designated “threatened” under the Endangered Species Act (the D.C. Circuit upheld the designation in 2013. In re Polar Bear ESA Listing, 709 F.3d 1, 2–3 (D.C. Cir. 2013)). The challenger’s prevailed in the federal district court, but that decision was reversed by the Court of Appeals for the Ninth Circuit in 2016. The next year the U.S. Supreme Court denied the petition for a writ of certiorari.

Alaska Oil & Gas Ass’n v. Pritzker, 840 F.3d 671 (9th Cir. Oct. 24, 2016)

The Ninth Circuit reinstated a decision protecting bearded seals in Alaska under the Endangered Species Act. The October 2016 decision reversed a lower-court ruling and accepted that projections of climate change present a long-term threat to the ice-dependent species. The opinion was based on whether the National Marine Fisheries Service can list an animal population as endangered that is not currently endangered but is likely to suffer a population decline in decades to come. The decision is similar to an earlier legal battle over the polar bear, which is now listed as threatened because of projections modeled out to 2050. The Ninth Circuit denied rehearing on February 22, 2017. The petition for certiorari was denied. Alaska v. Ross, 138 S. Ct. 924 (2018)

11. STATE COURT CASES

The City of New York brought a lawsuit against five major oil companies at the beginning of 2018. New York Mayor Bill de Blasio said, “It’s time for Big Oil to take responsibility for the devastation they have wrought.” The lawsuit sued ExxonMobil, Chevron, BP, Royal Dutch Shell and ConocoPhillips for the costs of protecting the city against rising sea levels brought on by climate change and increased greenhouse emissions. However, federal judge John Keenan dismissed the lawsuit saying it was not within the court’s jurisdiction to regulate greenhouse gases. The city was not deterred and refiled a lawsuit citing global warming and increasing heat-related deaths saying: “the average annual temperature in New York City has increased at a rate of 0.79°F per decade over the last thirty years. Without mitigation, the hotter summers projected for 2020 could cause an estimated thirty to seventy percent increase in heat related deaths in the New York City.” In the end, the lawsuit was dismissed as well as the Clean Air Act regulates these issues. Judge Keenan said: “The Clean Air Act displaced plaintiff’s federal common law claim seeking damages for harm caused by past emissions, as the Clean Air Act already provides a means to regulate carbon dioxide emissions from domestic power plants.”

West Coast Fisherman Sue Oil Companies for Climate Change Damages. The Pacific Coast Federation of Fishermen’s Associations (PCFFA), a trade association for West Coast fishermen, has launched a multiparty lawsuit against multiple oil companies including Chevron, Exxon, BP, Shell, Marathon, and Anadarko over alleged economic damages resulting from CO2 emissions. The named companies are allegedly responsible for fifteen percent of global CO2 emissions between 1965 and 2015. The suit
connects the CO2 emissions to a rare ocean warming pattern in the Northeastern Pacific from 2013-2016. The ocean warming led to toxic algal blooms, which forced the closure of West Coast crab fisheries for four years.

12. U.S. ARCTIC RESEARCH COMMISSION

The U.S. Arctic Research Commission (USARC) was established by the Arctic Research and Policy Act of 1984. Its principal duties are to (1) establish the national policy, priorities, and goals necessary to construct a federal program for basic and applied scientific research with respect to the Arctic, including natural resources and materials, physical, biological and health sciences, and social and behavioral sciences; (2) promote Arctic research, to recommend Arctic research policy, and to communicate our research and policy recommendations to the President and the Congress; (3) work with the National Science and Technology Council and the National Science Foundation as the lead agency responsible for implementing the Arctic research policy and to support cooperation and collaboration throughout the Federal Government; (4) give guidance to the Interagency Arctic Research Policy Committee to develop national Arctic research projects and a five-year plan to implement those projects (see White House National Science and Technology Council, Arctic Research Plan 2013-2017); and (5) interact with Arctic residents, international Arctic research programs and organizations and local institutions including regional governments in order to obtain the broadest possible view of Arctic research needs.

On May 21, 2015, USARC released its newly updated goals report, Report on the Goals and Objectives for Arctic Research 2017-2018 for the U.S. Arctic Research Program Plan. The Plan is founded on USARC’s six priority research goals:

1. Observe, Understand, and Predict Arctic Environmental Change
2. Improve Arctic Human Health
3. Transform Arctic Energy
4. Advance the Arctic “Built Environment”
5. Explore Arctic Cultures and Community Resilience
6. Enhance International Scientific Cooperation in the Arctic

The Commission held its 109th Meeting on April 21, 2018, in Seattle, Washington and its 110th Meeting on September 5-6, 2018, in Kotzebue, Alaska, to discuss the Commission’s 2019-2010 Goals Report

13. NATIONAL OCEAN COUNCIL

President Obama issued the National Ocean Policy in 2010 and the National Ocean Policy Implementation Plan in 2011. Under the policy, the U.S. marine and Great Lakes waters were divided into nine planning regions. Federal, state, and tribal governments from each region were invited to submit regional Marine Spatial Plans to the National Ocean Council for approval. On February 12, 2016, the Council released its 2016 Annual Work Plan and Guidance on Marine Plans.

In late 2016, two regional plans, the Northeast Ocean Plan and the Mid-Atlantic Ocean Action Plan, were approved.

Under President Trump, the National Ocean Council was reorganized. The White House stated: “President Trump is rolling back excessive bureaucracy created by the previous Administration.” Additionally, an executive
order by President Trump in June 2018 revoked the 2010 Oceans Policy issued by President Obama.

![Image](image_url)

The nine marine spatial planning areas. Note that all of Alaska lies within one planning area.

14. COMMITTEE ON THE MARINE TRANSPORTATION SYSTEM

The Committee on the Marine Transportation System (CMTS), established by President George W. Bush in 2004, is a federal cabinet-level, interdepartmental committee chaired by the Secretary of Transportation. Its purpose is to create a partnership of federal departments and agencies with responsibility for the Marine Transportation System (MTS).

The Secretary of Transportation directed the Committee on the Marine Transportation System (CMTS) to complete three items required by the President’s National Strategy for the Arctic Region (NSAR) Implementation Plan (2014) related to the U.S. Arctic maritime domain. The second task was completed on April 15, 2015, with the publication of the CMTS Ten-year Prioritization of Infrastructure Needs in the U.S. Arctic. In response to its third task, on October 24, 2016, CMTS circulated a draft report on "Recommendations and Criteria for Using Federal Public-Private Partnerships to Support Critical U.S. Arctic Infrastructure.” The public comment period closed on November 23 of the same year.

15. NATIONAL ACADEMIES TRANSPORTATION RESEARCH BOARD

The January-February 2018 issue of TR News was devoted to “Marine Transportation and the Environment: Trends and Issues.”

B. UNITED STATES: ALASKA

In the 2018 midterm elections, Republican state lawmaker Mike Dunleavy was elected to serve as the 12th Governor of the state of Alaska, defeating former U.S. Senator and Anchorage mayor Mark Begich by 7 points. Mr. Dunleavy was sworn in on December 3, 2018. He appointed Kevin Clarkson to be Alaska Attorney General.

At 586,400 square miles, Alaska is more than twice the size of Texas, the second largest state, and is larger than all but 18 of the nations in the world. The state has more shoreline (34,000 miles) than the rest of the nation combined. Alaska has produced over 17 billion barrels of oil. From 1980 – 2000 Alaska accounted for 20 percent of the U.S. domestic oil production. More than half of the fish harvested in the U.S. are taken in the federal and state waters off Alaska. Cruise ships carry some one million passengers to Alaska each year.

Alaska’s Coastal Zone Management Program, in place since 1977, was allowed to sunset on July 1, 2011. In 2012, Alaska voters overwhelmingly (62% to 38%) rejected an initiative (Ballot Measure 2) that would have restored the CZM Program. As a result, Alaska is the only coastal state in the U.S. that does not have a CZM plan developed and approved under the federal Coastal Zone Management Act of 1972. Reportedly, the state has also declined to
participate in the voluntary regional marine spatial planning called for by the President’s National Ocean Policy. Whether Governor Walker will reverse that stand is unclear.

In 2017, Alaska’s economy continued to struggle after Shell’s withdrawal and oil prices stagnating below $50-$60 per barrel. Although President Trump’s reversals of Obama-era policies caused much controversy, oil companies are unlikely to bid on Arctic OCS leases unless oil prices rise back up to $100 per barrel. Alaska's gross state product, the total value of all the goods and services the state produces, has declined for five years and is down 22 percent due to the lower oil prices and production. In order to close Alaska’s budget deficit, analysts suggest that oil must reach about $94 per barrel.

In contrast to strong growth throughout most of the nation, Alaska’s economy has experienced multi-year job declines and is in the midst of its longest recession to date. Alaska’s seasonally adjusted unemployment stood at 6.4 percent at the end of 2018, compared to the national average of 3.7 percent.

**Strong Earthquake Shakes Anchorage.** On November 30, 2018, a 7.0 magnitude earthquake centered 10 miles north of Anchorage, Alaska, caused extensive damage to the region’s roads and bridges, but did not result in any deaths or serious injuries. A series of aftershocks, one measuring 5.7, followed. A brief tsunami warning was promptly cancelled. The Trans-Alaska Pipeline, located 100 miles away, was temporarily shut down to facilitate a precautionary inspection. Alaska is the most seismically-active state in the United States. The strongest North American earthquake in recorded history, measuring 9.2 on the Richter scale and lasting four and one-half minutes, devastated central Alaska in 1964. The quake caused 139 deaths and over $300 million in property damage. The largest resulting tsunami wave was recorded in Shoup Bay, Alaska, with a height of about 220 feet. A 27-foot tsunami destroyed the village of Chenega, killing 23. Tsunamis also severely affected Whittier, Seward, Kodiak, and other Alaskan communities, and were experienced as far away as California, Hawaii, Peru, New Zealand, and Japan.

**Oil Discoveries.** In January 2017, ConocoPhillips announced a new oil discovery on its large acquisitions from state and federal lease sales in December 2016. According to the oil company, this discovery in Alaska’s petroleum reserve could produce up to 100,000 barrels of oil daily, which would be a boon for Alaska’s troubled economy. If oil is produced on these federal lands, then Alaska would receive half of the 16.67 percent of the federal share.

**Alaska Native Corporation Seeking Permit for Oil Exploration in Beaufort Sea.** Hoping to succeed where Shell failed in 2016, a subsidiary
of Alaska’s wealthiest regional native corporation is moving ahead with plans to explore for oil in the U.S. Arctic Ocean. In 2017, ASRC Exploration asked federal regulators not to cancel a block of leases once held by Shell in federal waters at Camden Bay about 15 miles off the North Slope coast northwest of the Arctic National Wildlife Refuge. In 2016, officials did not approve Shell’s request to extend those Beaufort Sea leases, most of which are set to expire this year. ASRC Exploration acquired the leases from Shell in 2016 and hopes for a different result given President Trump’s pro-development administration.

Drilling in Alaska’s Arctic National Wildlife Refuge (ANWR). The Trump Administration has taken a step toward allowing oil and gas drilling in the 1.6-million-acre Refuge. The Interior Department’s Bureau of Land Management (BLM) started its “scoping process” for an environmental review assessing the impact of leasing drilling rights, the first step before drilling can start.

Alaska Signed ExxonMobil Sales Agreement Advancing State-led Gas Project

Alaska signed a gas sales agreement with ExxonMobil on September 10, 2018, agreeing on key gas pricing and volume terms related ExxonMobil’s Point Thomson gas fields.

Governor Bill Walker said that the agreement “means Alaska is one step closer to monetizing the North Slope’s vast and proven natural gas resources.”

ExxonMobil Alaska President Darlene Gates said, “This precedent agreement is good for Alaska and ExxonMobil and represents a significant milestone to help advance the state-led gasline project. “As the largest holder of discovered gas resources on the North Slope, ExxonMobil has been working for decades to tackle the challenges of bringing Alaska’s gas to market.”

ExxonMobil operates the Point Thomson gas field and holds a 62 percent stake in the unit (with BP owning nearly all of the remaining share), which sits east of Prudhoe Bay on state land near the edge of the Arctic National Wildlife Refuge. The company also holds a 36 percent interest in the Prudhoe Bay field. With roughly 28 trillion cubic feet of gas available from Prudhoe and another 8 trillion cubic feet (tcf) in Point Thomson, ExxonMobil has rights to nearly 15 tcf of North Slope gas.

C. CANADA

Canada is a party to the U.N. Convention on the Law of the Sea (UNCLOS) and a member of the Arctic Council. Canada’s extended continental shelf submission to the Commission on Limits of the Continental Shelf is detailed in Section IV.G.

Oceans Protection Plan. Partly in response to the October 13, 2016 foundering of the U.S. flag tugboat Nathan E. Stewart near Bella Bella, British Columbia, which resulted in a 25,000 gallon oil spill, Canadian Prime Minister Trudeau announced his Oceans Protection Plan (OPP) on November 7, 2016. The OPP commits $1.5 billion to improve marine safety and responsible shipping, protect Canada’s marine environment, and offer new possibilities for Indigenous and coastal communities.

In October 2015, Prime Minister Trudeau issued a directive to the Minister of Transport to impose a moratorium on crude oil tanker traffic in northern British Columbian waters, and in May 2017 the Trudeau administration introduced a bill in Parliament that will prohibit oil tankers from carrying crude and persistent oils as cargo from stopping, loading or unloading at ports or marine installations in northern
British Columbia. The bill remained in committee at the end of the year.

**Canadian Coast Guard’s annual Arctic 2018 season is underway.** The Coast Guard’s annual operational season ran until late November 2018 and included the maiden voyage of CCGS Samuel Risley, which departed July 11 from Quebec City. The extended presence of the Coast Guard is due to investments from the Oceans Protection Plan. Dominic LeBlanc, Minister of Fisheries, Oceans and the Canadian Coast Guard stated, “During our Arctic season, we are committed to engaging and working with Indigenous communities and organizations on multiple initiatives as part of the Oceans Protection Plan. This includes identifying and utilizing low-impact shipping corridors to help keep oceans and coasts safer, cleaner and healthier, while providing an increased presence in the Arctic to protect our coasts and waterways.” A total of seven Coast Guard vessels will support operational and program commitments this season.

**New Climate Change Ambassador Announced.** Prime Minister Trudeau announced on June 5th, 2018, that Patricia Fuller will serve as Canada’s Climate Change Ambassador for the next three years. Fuller will lead Canada’s climate change efforts and collaborate with global leaders on the issue.

Canada also hosted the G7 Summit the same week in Charlevoix, Quebec. The themes included climate change, oceans, and clean energy.

**Arctic Policy Framework.** The Canadian government is finalizing its new Arctic Policy Framework. The new federal policy “is intended to increase partnerships and collaboration between the federal government, Indigenous peoples and territorial and provincial governments.” The Arctic Policy Framework will inform governmental decisions in the Canadian and circumpolar Arctic to 2030. Themes identified include: comprehensive Arctic infrastructure; strong Arctic people and communities; strong, sustainable and diversified Arctic economies; Arctic science and Indigenous knowledge; protecting the environment and conserving Arctic biodiversity; and the Arctic in a global context. The last regional roundtable meeting was held March 15, 2018 in Manitoba.

**Defense Policy.** The Canadian government issued a new defense policy, “Strong, Secure, and Engaged,” in June 2017. The document references the Arctic more than 70 times, with an increased emphasis on Arctic surveillance and data collection. The policy reflects the government’s intention to monitor air traffic over all 36,000 islands in Canada’s archipelago, invest $8.8 billion over 20 years for vehicles suitable for army use in the Arctic, and coordinate information collection from drones, submarines, and satellites to get a more complete picture of the area, among other steps to increase Arctic security. Defense Minister Harjit Sajjan said military spending will grow by 70 percent to reach approximately $24.3 billion over the next decade.

The policy document specifically references Russia as a security threat in the Arctic, noting that “NATO has also increased its attention to Russia’s ability to project force from its Arctic territory into the North Atlantic, and its potential to challenge NATO’s collective defence posture.” In Foreign Minister Chrystia Freeland’s speech to the House of Commons the day before the release of the defense review, the Foreign Minister specifically focused on the assertive/aggressive actions of the Russian government as evidence that Canada is facing an increasingly dangerous and uncertain
international scheme. According to Rob Huebert of *Arctic Deeply*, “the 2017 Liberal defense review provides a clear expression of the government’s understanding of the changing security environment as it pertains to the Arctic...the terminology is no longer cast in terms of defending Canadian Arctic sovereignty, but is now clearly about defending Canadian Arctic security.”

**Sixth Arctic and Offshore Patrol Ship for Royal Navy.** As part of the government’s new defense policy, on November 2, 2018, it announced that it has [approved](#) acquiring a sixth Arctic and Offshore Patrol Ships (APOS) for the Royal Canadian Navy. The ship will help sustain shipyard jobs, patrol Canada’s oceans, and support missions abroad. APOS can be used for a variety of missions including coastal surveillance, search and rescue, drug interdiction, support to international partners, humanitarian aid, and disaster relief.

**New Joint Task Force with Denmark to Resolve Arctic Boundary Issues.** Canada and Denmark (with Greenland) created a joint task force in May 2018 to help resolve boundary disputes in the Arctic. The plan was announced before the tenth anniversary of the Ilulissat Declaration meeting. The areas discussed include Hans Island (a small rocky island of 1.3 sq. km), the maritime boundary line in the Lincoln Sea, and the Labrador Sea continental shelf overlap beyond 200 nautical miles. Foreign Affairs Minister Chrystia Freeland said in a statement that “As an Arctic nation, Canada is committed to working collaboratively with its Arctic neighbors to address issues of mutual concern.” Denmark’s Minister for Foreign Affairs Anders Samuelsen said the establishment of the joint task force is a breakthrough.

**New Arctic Shipping Safety and Pollution Prevention Regulations.** New Canadian [Arctic Shipping Safety and Pollution Prevention regulations](#) were proposed on July 1, 2017 and entered into force on December 16, 2017. The Department of Transport issued the regulations under authority of the Canada Shipping act of 2001. They are published as an annex to the Arctic Waters Pollution Prevention Act (C.R.C., c. 353). Among other things, the new regulations require covered vessels to hold an Arctic Pollution Prevention Certificate. Tankers and other covered vessels while operating in designated zones must have a qualified “ice navigator” aboard.

**Report Addresses Risks Arising From New Shipping Routes.** The Allianz Global Corporate and Specialty (AGCS) report entitled *Safety and Shipping Review* was published July 18, 2018. The report suggests that new shipping routes through Canada’s Arctic Archipelago present new risks for managers and insurers. Risks include collisions that occur long distances from salvage teams, the lack of help in case of an emergency, oil pollution, the effects of freezing water on ship mechanics, fog, and human error.

“Human error continues to be a major driver of incidents,” AGCS warned. “Captains and crews are under increasing commercial pressure as supply chains are streamlined. Tight schedules can have a detrimental effect on safety culture and decision-making, leading to the ‘normalization of risk.’”

**Nunavut Raises Hunting Limit of Western Hudson Bay Polar Bears.**

Nunavut’s Environment Minister, Joe Savikataaq announced an increase in the total number of Western Hudson Bay polar bears hunters in the Kivalliq region can kill, increasing the number to 38 bears per year. The change took effect July 1,
2018. Meanwhile, Nunavut’s Wildlife Director Drikus Gissing warned that artificially raising the total allowable harvest only leads to reduced hunting limits later on, as the polar bear population dwindles. Gissing said, “It’s very difficult, almost impossible to recommend, from a scientific point of view, increasing the quota.” The polar bear hunting has long been contentious.

As of July 1, 2018, hunters in Nunavut can look forward hunt a total of 19 more polar bears, following an announcement in the Nunavut legislature by Environment Minister Joe Savikataaq. (Photo by Jane George).

D. CHINA

China became a permanent observer at the Arctic Council in 2013. China now refers to itself as a “near Arctic state” (jin beiji guojia) and an “Arctic stakeholder” (beiji ilhaiguanxguo). President Xi Jinping has referred to China as a “polar great power” (jidi daguo).

China released its first Arctic policy. The country’s policy was released on January 26, 2018, by China’s Vice Minister of Foreign Affairs, Kong Xuanyou, at a press conference. The policy further details China’s hopes to cooperate with other countries in exploration, development, research and mining in the Arctic.

China to Coordinate Funding with Russia for Arctic Projects. The China Development Bank (CDB) has agreed to lend $10 billion (65 billion yuan) to Russia’s Vnesheconombank (VEB) for financing projects under Beijing’s Belt and Road initiative and the Moscow-led Eurasian Economic Union (EAEU). The loan is the biggest bilateral investment deals ever. The deal was agreed to during President Vladimir Putin’s visit to China in June 2018. The funding will support about 70 infrastructure development projects in the Russian Arctic. VEB Director Igor Shuvalyov said, “The cooperation between VEB and CDB will be a major contribution to the development of integration processes on the Eurasian continent.”

The funding relationship follows China’s funding of Russia’s LNG project (liquefied gas) in the Yamal Peninsula along the Northern Sea Route.

Gas Exports and Condition Monitoring Increase Presence. As of April 2018, China has increased liquefied natural gas exports using the Northern Sea Route with Russia’s assistance. China has also increased monitoring of oceanographic conditions from Svalbard, a Norwegian island. Heather Havens of the National Defense Industrial Association says the shrinking sea ice is attractive to the Chinese. Katie Burkhart from the U.S. Coast Guard explained that: “Even though energy prices remain fairly low, interest in future exploration for oil and natural gas and mineral mining remains high. China has contracted to mine for minerals in Greenland.”

Military Meeting with Russia. A Chinese naval commander met with Russian officials in
Severomorsk, Russia in late July 2018. Severomorsk is the main base for Russia’s Northern Naval Fleet. China has been expanding its naval operations worldwide. Experts speculate whether the meeting demonstrates further military cooperation between the two countries.

Beijing Seeks Tourism Opportunities in Russian Arctic. Arctic shipping routes from Southeast Asia to Europe are boosting interest in the development of Arctic tourism routes. The Russian Federal Agency for Tourism shared that Chinese tourists are attracted to the unique environment and complex ecosystem. Deputy Head Nikolai Korolev said, “China does not have Arctic territories, and thus this kind of tourism is of special interest for China – both from the point of view of studies, and from the point of view of new impressions, of new tourism products.”

Twin Satellite Launched

China launched twin Medium Earth Orbit satellites in March 2018 as part of its BeiDou satellite navigation system. The satellites are part of China’s overarching New Silk Road Initiative. The overall satellite navigation system helps guide transportation, including 40,000 fishing vessels which may use it to send distress signals.

MOUs on Arctic and Antarctic Cooperation. In 2017, China signed bilateral MOUs on Arctic and Antarctic cooperation with Argentina, Chile, Germany, Norway, Russia, and the U.S. in order to further its role in polar research. The MOUs cover a wide range of cooperation, including site investigation, scientific research, logistical support, environmental protection and management, staff exchanges, and policy planning.

Arctic Sea Route Added to Silk Road Plan. An Arctic sea route was included for the first time in China’s Belt and Road initiative in a document published in June 2017. Hailed by Chinese President Xi Jinping as a “project of the century,” the Belt and Road initiative seeks to boost trade through at least $900 million worth of investments into ports, railroads, and other infrastructure linking Asia with Europe and Africa via both land and sea routes. In the Arctic region, China plans to cooperate with other stakeholders to conduct research of navigational routes as well as environmental changes and to explore the region’s potential resources. The plan also encourages Chinese companies to take part in the commercial use of the Arctic route and states that China will actively participate in the events organized by Arctic-related international organizations.

This particular “blue economic passage” would be along Russia’s Northern Sea Route, the Arctic shipping lane along the country’s north coast. While China has been considering the development of this route for years, the country has been reluctant to do so officially because it has not yet released an official Arctic policy, unlike countries like Japan and South Korea, and remains in the data collection phase. The decision could also cause some political uneasiness among Arctic states as increased Chinese involvement in the region could upend the status quo.

China Growing Foreign Investments and Foreign Mining in the Arctic

China has been increasing its presence in the Arctic by investing in Iceland, Greenland, and mining. China reportedly is also interested in investing in Canadian ports.
According to a November 2017 CNA report co-authored by Mark Rosen (an Arctic expert, retired U.S. Navy captain and vice president and general counsel for the think tank CNA) titled, “Unconstrained Foreign Direct Investment: An Emerging Challenge to Arctic Security,” often nationalized Chinese companies and development banks have invested roughly $90 billion in Arctic infrastructure and resource projects since 2012. The report additionally estimates that China has invested upwards of $1.4 trillion in the economies of Arctic countries since 2005.

China also invested thirty percent in Russia’s $27 billion Arctic Yamal LNG project, which began oil exports in 2017.

E. DENMARK / GREENLAND / FAROE ISLANDS

The Kingdom of Denmark is a member of the European Union and the NATO Alliance. In addition to Denmark proper, the Kingdom comprises two autonomous constituent countries in the North Atlantic Ocean: the Faroe Islands and Greenland. Denmark’s extended continental shelf claim off Greenland is covered below in Section IV.G.

Denmark’s Foreign and Security Policy 2017-2018. In June 2017, the Danish government released its foreign and security policy strategy for the next two years. The strategy identifies five main areas of priority in the coming years: migration, instability and terrorism; security in Denmark and the surrounding region; Brexit and the future of the EU; seizing opportunities related to globalization; and the Arctic. The government will strengthen the embassy in Moscow to ensure stronger representation of Danish interests in dealings with Russia, particularly in relation to the security of the Arctic region and keeping it a conflict-free zone.

Denmark’s Foreign and Security Policy Strategy 2019-2020. In November 2018, the Danish government launched a new Foreign and Security Policy Strategy for the years 2019-2020. The strategy continues the previous policy but includes a series of initiatives and focus areas centered on navigating in a changing world order. Focus areas include a rules-based international order; security; a strong, streamlined, and effective EU; refugees, migration and development; economic diplomacy, strategic partnerships and the new digital world order; and the Arctic.

Danish National Assembly Critiqued State of the Arctic Report.

The Danish government published its annual state-of-the-Arctic report on October 3, 2018. The report laid out the prioritization of the Arctic as a foreign policy concern and its current goals; however, members from the Danish national assembly strongly criticized the government for failing to mention the Russian resurgence or Chinese influence in the region and failing to advocate for a stronger Danish military presence.

Greenland Names Members of Constitutional Commission. Greenland’s Constitutional Commission, which has seats for representatives from each of the national assembly’s parties, was named in April 2017. The commission will be responsible for coming up with two constitutions: one that will be valid before Greenland pulls out of the Kingdom of Denmark, and one that will apply independence.

Greenland’s Prime Minister to Remain following Coalition Agreement. Prime Minister Kim Kielsen will remain as Prime Minister
following an agreement to lead a government coalition comprised of his Siumut party, and three others including Partii Naleraq, Atassut and Nunatta Qjornai. Greenland’s voters participated in the April 24, 2018 election. The Siumut party received 27 percent of the vote.

**Extraction of Natural Resources in Greenland.** Greenland has actively sought investments to help pay for the increasing costs of social programs. Greenland’s mineral wealth and abundant natural resources are becoming more accessible due to climate change.

Companies continue to seek investment opportunities in Greenland’s increasing mineral wealth exposed by climate change. Uranium and zinc are mined in Kvanefjeld by Australian firm Greenland Minerals and Energy, in cooperation with China’s Shenghe Resources.

“A zinc mine is planned at Citronen Fjord which would be overseen by Perth-based Ironbark, which signed a memorandum of understanding with China Nonferrous Metal to assist with that project’s development.”

General Nice, a Hong Kong-based company, holds the rights to a potential iron mine at Isua in western Greenland.

**F. FINLAND**

Finland became a member of the European Union in 1995 (at the same time as Sweden). Finland assumed the chairmanship of the Arctic Council in 2017. During its two-year chairmanship Finland has emphasized the implementation of the Paris Agreement on climate change and the UN sustainable development goals (SDGs) in Arctic cooperation. Finland has also worked to strengthen Arctic cooperation and its continuity at the highest political level.

Finland’s Strategy for the Arctic Region was issued in 2013. The objectives of the policy are to strengthen multilateral Arctic cooperation, take part in the shaping of the EU’s Arctic policy, and raise Finland’s profile as an expert in Arctic issues.

Finland is a leader in the icebreaker industry. Around sixty percent of the world’s icebreakers are designed and built by Finnish companies. Helsinki-based Aker Arctic is a private Finnish company specializing in the design of ice-going vessels and icebreakers. Arctia Oy is Finland’s state-owned icebreaking company. It operates the world’s second-largest fleet with eight ships.

**Database of Arctic Emissions.** Finland chairs the Arctic Council’s Expert Group on Black Carbon and Methane whose main goal is to create a database on the impact of black carbon emissions. Member and observer states will provide information for the database, which will include data regarding black carbon emissions from ships. The main sources of black carbon emissions, which accelerate warming in the Arctic region, are vehicles and companies that use wood and coal, as well as forest fires, power stations and gas flares at oil fields. Black carbon, or soot deposits, is dangerous to the Arctic. It covers the ice, absorbing heat from sunlight rather than reflecting it back causing the sea ice to melt faster.

During the Finnish Climate Summit in Helsinki held in early June 2018, Finnish President Sauli Niinistö called on the Arctic Council member states to tackle black carbon emissions, especially the United States and Russia.

**Satellite-based Positioning and Navigation in the Arctic.** The Finnish Ministry of Transport and Communications and the Finnish Geospatial Research Institute launched the ARKKI project in October 2017. A user survey on the challenges
in navigation and geospatial information based applications in the Arctic was examined by expert working groups in an international workshop arranged in Olos, Finland, in April 2018.

**Proposed railway with Norway to connect Finland to Barents Sea deep water ports.**

The proposed railway would go along the Bay of Bothnia (pictured frozen above) and connect Oulu to Kirkenes in northern Norway | Olivier Morin/AFP via Getty Images

The Finnish and Norwegian governments conducted a study this spring to build a railway connecting Oulu, along the Bay of Bothnia and Rovaniemi to Kirkenes in Norway on the northern coast. The precise route will be determined over the next two years. The proposed railway is expected to boost economic growth—Finland hopes to export resources from its forests, mines, and fisheries to Asia using the Arctic sea routes. Harri Mäki-Reinikka, Finland’s ambassador for northern policies, explained “There is so much immense potential in the Arctic and the increased involvement of all these players has big incentives.” However, others are careful to point out that increased development in the north may disrupt the native Sami people and their way of life, which in large part involves herding reindeer. In 2017, more than 100 semi-domestic reindeer were killed by freight trains in northern Norway on a line that passes through traditional grazing areas.

**G. ICELAND**

Iceland is a member of the NATO Alliance, the European Free Trade Association, and the Council of Europe. It also hosts the annual Arctic Circle event. Iceland will assume Arctic Council Chairmanship in 2019 until 2021.

**Arctic Policy.**

Iceland’s policy on the Arctic stems from a parliamentary resolution adopted in 2011. The resolution outlined 12 areas including, Iceland’s position in the region, the importance of the Arctic Council and the United Nations Convention on the Law of the Sea, climate change, sustainable use of natural resources and security and commercial interests. It also emphasizes collaboration with the Faroe Islands, Greenland, and indigenous peoples.

**Iceland Hunts Endangered Whales.** Iceland killed 22 fin whales in the month from June – July 2018. The practice has tenuous legal ground, yet Iceland continues to allow whales to be hunted with impunity. Iceland is a member of the International Whaling Commission, which prohibited killing whales in 1986. However, the treaty is not legally binding or compulsory—there are no real consequences for failing to uphold the agreement. The whaling company Hvalur hf has a permit from the Icelandic government to hunt fin whales commercially. Yet the Icelandic government’s 2002 reservation for the whale killing moratorium to allow whaling is seen as invalid by many nations and the practice illegal. Iceland stated that commercial whaling would not be allowed without a sound scientific basis and population management plans. Iceland has not stuck to its word yet.

**NATO Air Defense Support.**
Iceland does not maintain a military but the nation does operate a civilian law enforcement Coast Guard and supports its NATO allies. Iceland has increased its defense spending by twenty to thirty percent since 2014, according to Minister of Foreign Affairs Gudlaugur Thor Thordarson. Iceland’s Coast Guard runs the NATO Iceland Air Defense System. Adm. James Foggo, the head of U.S. Naval Forces in Europe and Africa and the commander of NATO’s Allied Joint Force Command in Naples, stopped by Iceland for the kickoff of the Trident Juncture 2018 exercise. Adm. Foggo highlighted Iceland’s strategic location near the Greenland-Iceland-UK (GIUK) Gap and praised Iceland’s support: “They’re punching above their weight class: they’re doing integrated air defense, air policing, and they’re providing us with the opportunity to use facilities at Keflavik (Air Base) to launch P-8 aircraft and conduct surveillance and reconnaissance and also theater [anti-submarine warfare] that’s part and parcel of the Trident Juncture plan.”

**H. JAPAN**

The Arctic Council approved Japan’s application for Permanent Observer status in May 2013. Japanese shipping company Mitsui OSK Lines Ltd. (MOL) launched its regular transport of liquefied natural gas through the Arctic Ocean in March 2018. Shipping began with the launch of the first icebreaker, the Vladimir Rusanov, which is one of three MOL-chartered ice-breaking tankers planned for year-round operations between the Yamal Peninsula and Europe, and summer operations to Northeast Asia.

Led by Prime Minister Shinzo Abe, Japan formally announced the release of its first white paper for Arctic development in October 2015 at the Japanese Headquarters for Ocean Policy (unofficial translation available [here](#)). The policy seeks the country’s active participation in the process of creating international rules in the Arctic region, as well as for investment in projects to develop oil, gas and other natural resources, consideration of an international resources management framework, and establishment of a sea route connecting Asia and Europe.

The white paper discusses the rapidly changing environment and increasing interest in the Arctic, as well as Japan’s need to address seven Arctic issues: global environment, Indigenous peoples, science and technology, ensuring the rule of law and promoting international cooperation, Arctic Sea route, natural resources development, and national security.

The white paper goes on to explain Japan’s history in the Arctic. Beginning in the 1950s, Japan carried out research in the Arctic, maintaining a high level of scientific interest in the changing environment. In 1991, Japan was the first non-Arctic state to station an observation base in the Arctic, as well as join the International Arctic Science Committee.

Japan further discussed the importance of cooperating with Arctic Ocean coastal states to ensure the balance between the freedom and safety of navigation, while protecting and preserving the marine environment under international law in the Arctic. Japan plans to contribute its scientific and technological knowledge to further increase the activities of the Arctic Council, and actively engage in other international forums.

Additionally, the white paper discusses the importance of national security and the risk of opening new shipping routes that may cause “friction among states.” Japan asserted that
importance of preventing “moves to strengthen military presence in the [Arctic] region from leading to tension and confrontations.” Despite this possible friction, Japan emphasizes the importance of promoting cooperation with the Arctic and other states.

New Ocean Policy Emphasizes Defense and Security

The Japanese government finalized its ocean policy in May 2018 for the years 2018 – 2022. The plan emphasizes regional security and remote island defense while considering the potential threat of nuclear missile activities from North Korea and China’s maritime expansion. The plan will enhance Maritime Domain Awareness activities, enhance the capabilities of Self-Defense forces and the Japanese Coast Guard, and make it easier for Japanese vessels to utilize the Northern Sea Route.

Commercial Whaling to Resume. Japan withdrew from the International Whaling Commission (IWC) and will resume hunting whales commercially. Japan announced it will begin commercial whaling in July 2019. Chief Cabinet Secretary Yoshihide Suga explained the hunts will be limited to Japan’s territorial waters and its 200-mile exclusive economic zone along its coasts. Additionally, Japan will cease its “scientific” whaling operations in the Antarctic and northwest Pacific Ocean. Japan claims that whale stocks have recovered enough to resume commercial whaling in disagreement with the IWC’s commercial whale moratorium established in the 1980s.

I. NORWAY

Oslo District Court dismisses Challenge to Norway’s Arctic Oil Program. On January 4, 2018, the Oslo District Court approved Norway’s plans for oil exploration in the Arctic, dismissing a lawsuit that claimed it violated the people’s constitutional right to a healthy environment. The government acted in accordance with the law when awarding new petroleum exploration licenses for the Barents Sea, the court ruling stated. The case, brought by Greenpeace and Nature and Youth, argued that a 2015 oil licensing round in the Arctic violated Norway’s constitution. The government’s lawyers argued that the case was a publicity stunt that would cost jobs if it was successful. The court ordered the environmental groups to pay the state’s legal costs of around $71,000.

Equinor [nee Statoil] Developments. Statoil changed its name to Equinor on May 16, 2018. Equinor explained: “Now we have a responsibility to change again. To find a better balance. To provide the energy the world needs and effectively fight climate change. We’re evolving from an oil and gas company into a broad energy company.” Equinor is Norway’s largest oil company and is the most active one on the Norwegian Arctic shelf.

Advocate for Cutting Emissions. The head of the Norwegian Shipowners’ Association Harald Solberg stated in reference to the International Maritime Organization (IMO), that “Emissions should be reduced by 50 percent towards 2050 compared to 2008.” The ambitious emission target was presented at the IMO meeting in April 2018.

Norwegian state-owned carbon capture technology firm Gassnova assigned Statoil (now Equinor) the task of developing an offshore carbon storage facility, which could be the world’s first storage site to receive carbon dioxide from several industrial sources.
Equinor’s $6 billion Planned Arctic Oilfield Approved. The Norwegian Parliament approved Equinor’s $6 billion development and operation plan for a giant Johan Castberg Arctic oil field located in the Barents Sea. The oil field has an estimated 450-650 million barrels of oil equivalent, the largest subsea field globally. The oil was first discovered in 2011 but the company has delayed its plans due to declining oil prices. Now, the company expects the first oil to be extracted in 2022.

Norwegian Coast Guard Vessel Manages Challenges in Securing Svalbard. Svalbard is Norway’s northernmost territory, an island roughly the size of Ireland in the Arctic Circle. The territory is subject to a 1920 treaty forbidding any nation from building a military presence on it. The Coast Guard provides a single vessel for securing Svalbard despite the changes brought by climate change and increasing tourism.

The Norwegian Coast Guard vessel (NoCGV) Harstad is equipped to tow a 100,000-ton ship, engage in firefighting, deliver fuel or water, and recover 12,000 cubic meters of an oil spill. Without additional vessels to help, Harstad does its best to manage the many priorities it is tasked with.

Norwegian Coast Guard to get three new ships. The Norwegian Ministry of Defense has contracted with VARD Langsten yard for the construction of three new Coast Guard ships totaling 5,2 billion kroner or €552 million. The ships are expected to be delivered from 2022-2024 and will replace the current vessels KV Nordkapp, KV Senja, and KV Andenes. The 136-meter ships, once complete, will be the three largest Coast Guard vessels sailing the European Arctic.

Updated Military Surveillance Radar. The Norwegian Intelligence Service is engaging in a comprehensive modernization of its GLOBUS radar system in Vardø, Norway, a small fishing village located on the coast of the Barents Sea. The GLOBUS radar system has been present since the 1950s in cooperation with the United States. It conducts surveillance, tracks and categorizes space objects, and collects research data. Construction of GLOBUS III began in 2016 and the radar in fall 2018. Once constructed, the radar system will undergo comprehensive testing until 2022. In March 2017, Russian aircraft mock attacked Vardø, flying into attack positions from the Barents Sea. The maneuvers validated Russian fears that the radars may track its missile and submarine activities.

Norwegian Parliamentary Elections. The Conservatives, along with their coalition partner the Progress Party (FRP) and two other center-right allies, won 89 seats in the 169-seat Norwegian parliament in September 2017, re-electing Prime Minister Erna Solberg. Despite the election results, Arctic oil drilling remains a contentious issue in the Parliament as the Liberals continue to oppose the government’s support of drilling in the Barents Sea. Meanwhile, Aili Keskitalo was re-elected as President of the Sami Parliament.

Norway’s Oil Fund Reaches $1 Trillion. In 2017, the value of Norway’s Government Pension Fund Global, also known as the Oil Fund, hit $1 trillion—nearly $200,000 per citizen. The Fund is based on revenue raised from the nation’s oil
industry and the government intends that the savings will provide support to Norwegian citizens when the oil eventually runs out. Later in the year, Norges Bank recommended the removal of oil stocks from the fund’s benchmark index to make the fund less vulnerable. Oil and gas equities currently account for around 6 percent of the Norwegian Government Pension Fund Global (often named the oil fund) benchmark index, including an investment in the Russian company Gazprom Neft, which operates the Prirazlomnoye field in the eastern Barents Sea. The Prirazlomnoye field is Russia’s only offshore oil-field in the European Arctic.

J. RUSSIA

Oil and gas are responsible for more than 60% of Russia’s exports and provide more than 30% of the country’s gross domestic product (GDP). Although it is widely believed that the health of Russia’s economy is tied directly to the market price of crude oil, Russia’s success in developing its extensive natural gas deposits (in spite of Western sanctions) dominated the news in 2018. Novatek is Russia’s largest independent natural gas producer (in contrast, Gazprom is a state-owned enterprise that exports its gas primarily by pipeline), Novatek took control of Yamal LNG in 2009 and now owns a majority share in the project. Novatek owns 50.1%; France’s Total S.A. and the China National Petroleum Corporation each own 20%; and China’s Silk Road Fund has signed an agreement to purchase 9.9%. In 2018, 25% of Yamal LNG’s total capacity of 18 million tons of LNG per year was in operation. The second train started operations in August 2018, and LNG production from the plant has been expanding steadily. Reportedly, exports from the Yamal LNG port of Sabetta rose 130% in 2018.

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Russia's extended continental shelf (ECS) claim in the Arctic is still pending. Russia delivered its original submission to the Commission on the Limits of the Continental Shelf (CLCS) to establish its rights to an area in the Sea of Okhotsk, which was unanimously approved. Russia's extended continental shelf (ECS) claim in the Arctic is still pending. Russia delivered its original submission to the Commission on the Limits of the Continental Shelf (CLCS) to establish its rights to an area in the Sea of Okhotsk, which was unanimously approved. But it's still pending.

The Russian submission, which was still pending before the CLCS at the end of 2018, would report that Russia's ECS claim would extend out to 1.2 million square kilometers.

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June 2014, however, it submitted a "partial revised Submission in respect of the Arctic Ocean." The Russian submission, which was still pending before the CLCS at the end of 2018, would report that Russia's ECS claim would extend out to 1.2 million square kilometers.

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The Yamal LNG Project

To transport the liquefied natural gas (LNG) from the Sabetta loading terminal to the Asian and European markets, Novatek arranged for the design and build a fleet of up to sixteen 299 meter, ARC 7 class icebreaker-LNG tankers at an estimated cost of $320 million each. All but one of the vessels will be named after famed Russian explorers. By December 2018, the first 10 vessels were completed. Two more were to enter service in 2019. The first ship, Christophe de Margerie, traversed from Norway to South Korea via the Northern Sea Route in 19 days in August 2017.

<table>
<thead>
<tr>
<th>Vessel</th>
<th>Operator</th>
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<tbody>
<tr>
<td>Christophe de Margerie</td>
<td>Sovcomflot</td>
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<tr>
<td>Boris Vlikitski</td>
<td>Dynagas</td>
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<td>Vladimir Rusanov</td>
<td>Mitsui OSK Line</td>
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<td>Fedor Litke</td>
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<td>Eduard Toll</td>
<td>Teekay LNG Partners</td>
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<td>Vladimir Vize</td>
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<td>Georgiy Brusilov</td>
<td>Dynagas</td>
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Although most of Yamal’s production is destined for Asia, recent winter cargoes have been transported by the carriers from the Yamal LNG loading port of Sabetta to Norway’s Sanes Fjord near Honningsvåg (Norway’s northern most city) where, under an agreement between Russia’s Novatek and Norway’s Tschudi Group, some is transferred to other tankers for onward shipment to Poland, France, and the Netherlands (a practice criticized by the United States). A similar transshipment operation is planned in Kamchatka for cargoes destined for Asia-Pacific markets.

Novatek is now planning a second project, commonly referred to as Arctic LNG 2, on the Gydan Peninsula, across the Gulf of Ob from Yamal LNG. Partners reportedly include Japan, China, and Saudi Arabia. The plant’s annual production is expected to ready 19.8 million tons of LNG, with production expected to begin in 2022 or 2023.

Russian Diplomats Expelled from Nordic Countries. Following the nerve agent attack in the U.K. in the spring of 2018, Norway, Sweden, Finland, and Denmark all expelled Russian diplomatic staff. The U.K. expelled twenty-three diplomats following the incident. The countries
all spoke strongly against the chemical attack on European soil since World War II, with Finland’s Foreign Ministry saying, “It is highly likely that the Russian Federation is responsible for the attack, [which] poses a serious threat to the security of the whole of Europe.”

**Rosatom Takes Charge of the Northern Sea Route.** In December 2018, the Russian Government adopted a law defining the powers of the Rosatom State Corporation in the development and operation of the Northern Sea Route (NSR) and adjacent territories. Rosatom will now be responsible for shipping, navigation safety, and development of port and energy infrastructure in the NSR waters and adjacent territories, as well as the providing of necessary services. Earlier, Rosatom appointed Vyacheslav Ruksha as the leader of the Northern Sea Route (NSR). Ruksha was previously the Director General of Atomflot, responsible for the country’s icebreaker fleet based in Murmansk.

**New Construction of North Pole Research Station Started.** On December 20, 2018, construction officially began in St. Petersburg of the world’s first research station based in high Arctic waters. The station will weigh approximately 10,390 tons and include a platform measuring 84 meters long, and 22.5 meters wide. The North Pole will be able to drift autonomously for up to two years and carry a crew of 14 and teams of up to 34 researchers conducting geological, acoustic, geophysical, and marine studies. Construction is expected to finish in 2020.

**New Oil Field and Pipeline Planned by Gazprom.** According to Gazprom CEO Alexsey Miller, the company is planning the development of an oilfield in Kharasavey. Construction is planned to begin in 2019 and continue until 2023. The project will include the building of a 100-km oil pipeline to Bovanenko, a nearby field and infrastructure hub. The Kharasavey holds 2 trillion cubic meters of natural gas, and production will amount to 32 billion cubic meters per year. Parts of the field are located offshore in the Kara Sea.

**Rosneft Finds First Oilfield Offshore in the Eastern Arctic.** Rosneft, Russia’s largest oil producer, has been working in the Laptev Sea since 2014 and made its first oilfield discovery in the area in 2017. Currently, there is only one offshore platform in the Russian Arctic, Prirazlomnoye, operated by Gazprom Neft, which expected to produce 2.6 million tons (52,000 barrels per day) in 2017. Rosneft and its partners plan to invest 480 billion rubles ($8.4 billion) to develop Russia’s offshore energy industry in the next five years and is seeking collaboration with several global oil producers. The Arctic offshore area is expected to account for between 20 and 30 percent of Russian production, one of the world’s largest, by 2050.

**New Arctic Office Opened by Natural Resource Minister.** The Minister of Natural Resources, Dmitry Kobylkin announced the establishment of a new Arctic department, saying the reorganized structure is needed for the new decrees by President Putin. The change involved transferring meteorological issues to the newly formed Department of State Policy and Regulation in the Development of Specially Protected Natural Territories. The new department will prioritize ecology and studying the Arctic and Antarctic regions.

**Northern Sea Route Shipping Volume Expands.** This year the volume of cargo shipped along the Northern Sea route has increased to five times what it was five years ago. Aleksandr Kalashnikov of the Northern Sea Route Administration
projected the 2018 cargo volume to be 17m tons, compared to 3m tons shipped in 2013. Rosatom’s Maksim Kulenko reported explosive growth for shipping in 2018—about 18 million tons of goods were shipped. The volume is expected to grow to 30 million tons in 2019.

Biologists Urge Stop to Whale Capture. Twenty-five biologists from around the world sent a letter to the Russian Federal Service for Overseeing Natural Resources urging it to stop capturing free-range orca whales in the Sea of Okhotsk for sale to marine parks, likely in China. Capturing free-range orca whales results in high stress to the orcas causing injuries, deaths, fractured social networks within pods and potential long-term population declines. 90 belugas and 11 orca whales have been confined in tiny enclosures since the summer—the number of belugas captured has averaged 20 per year until this year; the Total Allowable Catch (TAC) for orcas is 13, not including numbers killed or injured during capture.

Russian law prohibits capturing cetaceans except for scientific or educational purposes; however, Russian companies have been expanding trade in both beluga and orca whales for years claiming educational purposes. Scientists urge Russian authorities to stop issuing TAC for orcas while it conducts an environmental assessment.

Plans to Build Islands for Natural Gas Industry. Prime Minister Dmitry Medvedev signed an agreement on June 17, 2017 to build artificial islands in Kola Bay of the Barents Sea at an estimated cost of $420 million by 2020. Although meant to serve the natural gas industry, authorities did not explain why the selected site for the islands and LNG facilities is so far away from the feedstock gas deposit. The announcement drew concern from environmental groups worried about how this construction will impact the surrounding ecosystem.

Creation of Northern Sea Route Agency. On June 30, 2017 the Minister for the Development of the Russian Far East announced that Russia will be establishing a specialized organization for the development of the Northern Sea Route, but the Minister did not provide a timeline for when the agency would be created or where it would be located. The Minister indicated that one of the main goals will be to increase the number of vessels utilizing the Northern Sea Route, allowing ship owners from China to contribute proposals regarding services and infrastructure along the route.

Arctic Spending for Five-Year Plan Increased. Russian investment in the Arctic until 2024 is 5,5 trillion rubles, according to the Minister of Natural Resources Dmitry Kobylkin. Investment is expected to increase to 13,5 trillion rubles for the period from 2024-2050. The federal budget will provide 900 billion rubles (€12 billion) and companies are expected to invest the remaining amount of 12,6 trillion (€167.8 billion).

The funding supports President Putin’s May Decrees, which called for a boost in shipping along the Northern Sea Route to 80 million tons of goods by 2024. At a government ministers meeting in December 2018, Prime Minister Medvedev explained, “Our focus should be on the development of huge so-called anchor projects that will create completely new conditions for the development of the Northern Sea Route and its year-round utilization.” To Russia, the Arctic remains an important outpost for both its national security and economic interests.

Russian military aircraft conducted drills in the Arctic. Over twenty fighter jets from the Russian
Air Force and the Northern Fleet practiced various drills over the Arctic in April 2018. The drills used missiles against simulated enemy air targets, such as violators of Russian airspace.

**Russia Tests Underwater Drone Carrying Nuclear Warheads.** In July 2018, Russia launched trials of its Poseidon underwater drones in carrying nuclear warheads at its testing ranges. The nuclear warhead is estimated to have the capacity of up to 2 megatons to destroy enemy naval bases, aircraft carrier groups, and other targets. The drones and the nuclear-powered submarines that carry them comprise the oceanic multi-purpose system of the Russian Defense Ministry. The Defense Ministry stressed that the system “aims to increase Russia’s defense capability and prevent any aggression against our country and its allies.”

**Russian Nuclear-Powered Icebreaker Sets Arctic Speed Record.** The nuclear-powered icebreaker known as 50 Years of Victory set a speed record along the northern sea route, covering the distance from Murmansk to the North Pole in 79 hours, which was twice as fast as the first surface vessel (Arktika) to reach the North Pole in 1977.

**Russian Restricts the Passage of Foreign Warships.** The Russian Defense Ministry will restrict the passage of foreign warships through the Northern Sea Route next year. The change will take effect in 2019 following the passage of amended legislation. The change is viewed as another indicator of Russia’s increasing military presence in the Arctic.

**Launching of 22220-Series Nuclear Icebreaker “Sibir”**. On September 22, 2017, a Baltic shipyard in St. Petersburg ceremoniously floated out “Sibir,” the second of Russia’s new Project 22220 nuclear powered icebreakers for year-around navigation in Arctic waters. The first of the class, “Arktika,” was put on the water in 2016 and will be commissioned in mid-2019. “Sibir” will follow a year later and is expected to make her first port-call to Murmansk in November 2020.

**Building LNG Transshipment Terminal for Delivery to Asia-Pacific Markets.** Russia's Novatek signed an agreement with the Kamchatka Territorial Government to build an LNG sea terminal facility for reloading LNG from Arctic ice-class tankers to conventional LNG tankers. The terminal is anticipated to have a capacity of 20 million tons per annum (MTPA) and will be completed by 2023. The company said it would optimize the logistics of LNG supplies from the Arctic region, stimulate use of the Northern Sea Route, and create a new LNG supply hub for Asian-Pacific regional consumers.

**Autonomous cargo ships promise safety and savings.** A study conducted by Russian nuclear researchers proposed shipping cargo across the Northern Sea Route via autonomous, unmanned vessels. The study, released in April 2018, was a joint effort by Russian State Atomic Energy Corporation Rosatom and All-Russian Scientific Research Institute of Experimental Physics (VNIIEF), proposes ways to make shipping safer and more cost effective. The hull of ships can be constructed without room for crew members, cargo can be placed in the bow, and the vessel dimensions optimized. The study also pointed out that sixty to eighty percent of ship incidents are attributed to human mistakes. However, digital models and simulations are the next step in the continuing study before any benefits can be realized.

**Novatek Delivered First Shipment to China using Northern Sea Route.** Russian company Novatek delivered the first ever liquefied natural gas (LNG) shipment to China in July 2018 using the Northern Sea Route (NSR). A ceremony
commemorated the arrival of LNG tankers Vladimir Rusanov and Eduard Toll with cargo capacity over 170,000 cubic meters each to the Chinese port of Jiangsu Rudong.

"Utilizing the Northern Sea Route as a viable transportation route contributes to the development of the northern regions and is very important for our country’s economic development," Novatek’s head Leonid Mikhelson said in a statement. Shipping via the NSR cuts down on shipping time by nearly half, or fifteen days.

New Research Platform Construction is Planned for 2019. Russia is planning to build a self-propelled platform that will have top-level ice protection and have the ability to move autonomously in Arctic waters for up to three years. The €98 million construction project is set to begin in 2019, following the active development phase that started in June 2018. The North Pole platform will be operated by the federal meteorological service Roshydromet and will replace research stations based on drifting ice floes.

Volume Shipping on the Northern Sea Route a Top Priority. President Putin has an ambitious goal for the Northern Sea Route—increasing the volume of shipping to 80 million tons by 2024. In 2017, around 10.7 million tons were shipped via the Northern Sea Route. In his state of the nation address in March, Putin said, “The Northern Sea Route will be the key to the development of the Russian Arctic and the regions of the Far East. By 2025, its traffic will increase tenfold, to 80 million tons.” The NSR is expected to ship liquefied natural gas and coal to Asia. Putin’s target exceeds the previous estimates provided by the Russian Ministry of Natural Resources, which say shipping volumes could increase to 67 million tons by 2025, and 72 million tons in 2030.

Legislation Nationalized Arctic Petroleum Shipments. At a meeting on November 16, 2017, President Putin told key ministers and business leaders that he wanted Russian-flagged ships to have the exclusive right to move oil and gas across the Northern Sea Route. Putin reportedly stated, “This step will allow us to boost the volumes of marine shipments, it will strengthen the position of national shipping companies and create additional opportunities for renewal of the fleet.” Amendments to the federal shipping went into force on February 1, 2018. In addition to oil products and liquefied natural gas, the legislation also includes coal. The key Arctic ports of Murmansk and Arkhangelsk are outside the geographic scope of the new rules. The law also provides an important loophole, stating that companies that entered into contract agreements for use of foreign-flag vessels before February 1, 2018 may continue operations. This exception is of critical importance to Novatek, one of the largest stakeholders in the Russian Arctic. In 2017, a fleet of fifteen new ice-class LNG carriers were being built for the company’s Yamal LNG project, all carrying foreign flags.

For a report on the Northern Sea Route see Section V.A. The Russian military posture is examined in Section V.H.

K. SCOTLAND

Scotland is developing a new strategy to highlight the country’s role in addressing issues that affect the Arctic Circle. Scotland’s Arctic Strategy will be published in early 2019. Ahead of the Arctic Circle Assembly in October 2018 held in Reykjavik, External Affairs Secretary Fiona Hyslop stated, “Scotland shares many common social, economic and cultural bonds as well as environmental concerns with nations
who border the Arctic, including our Nordic neighbors.”

She went on to say, “As we further develop Scotland’s Arctic Strategy, we will continue to look to identify areas – such as scientific collaboration and tackling climate change – where we can learn from and contribute to the policy expertise and insight of our friends in the Arctic.”

L. SOUTH KOREA

The Arctic Council admitted The Republic of Korea, along with Japan and Singapore, as a Permanent Observer in May 2013. Two months later, Korea announced its Pan Government Arctic Development Plan, setting up comprehensive plans regarding sea routes, energy, and resource development in the Arctic. Korea hopes to become Northeast Asia’s oil hub as Arctic shipping increases.

South Korea has a long record of scientific undertakings in the Arctic. The Korean Polar Research Institute’s (KOPRI) research icebreaker Araon generally conducts Arctic scientific research missions each year from July to October. A second research icebreaker is planned.

Seoul, South Korea hosted the Arctic Circle’s Korea Forum December 7-8, 2018. The theme was Asia Meets the Arctic: Science, Connectivity, and Partnership.

South Korea’s Daewoo Shipbuilding and Marine Engineering is at work building a planned fleet of up to 16 Arctic-7 class LNG carriers to service the Yamal LNG project in the Russian Arctic. The first 10 vessels had been completed by year’s end. The 300-meter vessels will reportedly be capable of operating in second year ice up to 2.5 meters thick.

Expansion of Economic Cooperation between South Korea and Russia. In his address to the third Eastern Economic Forum (EEF) in Vladivostok, Russia in September 2017, Korean President Moon Jae-in proposed expanding economic cooperation between South Korea and Russia in a wide range of areas including energy, infrastructure, and agriculture. The President also proposed building a Northeast Asia super grid to enhance region-wide energy cooperation, which would help meet growing power demands and lay the foundation for an envisioned economic community and multilateral security system.

Joint Energy Study Begins Energy Cooperation with Russia. In June 2018, South Korea agreed to conduct a joint research study with Russia to evaluate the feasibility of cross-border energy projects involving North Korea. The South Korea government signed eight memorandums of understanding (MOUs) with Russia’s energy ministry and state utility firms to expand cooperation in energy, industry and investment between the two nations. President Moon Jae-in seeks to strengthen ties with Russia, beginning with connecting the power grid between the two nations. President Moon’s “New Northern Policy” seeks ways to increase economic cooperation with Russia.

M. SWEDEN

Sweden, a member of the European Union and the Arctic Council, was chair of the Council from 2011 to 2013. The nation is home to 20,000 of the 70,000 Sami peoples.

Sweden issued its Strategy for the Arctic Region in 2011. The strategy is based on the process of far-reaching change in the Arctic region. Climate
change is creating new challenges, but also new opportunities. Sweden promotes economically, socially and environmentally sustainable development throughout the Arctic region. Sweden also works to ensure that the Arctic remains a region where security policy tensions are low, and for these objectives sees a need of a strengthened Arctic Council.

**NATO Cooperation**

In May 2016, Sweden ratified an agreement that will allow NATO to operate more easily on Swedish territory during training activities and in the event of a possible conflict. Polls indicate that more Swedes are now in favor of joining NATO than against it, but Russia has strongly warned Sweden not to do so.

**Summer Wildfires and Drought**

Sweden called on the European Union to help it combat raging wildfires in mid July 2018. EU members Italy, Norway, and France sent firefighting planes, helicopters and other special aircraft to assist in the firefighting effort. Residents in the counties of Gavleborg, Jamtland and Dalarna were asked to evacuate. The country experienced more than sixty fires across the country due to drought and record high temperatures.

Sami reindeer herders are requesting government aid to assist them in dealing with the effects of the summer wildfires and drought. The requested aid would help pay for supplementary fodder to replace the winter grazing lands that were destroyed, which may take up to 30 years to recover. Without help, the herders warn that some of their herds may not survive the year.

**N. EUROPEAN UNION**

The European Union’s application for Arctic Council permanent observer status remains under consideration. 2014 reports suggested that the Council withheld approval pending resolution of a dispute with Canada over an EU seal products ban (see the section on the World Trade Organization below). The EU and Canada reached a seal agreement in October 2014, but Leona Aglukkaq (the former Canadian Arctic Council Chair) maintained that the two issues are not related. In May 2015, the Arctic Council postponed the EU’s application for observer status for another two years. The Council explained that it needed to review observer issues before issuing its decision.

On March 16, 2017, the European Parliament issued a resolution on an integrated EU policy for the Arctic. The resolution reiterated the call on the EU and its member states to actively uphold the principles of freedom of navigation and innocent passage (¶ 33). It calls for the European Commission to support initiatives to ban the use of bottom trawling in Ecologically or Biologically Significant Marine Areas (EBSAs) and on the Arctic high seas (¶ 53). It reiterates its 2014 call for a ban on the carriage or use of heavy fuel oil on vessels in the Arctic region (¶ 58). The Parliament encouraged member-states to discourage exploitation and use of fossil fuels (¶ 13), but, to the disappointment of some, it stopped short of calling for a ban on offshore oil and gas activities in the region, a measure strongly opposed by the government of Norway. The non-binding motion calling for the European Commission and member-states to work with international forums towards "a future total ban on the extraction of Arctic oil and gas" was rejected by a vote of 414-180.
EU Arctic Policy

In April 2016, the European Commission presented its new, integrated policy on the Arctic that promotes sustainable use of resources in the Arctic and encourages international cooperation and engagement with Indigenous peoples. The policy outlines three priority areas: 1) Climate Change and Safeguarding the Arctic Environment; 2) Sustainable Development in and Around the Arctic; and 3) International Cooperation on Arctic Issues. Federica Mogherini, High Representative of the Union for Foreign Affairs and Security Policy/Vice-President of the European Commission, said: “A safe, sustainable and prosperous Arctic not only serves the four million people living there, our European Union and the rest of the world. It is a region of immense environmental, social, and economic importance to us all. The steps taken today underline our commitment to the region, its States and its peoples, and to ensuring that the region remains an example of constructive international cooperation. Because the Arctic is also crucial in terms of regional and global security, it is a strategic component of our foreign policy.”

Rejected Ban on Arctic Drilling. In March 16, 2017, lawmakers in the European Parliament voted 414-180 against a non-binding motion that called for the European Commission and member states to work towards “a future total ban on the extraction of Arctic oil and gas,” but endorsed a ban on oil drilling in the region’s “icy” waters.

EU Research Project on Improving Arctic Safety. In June 2017, EU’s Horizon 2020 program launched a new three-year research project to address safety and efficiency in Arctic ship operations. The project, SEDNA, (“Safe maritime operations under extreme conditions: the Arctic case”) will develop an innovative and integrated risk-based approach to safe Arctic navigation, ship design, and operation. The project is led by BMT Group (U.K.) and brings together 13 partners from six different countries, including China.

O. UNITED KINGDOM

The United Kingdom (UK) has been a permanent observer of the Arctic Council since its formation in 1996. Since the Brexit vote in June 2016, Prime Minister Theresa May has continued negotiations on an agreement with the European Union. It remains unclear, however, how Brexit will impact the UK’s role in the Arctic though there is some speculation it may impact its fisheries negotiations for the Central Arctic Ocean and participation in Arctic scientific research. UK politicians have touted the phrase ‘Global Britain’ in describing the UK’s new foreign policy.

Part of this policy involved updating the UK’s 2013 Arctic Policy, Adapting to Change, in April of this year. The 2013 policy recognized that Arctic stewardship rests with the Arctic States and the indigenous peoples of those States. Its three main commitments included: helping to understand a changing Arctic through world-class science; protecting the Arctic’s fragile environment; and promoting prosperity in the region. While the updated policy maintains these commitments, the UK is more explicit about connecting its Arctic interests to its overall ‘Global Britain’ policy agenda. Sir Alan Duncan, Minister of State for the Polar Regions states that “UK’s role in the Arctic reflects the very best of what Global Britain has to offer, from world-leading science, and business investment, to our commitment to environmental protection,
international cooperation, and the rule-based system.

**New Defense Arctic Strategy Announced.**

U.K. Defense Secretary Gavin Williamson announced the new [Defense Arctic Strategy](#) on September 30, 2018. Secretary Williamson said, “As the ice melts and new shipping routes emerge, the significance of the High North and Arctic region increases.” These changes have also brought increased military activity to the region, putting the Arctic and the High North to the center of the U.K.’s security. The strategy makes several key points including:

- Royal Marines will conduct joint training with Norway long-term and become integrated into the Norwegian defense plan.
- In 2019, four RAF Typhoons will, for the first time, patrol Icelandic skies, allowing the UK to deter aerial threats to Euro Atlantic security.
- In 2020, the UK will increase its operational commitments by introducing new P-8 Poseidon aircraft, capable of combatting submarine activity.

Secretary Williamson also called out Russia’s expanding military and industrial presence in the Arctic as “one of the greatest threats we face today.”

**IV. INTERNATIONAL ORGANIZATIONS**

**A. UNITED NATIONS**

Recognizing the need to periodically review law of the sea issues, in 1999 the U.N. General Assembly established the Open-Ended Informal Consultative Process on Oceans and the Law of the Sea (ICP). The U.N. Division for Ocean Affairs and the Law of the Sea (DOALOS) plays a key facilitator role in the annual ICP process. DOALOS is also responsible for preparing the U.N. Secretary-General’s annual report on ocean affairs and the law of the sea. The annual S-G reports, the ICP reports, and the U.N. General Assembly resolutions on law of the sea matters document the practice of states and international organizations and collect relevant research and analysis. On December 11, 2018, the General Assembly overwhelmingly passed [Resolution 73/124 on Oceans and Law of the Sea and 73/125 on Sustainable Fisheries](#). Neither mentions the Arctic.

**COP 24**

The UN Framework Convention on Climate Change (UNFCCC) was adopted at the Earth Summit in Rio de Janeiro in 1992 and entered into force in 1994. The United States is one of 196 states that are party to the UNFCC. The convention calls for an annual Conference of Parties (COP). As reported in previous issues of this Year in Review, the so-called Paris Agreement was negotiated at COP 21 in 2015. On June 1, 2017, President Donald Trump has announced his intent to withdraw from that agreement in 2020.

COP 24 took place in Katowice, Poland from December 3-14, 2018. The delegates focused on three themes: (1) Technology and development of climate-friendly modern solutions, such as electromobility; (2) Man, solidary and just transition of industrial regions; and (3) Nature, achieving climate neutrality by absorbing CO2 by forests and land, or by water management. The COP 24 delegates developed and adopted a package of decisions designed to implement the Paris Agreement.
Intergovernmental Conference Meets in New York to Develop BBNJ Treaty

On December 24, 2017, the General Assembly adopted a resolution (A/RES/72/249) to formally convene negotiations to develop the text of an international legally binding instrument under the United Nations Convention on the Law of the Sea (UNCLOS) on the Conservation and Sustainable use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ). The Conference will meet for four sessions. The first session was held from 4 to 17 September 2018. The second and third sessions will be convened from 25 March to 5 April 2019 and from 19 to 30 August 2019. The conference president’s statement issued following the first meeting touted the progress made on issues of capacity-building, the transfer of marine technology, and area-based management tools, including marine protected areas. The second and third sessions will take place in 2019, and the fourth session in the first half of 2020.

B. ARCTIC COUNCIL

In 1996, representatives of Canada, Denmark/Greenland, Finland, Iceland, Norway, Russia, Sweden, and the U.S. met in Ottawa to form the Arctic Council. In addition to the eight circumpolar member-states and six Indigenous community-permanent participants, there are twelve permanent observer states: China, France, Germany, India, Italy, Japan, South Korea, Netherlands, Poland, Singapore, Spain, and the United Kingdom. Although not a legally binding treaty, the Ottawa Declaration serves as the council’s charter. Under the declaration, the council chair rotates among the eight member-states, with each of the eight taking two-year terms. Current and upcoming chairmanships are as follows:

- 2017-2019: Finland
- 2019-2021: Iceland
- 2021-2023: Russia

The representatives of the Arctic Council signed the Fairbanks Declaration on May 11, 2017 during the 10th Ministerial. The Declaration includes three thematic areas: 1) Arctic Ocean Safety, Security and Stewardship, 2) Improving Economic and Living Conditions, and 3) Addressing the Impacts of Climate Change. Some notable decisions contained in the Declaration include the decision to assess the scope of the problem of increasing accumulation of marine debris and to establish a Task Force on Improved Connectivity in the Arctic to compare the needs of those who live, operate, and work in the Arctic with available infrastructure. The Declaration also announces the Agreement on Enhancing International Arctic Scientific Cooperation.

The Arctic Resilience Forum, intended to develop the resiliency of the Arctic region to climate change, was held in Rovaniemi, Finland on September 10-11, 2018. Around 100 experts, policy makers, and stakeholders gathered to “strengthen cooperation on work related to resilience to the impacts of climate change and to present and discuss resilience best-practices from Arctic Council Working Groups’ and other stakeholder’s projects.”

Finland’s Chairmanship Program

Finland released a document outlining the country’s priorities for its 2017-2019
chairmanship. The four areas of focus are 1) environmental protection, 2) connectivity, 3) meteorological cooperation, and 4) education. In terms of environmental protection, Finland hopes that the Arctic Council will further support biodiversity conservation and pollution prevention as well as mitigation and adaptation to climate change. Finland will seek to intensify the exchange of information on best practices and emerging technologies to promote sustainable development. To improve connectivity in the Arctic, Finland has introduced communications technologies including satellite connections, mobile communications systems, low-bandwidth transmission, and sea cables. The chair sees meteorological cooperation as critical to improving public safety, benefiting international shipping and air traffic, and enhancing Arctic climate science, and will work with the World Meteorological Organization (a new observer in the Arctic Council) to deepen meteorological and oceanographic cooperation. Finally, Finland will push the Arctic Council to work towards the digitalization of education in the Arctic and to strengthen the network of education specialists, in cooperation with the University of the Arctic.

Finland’s chairmanship began in May 2017 and is led by Timo Soini, Finland’s Minister for Foreign Affairs, and Senior Arctic Official (SAO) Chair and Ambassador Aleksi Häkönens. As SAO Chair, Ambassador Häkönens oversees the Arctic Council’s work during the Finnish Chairmanship.

Senior Arctic Officials (SAO) met for the first time during Finland’s chairmanship from October 25-26, 2017 in Oulu, Finland. The meeting brought together representatives from the eight Arctic states, six indigenous Permanent Participant organizations, six working groups, and over 30 observer states and organizations. Several focus areas of the Council were discussed during the meeting including pollution prevention, education, and resilience.

A second SAO meeting was held in Levi, Finland from March 22-23, 2018. During the meeting, the Council addressed the major themes of meteorological cooperation and the improvement of telecommunications in the region.

Finland hosted the 2nd Arctic Biodiversity Congress from October 9-11, 2018 in Rovaniemi, Finland. The Biodiversity Congress was hosted by the Conversation of Arctic Flora and Fauna (CAFF), the biodiversity working group of the Council, and Finland’s Ministry of the Environment. The Congress brought together key stakeholders to promote the conservation and sustainable use of Arctic biodiversity.


An Arctic Environment Minister’s meeting (AEMM) was held in Rovaniemi from October 11-12, 2018. The meeting brought together the Ministers of the Environment from Arctic Council member states, indigenous Permanent Participant organizations, working groups, and observers. The themes of the meeting were climate change, biodiversity, and pollution prevention. Following the meeting, a “Chair’s summary” will be presented at the Arctic Council Foreign Ministers’ meeting in May 2019.
New Observers. No new observers were admitted to the Arctic Council in 2018.

Arctic Council Working Group Activities

ACAP: The Arctic Contaminants Action Program objective is to “prevent adverse effects from, reduce, and ultimately eliminate pollution of the Arctic environment. ACAP addresses Arctic pollution sources and acts as a strengthening and supporting mechanism to encourage national actions to reduce emissions and other releases of pollutants that are relevant in the Arctic.” Nothing new to report.

AMAP: The Arctic Council’s Arctic Monitoring and Assessment Program (AMAP)’s objective is “providing reliable and sufficient information on the status of, and threats to, the Arctic environment, and providing scientific advice on actions to be taken in order to support Arctic governments in their efforts to take remedial and preventive actions relating to contaminants.” AMAP published a second assessment in 2018: “Biological Effects of Contaminants on Arctic Wildlife and Fish.” The assessment updates information presented in a 2009 assessment related to the biological effects of organohalogenated compounds (OHCs), and information on mercury in the Arctic from 2011. The report assessment was conducted with the help of international experts between 2016 and 2018.

EPPR: Chairmanship of the Emergency Prevention, Preparedness and Response (EPPR) Working Group passed to Jens Peter Holst-Andersen of Denmark in 2017. EPPR meetings will be held in New Orleans, USA from December 3-6, 2018. The EPPR “contributes to the prevention, preparedness and response to environmental and other emergencies, accidents, and Search and Rescue (SAR).”

PAME: The Protection of the Arctic Marine Environment (PAME) working group published a report on the status of implementation of the Arctic Marine Strategic Plan which is in place from 2015-2025. The report outlines progress made from 2015-2017 in achieving four primary goals: 1) Improve knowledge of the Arctic marine environment and continue to monitor and assess current and future impacts on Arctic marine ecosystems; 2) Conserve and protect ecosystem function and marine biodiversity to enhance resilience and the provision of ecosystem services; 3) Promote safe and sustainable use of the marine environment, taking into account cumulative environmental impacts; and 4) Enhance the economic, social and cultural well-being of Arctic inhabitants, including Arctic indigenous peoples and strengthen their capacity to adapt to changes in the Arctic marine environment.
The PAME working group met in Quebec City, Canada from February 11-14 and in Vladivostok, Russia from October 1-4, 2018. On May 14, 2018, PAME launched its Arctic Shipping Best Practice Information Forum web portal.

C. INTERNATIONAL MARITIME ORGANIZATION (IMO)

The International Maritime Organization (IMO) is the United Nations specialized agency with responsibility for the safety and security of shipping and the prevention of marine and atmospheric pollution by ships. Like many international organizations, it comprises an Assembly of all members, which meets every other year, an elected Council, specialized committees, and a Secretariat headed by an elected Secretary-General (currently Kitack Lim from the Republic of Korea). The two committees frequently involved in polar ship operations are the Maritime Safety Committee (MSC) and the Marine Environment Protection Committee (MEPC). Both were instrumental in developing the Polar Code.

**Polar Code.** The International Code for Ships Operating in Polar Waters (the Polar Code) was adopted by the IMO in 2014 and went into effect in 2017. It establishes mandatory regulations for vessels operating in the Arctic. For a detailed analysis of the Code, see the ALPI Year in Review for 2014. Perceived deficiencies in the original 2014 Code have led some to lobby for a “Polar Code II.”

At the 100th meeting of the Maritime Safety Committee (MSC 100) in December of 2018, the MSC took up possible progressive revisions to Polar Code II.

The Polar Code is currently mandatory for certain categories of ships under the SOLAS and MARPOL Conventions. Discussions at MSC 100 included how to move forward with developing possible mandatory and recommendatory measures for ships operating in Polar waters which are not currently covered by the Polar Code and/or SOLAS (SOLAS does not apply to pleasure yachts not engaged in trade, fishing vessels, and warships). Member-states agreed on a roadmap which could see revisions to SOLAS and/or the Polar Code in 2022.

MSC 99 had already instructed the Sub-Committee on Ship Design and Construction (SDC) to consider recommendatory Polar waters safety measures for fishing vessels of 24 meters in length and over and pleasure yachts above 300 gross tons not engaged in trade. At this session, the MSC considered the wider application of Polar Code provisions on safety of navigation, communications, and voyage planning. The committee also agreed to consider a preliminary draft text which would extend the application of the Polar Code to all ships to which SOLAS Chapter V (Safety of navigation) applies.

Member States and international organizations were invited to submit information to the MSC’s next meeting that will assist to determine the feasibility and consequences of applying the requirements in chapters 9 (safety of navigation) and 11 (voyage planning) of the Polar Code to non-SOLAS ships, in order to progress the work at the next session.

**IMO and Vessel-Source Air Pollution.** IMO measures to limit air pollution from vessels can
be divided into two categories: Existing measures to reduce noxious pollutants from vessels under Annex VI of the MARPOL Convention, and the more recently planned measures to reduce climate-altering greenhouse gas (GHG) emissions from vessels.

MARPOL Annex VI, first adopted in 1997, limits the main air pollutants contained in ships exhaust gas, including sulfur oxides (SO\textsubscript{x}) and nitrous oxides (NO\textsubscript{x}), and prohibits deliberate emissions of ozone depleting substances (ODS). MARPOL Annex VI also regulates shipboard incineration, and the emissions of volatile organic compounds (VOC) from tankers.

Under revised MARPOL Annex VI, the upper limit on the sulfur content of vessel fuel oil will be reduced from the current level of 3.50% (most heavy fuel oil (HFO) is currently below 3.0%) to 0.50%, effective from January 1, 2020. Lower limits (0.1%) apply in Emission Control Areas approved by the IMO. Whether vessel fuel suppliers will be able to deliver sufficient quantities of compliant low sulfur fuel oil (LSFO) is much debated. The United States supported several flag states in their proposal to adopt an “experience building phase in period” in lieu of the strict 2020 deadline; however, the proposal was defeated at the October 2018 MEPC-73 meeting. At that same meeting, the MEPC adopted a prohibition on vessels even carrying non-compliant high sulfur fuel oil effective March 2020.

The MEPC also agreed its 72nd session on amendments to the Ballast Water Management (BWM) Convention. The BWM aims to stem the transfer of potentially invasive species in ships’ ballast water. The treaty entered into force in September 2017. The amendments, which relate to the treaty’s implementation, will enter into force on October 13, 2019.

The BWM Convention requires that all “new” vessels built after September 8, 2017 meet strict “D2” discharge standards, presumably by installing a compliant ballast water management system. Until September 8, 2024, existing vessels have the option of either meeting the new D2 standards or engaging in the D1 standard by exchanging their ballast water at sea. Compliance with the BWM Convention will now be included in Port State Control (PSC). PSC Inspectors will check that vessels have a valid International BWM compliance certificate from flag states and that vessels are maintaining the required Ballast Water Record Book.

A Global Climate Agreement for 2050. The IMO reached an agreement in April 2018 to cut carbon emissions by at least 50 percent by 2050, compared to 2008 levels. While European Union countries supported going further by cutting emissions by 70 percent, others see it as a positive step. Europe’s transport commissioner Violeta Bulc and climate commissioner Miguel Arias Canete said in a joint statement while the EU had "sought a higher level of ambition, this is a good starting point that will allow for further review and improvements over time". Opposition from the United States, Saudi Arabia, and Panama prevented the agreement from making further cuts.

While shipping accounts for 2.2 percent of world CO\textsubscript{2} emissions, the IMO has adopted mandatory rules for new vessels to boost fuel efficiency as a
means of cutting CO2 from ship engines. A final IMO plan is not expected until 2023.

The IMO has also stepped up its efforts on reducing Air Pollution and Greenhouse Gas Emissions from vessels and increasing their Energy Efficiency. Vessel air emissions are regulated under MARPOL Annex VI, which aims for a progressive reduction globally in emissions of SOx, NOx and particulate matter and the introduction of emission control areas (ECAs) to reduce emissions of those air pollutants further in designated sea areas.

**Maritime Safety Committee (MSC) Update.** The Maritime Safety Committee approved a joint proposal by Russia and the United States to designate shipping lane traffic in the Bering Strait. The recommended traffic scheme enters into effect on December 1, 2018. This proposal is the first internationally recognized regulation approved by IMO for Polar waters in compliance with the International Convention for the Safety of Life at Sea (SOLAS 74/78).

**Polar Code Update.** It establishes

To further update the Code, activists suggest addressing air pollution, mandating ballast water management provisions, and requiring compliance from smaller vessels.

Non-compliance with the Polar Code exposes vessel operators to navigation challenges and risks. Operators may be tempted to take different routes during the navigation seasons and may utilize the IMO’s Polaris System “to determine the risk level of your operation for a particular vessel’s ice class for a given ice condition or forecast.” Compliance enforcement remains a concern, especially with more ships seeking to travel.

**Autonomous Ships on Agenda at IMO.** According to the Norwegian Maritime Authority, it came as a surprise to many that the proposal to put the autonomous ships initiative on the IMO’s agenda in 2016 did not face any opposition. Norway has already started trials of autonomous ships through its approval of a test area in the Trondheim fjord and the establishment of the Norwegian Forum for Autonomous Ships (NFAS).

The 2017 year witnessed several new developments in unmanned vessels. At its 98th meeting, the IMO’s Maritime Safety Committee agreed to a proposal put forward by Denmark, Estonia, Finland, Norway, The Netherlands, South Korea, the UK, and the US to conduct a regulatory scoping exercise for the advent of “maritime autonomous surface ships.” In another development, in September 2017, Finland’s Wärtsilä Corporation demonstrated the feasibility of remote control of a vessel when it “operated” the Highland Chieftan, an 80-meter offshore vessel located off the coast of Scotland, from the Wärtsilä office in San Diego, California, some 8000 kilometers away. Elsewhere, Norway dedicated the 128-kilometer long Trondheim fjord to serve as a testbed for autonomous ship testing. Norway’s Kongsberg Group and Yara International have also partnered to build and equip the Yara Birkeland, a fully electric and autonomous, 120-meter, 3,200 ton container ship, scheduled for delivery in 2018.

**Arctic Oil Spill Response Guide.** The IMO and the Arctic Council working group for Emergency Prevention, Preparedness and Response (EPPR) commissioned the Arctic Oil Spill Response Guide and the IMO will issue a supplement that includes the Antarctic and other subarctic areas affected by ice. The objective of the Arctic version of the guide is to identify and describe those aspects of planning and operations that
are directly associated with a response to an Arctic oil spill in ice and snow conditions.

**Proposed ban on heavy fuel oil (HFO) in Arctic.** The Marine Environment Protection Committee (MEPC) met in April 2018 and discussed banning the use of heavy fuel oil in the Arctic. The proposal was sponsored by Finland, Germany, Iceland, Netherlands, New Zealand, Norway, Sweden and the United States and received support from 14 other nations. The Subcommittee on Pollution Prevention and Response (PPR) was tasked with developing the ban on the carriage and use of HFO and conducting an impact study when it meets in February 2019.

**Mandatory Data Collection System.** In October 2016, the IMO’s Marine Environment Protection Committee (MEPC) adopted a requirement that ships of 5,000 gross tons and above will have to collect consumption data for each type of fuel oil they use, as well as other, additional, specified data including proxies for transport work. These ships account for approximately 85% of CO2 emissions from international shipping. The data collected will provide a critical foundation for the IMO to develop additional measures in this area. The MEPC also approved a roadmap (2017 through 2023) for developing a “Comprehensive IMO strategy on reduction of GHG emissions from ships.” The IMO also adopted an initial strategy for reducing greenhouse gas emissions from vessels in April 2018.

**D. INUIT CIRCUMPOLAR COUNCIL**

The Inuit Circumpolar Council was founded in 1977 and represents roughly 160,000 Inuit from Alaska, Canada, Greenland, and Chukotka. The goals of the ICC are to: 1) strengthen unity among Inuit of the circumpolar region; 2) promote Inuit rights and interests on an international level; 3) develop and encourage long-term policies that safeguard the Arctic environment; and 4) seek full and active partnership in the political, economic, and social development of circumpolar regions.

The theme for the 2018 Inuit Circumpolar Conference (ICC), held in July 2018, was “The Arctic We Want.” At the end of the assembly, Canadian Chair Okalik Eegeesiak handed over the chairmanship of the Inuit Circumpolar Council (ICC) to Alaskan Chair Dr. Dalee Sambo Dorough, who will hold the position until 2022. The ICC rotates the chairmanship every four years between Greenland, Canada, Alaska, and soon Chukotka (Russia). Dorough addressed the Council by saying: “Our founding father Eben Hopson had the foresight to unite us as a people. He saw the value of advancing a coherent, coordinated approach to our collective action and our united voice at an international level.”

The ICC adopted the Utqiaġvik Declaration to guide Alaska’s chairmanship. The Utqiaġvik Declaration lists ten priorities including community, culture, sustainable wildlife management, food security, the environment, better communication, stronger indigenous human rights advocacy, and international partnerships. The Declaration will guide the council through the next ICC general assembly, set to be held in Ilulissat, Greenland in 2022.

**E. FAO COMMITTEE ON FISHERIES (COFI)**

The Food and Agriculture Organization and its Committee on Fisheries (COFI) “is the only global inter-governmental forum where major international fisheries and aquaculture problems and issues are examined,” and where recommendations are developed for governments, regional fishery bodies, NGOs, and
fish workers. COFI’s 31st Session (a biennial event) in June 2014 did not directly address the Arctic, nor did the 32nd Session held in 2016 in Rome.

F. INTERNATIONAL WHALING COMMISSION (IWC)

The International Whaling Commission (IWC) was established by the 1946 International Convention for the Regulation of Whaling (ICRW). The convention’s purpose is to provide for the proper conservation of whale stocks and facilitate the orderly development of the whaling industry. The IWC headquarters is in Impington, near Cambridge, England.

The Commission member-states met for IWC-67 in Florianopolis, Brazil to discuss issues related to regulation of whaling and the conservation of whales. Renewal of aboriginal subsistence quotas by Russia, the U.S., Greenland and St Vincent and the Grenadines was again on the agenda. The Commission ultimately adopted Schedule amendments providing seven-year catch limits for: (1) the Bering-Chukchi-Beaufort Seas stock of bowhead whales; (2) the Eastern stock of gray whales in the North Pacific; (3) common minke whales, fin whales, bowhead whales and humpback whales off West Greenland; (4) common minke whales off East Greenland and (5) western North Atlantic humpback whales off St Vincent and the Grenadines. The Commission also worked together to agree a limited automatic renewal provision for the period after 2025.

Signs of stress within the IWC became evident in the early 1980s. In 1982 the IWC member-states adopted a moratorium on commercial whaling, which entered into force in 1986. Japan, Norway, Peru, and the Soviet Union lodged formal objections (and were therefore not bound by the moratorium under the ICRW). Japan and Peru later withdrew their objections. In 1994, the IWC established the Southern Ocean Whale Sanctuary in the Antarctic.

Iceland, which did not lodge an objection to the 1982 moratorium, withdrew from the IWC in 1992; however, it then re-adhered to the 1946 ICRW in 2002. Its 2002 instrument of adherence included a reservation to the commercial whaling moratorium. The reservation was not acceptable to all IWC member governments. However, in 2002, a majority of the ICRW parties voted to accept Iceland back as an IWC member. In 2013, taking advantage of its reservation to the moratorium, Iceland resumed whaling.

As 2018 drew to a close, rumors circulated that Japan planned to withdraw from the IWC and resume commercial whaling, but limit such whaling to Japanese waters. Indeed, on January 19, 2019, Japan lodged its official notification of withdrawal.

G. NORTH ATLANTIC MARINE MAMMAL COMMISSION (NAMMCO)

The North Atlantic Marine Mammal Commission is self-described as an international body for cooperation on the conservation, management, and study of marine mammals in the North Atlantic. The NAMMCO Agreement was signed on April 9, 1992 by Norway, Iceland, Greenland and the Faroe Islands, and entered into force on July 8, 1992. Its headquarters is in Tromsø, Norway. Norway has been whaling commercially since 1994, consistent with its “objection” to the IWC moratorium.

The 26th meeting of the NAMMCO Council took place in Tromsø, Norway from March 7-8, 2018.
Delegates from the Faroe Islands, Greenland, Iceland and Norway discussed the conservation status of North Atlantic marine mammals, sustainable takes and responsible hunting methods. The Governments of Canada, Denmark, Japan and Russia observed the meeting.

H. COMMISSION ON LIMITS OF THE CONTINENTAL SHELF (CLCS)

On December 12, 2018, the chair of the Commission on the Limits of the Continental Shelf issued a statement (CLCS/106) on the progress of the Commission during the forty-eighth session.

No Arctic state submitted an ECS claim to the CLCS in 2018. However, Canada reportedly plans to file a submission in 2019. The CLCS issued no recommendations in 2018. The above referenced chairman’s statement provides a brief review of the action taken on the submissions made by the Russian Federation in respect of the Arctic Ocean (including its 2015 partial revised submission).

Background and Legal Basis.

Under the 1982 U.N. Convention on the Law of the Sea (UNCLOS), all coastal states have sovereign rights in the natural resources of their continental shelf. A coastal state’s continental shelf extends at least 200 nm seaward from the baseline. A complex formula in Article 76 of UNCLOS provides a basis for some “geographically advantaged” states to assert claims to an “extended” continental shelf beyond 200 nautical miles, if, among other things, certain geologic features are proven continental extensions.

Article 76 and Annex II of UNCLOS call for a Commission on the Limits of the Continental Shelf (CLCS). Its function is to make recommendations to coastal states on matters related to the establishment of the outer limits of their continental shelf. CLCS recommendations are not binding on states. However, outer limits on the shelf established by a coastal state based on CLCS recommendations are final and binding. According to Michael Byers, author of *International Law and the Arctic*, “The commission does not adjudicate overlapping claims. These must be resolved through negotiation or recourse to an international court.”

Canadian Claims.

On December 6, 2013, after 10 years of surveys and research at a cost of some $200 million, Canada submitted to the CLCS information on the limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured in the Atlantic Ocean. Canada notified the Commission that this was a partial submission, and that it intended to submit information later on the limits of the continental shelf beyond 200 nautical miles in the Arctic Ocean.

In August 2014, Canada launched the first of its additional surveys to complete its Arctic submission. A second was conducted in 2015. The Harper administration had earlier hinted at a North Pole claim, based on a connection between the Lomonosov Ridge and Ellesmere Island. It is not clear whether the new Trudeau government will pursue such a claim.

Denmark Claims.

On November 26, 2013, Denmark submitted to the CLCS information on the limits of the continental shelf in respect to the North-Eastern
Continental Shelf of Greenland. On December 15, 2014, Denmark submitted to the CLCS information on the limits of the continental shelf beyond 200 nautical miles in respect of the Northern Continental Shelf of Greenland.

Denmark claims the Lomonosov Ridge is an extension of Greenland. Its submission encompasses the North Pole, extends to the outer boundary of Russia’s EEZ (200 nm from the baseline), overlaps the claimed continental shelf of Norway and Russia, and is expected to overlap with Canada’s continental shelf.

**Russian Claims.**

In response to an August 2015 re-submitted extended continental shelf (ECS) claim by Russia and a similar claim in December 2014 by Denmark (and an expected submission by Canada), the Commission on the Limits of the Continental Shelf will play the key role in determining whether any state’s continental shelf claims extend to the seabed under the North Pole. At issue is the geologic origin of an undersea mountain range, the Lomonosov Ridge.

The CLCS issued recommendations for Russia’s original December 20, 2001 submission on June 27, 2002. Those recommendations included a suggestion that Russia make a partial Sea of Okhotsk claim that “shall not prejudice questions relating to the delimitation of boundaries between States in the south for which a submission may be made later...” Pursuant to that recommendation, Commission adopted Russia’s revision on March 11, 2014.

On August 3, 2015, Russia delivered its Partial Revised Submission of the Russian Federation to the Commission on the Limits of the Continental Shelf in Respect of the Continental Shelf of the Russian Federation in the Arctic Ocean. Reportedly, the 2015 Russian resubmission is among the most detailed ECS claims submitted to the CLCS. It includes a tectonic history of the evolution of the Arctic Ocean seabed and subsoil over the past 130 million years. Russia acknowledges that its claim overlaps with the ECS claim by Denmark and the expected ECS claim by Canada. In a prior diplomatic note, Canada, Denmark and Russia agreed not to object to ECS submissions by the other two states, subject to the understanding that delimitation of any overlapping continental shelves of the three states will be determined subsequently. The CLCS began its consideration of Russia’s submission at its 41st Meeting in the summer of 2016.

**United States Claims.**

The President’s National Strategy for the Arctic Region Implementation Report estimates that the continental shelf off Alaska probably extends more than 600 nautical miles. However, the situation of the United States is complicated by the fact that it has not yet acceded to UNCLOS.

In the summer of 2016, the U.S. Coast Guard icebreaker Healy conducted ECS surveys in the Arctic. The research team was headed by Dr. Larry Mayer, of the University of New Hampshire’s Center for Coastal and Ocean Mapping/Joint Hydrographic Center.

The U.S. Extended Continental Shelf Project is a multi-agency collaboration whose mission is to determine and define the extent of the U.S. continental shelf beyond 200 nautical miles consistent with international law. In congressional testimony, Admiral Robert Papp, the former U.S. Special Representative for the
Arctic, last explained the U.S. position on continental shelf claims in the Arctic and the importance of the U.S. acceding to the 1982 UNCLOS. Admiral Papp explained:

The United States, like the other Arctic States, has made significant progress in determining its ECS. All the necessary data collection to delineate the U.S. ECS in the Arctic Ocean has been completed through tremendous efforts by the U.S. Coast Guard, the National Oceanic and Atmospheric Administration (NOAA), the United States Geological Survey (USGS), and the Department of State. Nine successful cruises were completed in the Arctic Ocean over 12 years, and four of those missions were jointly conducted with Canada.

While the United States has a significant amount of ECS in the Arctic, as a non-party to the Law of the Sea Convention, the U.S. is at a disadvantage relative to the other Arctic Ocean coastal States. Those States are parties to the Convention and are well along the path to obtaining legal certainty and international recognition of their Arctic ECS.

Becoming a Party to the Law of the Sea Convention would help the United States maximize international recognition and legal certainty regarding the outer limits of the U.S. continental shelf, including off the coast of Alaska, where the U.S. ECS is likely to extend out to more than 600 nautical miles. U.S. accession is a matter of geostrategic importance in the Arctic. The Administration remains committed to acceding to the LOS Convention.

Overlapping continental shelves are inevitable in the Arctic Ocean, as elsewhere. Where boundaries have not yet been concluded, it is expected that neighboring States will continue to work together on a bilateral basis to reach agreement on what are often complex and time-consuming processes. It is important to keep in mind this is not a question of first-come, first-served.

The United States has two maritime boundaries in the Arctic, one with Russia and one with Canada. The United States and the Soviet Union signed a maritime boundary agreement in 1990. Although only provisionally in force, Russia has respected this maritime boundary, and has not defined an ECS on the U.S. side of the boundary. The United States is taking the same approach.

Canada and the United States have yet to agree to a maritime boundary that would divide the overlapping ECS. This is a key objective for implementation of the National Strategy for the Arctic Region, and this will be an important future effort. Nonetheless, we have managed to work together to collect mutually beneficial data necessary to define our respective ECS areas.

For more detailed and up-to-date information on the United States’ ECS, see https://www.state.gov/e/oes/ocos/opa/ecs/index.htm.

I. UNESCO / IOC / ICES / PICES

The mission of the United Nations Educational, Scientific and Cultural Organization (UNESCO) is building “solidarity among nations by fostering
information exchange across a number of disciplines.” In 2011, after UNESCO’s governing board voted to recognize Palestine as a state and admit it to the organization, President Obama announced that the United States was immediately cutting off funding for the organization. At the time, the United States payments constituted 22 percent of UNESCO’s budget.

The Intergovernmental Oceanographic Commission (IOC) is part of UNESCO. It is recognized through the United Nations Convention on the Law of the Sea as the competent organization in the fields of Marine Scientific Research (Part XIII) and Transfer of Marine Technology (Part XIV).

The International Council for Exploration of the Sea (ICES) is an organization of 20 member states that develops science and advice to support the sustainable use of the oceans, with particular emphasis on the North Atlantic. Its purpose is to promote an integrated ecosystem understanding of marine environments by coordinating research and advising international commissions and governments on marine policy and management. ICES calls the Arctic a “research priority,” with projects on subarctic fisheries, Barents Sea Ecosystem Assessment, hydrography and warming of the Arctic Ocean, marine spatial planning, and risk evaluations for Arctic shipping, oil and gas development, and non-native species invasion. ICES publishes an annual Report on Ocean Climate for the North Atlantic each December.

The North Pacific Marine Science Organization (PICES) is an intergovernmental science organization that promotes and coordinates marine research in the northern North Pacific. Members are Canada, Japan, China, Korea, Russia, and the United States. Whereas ICES extends work into the Arctic, PICES indicates that “PICES will not initiate projects related to the Arctic, as the Convention covers only the temperate subarctic and adjacent seas, but this does not preclude the exchange of scientific knowledge between North Pacific and Arctic waters.”

J. WORLD TRADE ORGANIZATION

The World Trade Organization is, among other things, a forum for governments to negotiate trade agreements and settle trade disputes. For example, on November 25, 2013, a World Trade Organization panel upheld the European Union’s 2010 ban on trade in seal products (Regulation (EC) No 1007/2009). The WTO, while finding that the EU’s so-called Seal Regime had violated international trade agreements, determined that the ban was valid under the public morals clause. The EU ban, which principally targets Canadian sealing practices, is reportedly a principal reason the EU’s request to be granted Permanent Observer status at the Arctic Council was “deferred” in 2013.¹

Article XX of the General Agreement on Tariffs and Trade (GATT) exempts specific kinds of regulations from certain GATT rules, including measures “necessary to protect public morals,” “necessary to protect human, animal or plant life

¹ Under the Ottawa Declaration, council decisions are made by consensus, creating a one-state veto.
and health,” and those “relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.” Such exceptions must comply with the Article XX chapeau (introduction): they must not arbitrarily or unjustifyably discriminate.

The WTO Appellate Body upheld the EU ban in a May 2014 decision, but also found the EU embargo “constitutes a means of arbitrary or unjustifyable discrimination.” The Seal Regime bans products from commercial hunts but exempts products from certified traditional Inuit hunts. Canada argued that it is arbitrary to exempt products based only on the identity of the hunter, when Inuit hunts may share every other characteristic with Canadian commercial hunts.

The Appellate Body found the ban allowable under Article XX, but unfairly favorable to Greenlandic seal products in violation of the chapeau.

Canada and the EU agreed in September 2014 that the EU would bring its regulation into conformity with GATT obligations by October 2015. The measures ultimately adopted by the European Parliament and Council, and implemented by Commission regulation deleted an exception to the ban for hunts to protect fish stocks; however, it preserved an amended exception for hunts by Inuit and other Indigenous communities. The exception requires that the hunting methods used must have due regard for animal welfare, be part of their hunters’ tradition, and contribute to their subsistence. There have been no further developments since 2015.

K. INTERNATIONAL TRIBUNALS

ICJ: The International Court of Justice has no Arctic cases on its docket. It does, however, have a number of non-Arctic maritime delimitation cases pending.

ITLOS: Judge Jin-Hyun Paik, President of the International Tribunal for the Law of the Sea, gave his annual address to the 73rd Session of the UN General Assembly on December 11, 2018. The Tribunal issued no decisions in 2018 of relevance to the Arctic.

L. UNITED NATIONS ENVIRONMENT PROGRAM (UNEP)

UNEP facilitates and sometimes acts as secretariat for thirteen Regional Seas Programs among 143 nations. Five other programs—including the program for the Arctic, which is administered by the Arctic Council states—are independently administered. Some within the U.S. State Department have suggested a more formal UNEP-administered Regional Seas Program for the Arctic Ocean (arguably, a semi-enclosed sea under Article 122 of UNCLOS). Such a program would build upon the Council member-states’ existing 1991 Arctic Environmental Protection Strategy (AEPS) and could be coupled with provisions for a Regional Fishery Management Organization (RFMO), similar to the Commission for the Conservation of Antarctic Marine Living Resources.

V. SELECTED ARCTIC THEMES

A. ARCTIC MARINE SHIPPING

Much of the perceived dangers and opportunities of a rapidly warming Arctic relate
to shipping via one of three Arctic Ocean routes: the **Northeast Passage** across the northern coast of Eurasia (and which includes the **Northern Sea Route**); the **Northwest Passage** across the top of North America, and the **Transpolar Sea Route**, generally over the North Pole. As 2018 came to a close, shipping activity in the Northeast Passage was increasing, largely as a result of LNG shipments out of Russia’s Yamal project, while shipping through the Northwest Passage was declining. Surface shipping through the Transpolar Sea Route will be limited to icebreakers for the immediate future.

1. **PROGNOSIS FOR ARCTIC SHIPPING**

Famed Danish physicist Niels Bohr cautions us that “It is very difficult to predict, especially the future.” So it is with Arctic shipping activity. Nevertheless, in 2015, in response to tasking in the National Strategy for the Arctic Region Implementation Plan, the U.S. Committee on the Marine Transportation System prepared a 10-year projection of vessel activity in the Arctic.

A scientific study of sea ice thickness in the Northwest Passage and its implication for shipping published in September 2015 concluded that “even in today’s climate, ice conditions must still be considered severe.” In evaluating shipping conditions, the researchers highlighted the importance of considering both sea ice extent and thickness.

2. **ARCTIC MARINE SHIPPING ASSESSMENT (AMSA)**

In 2009, an Arctic Council Protection of the Marine Environment (PAME) working group led by experts from Canada, Finland and the United States completed a comprehensive report on Arctic marine shipping. It has been described as the most comprehensive analysis ever undertaken of trends relating to shipping in the region. PAME has produced annual progress reports.

The original report included recommendations for enhancing marine safety, protecting people and the environment, and building infrastructure. AMSA’s marine safety and environmental protection goal has been a driving force behind the IMO’s mandatory Polar Code.


The Arctic Council’s Emergency Prevention, Preparedness and Response (EPPR) working group discussed the intelligence gained from two search and rescue exercises hosted by Denmark and the Russian Federation. Additionally, EPPR finalized a pilot project “Automated Mutual Assistance Vessel Rescue Network,” which has a regional ship reporting system and uses automatic and long-range identification and tracking data for search and rescue efforts. This data will be available in emergencies and is an additional tool for managing search and rescue in the Arctic.

The marine insurance industry and the International Association of Classification Societies (IACS) offer a risk assessment tool to supplement the Polar Code. As IACS explained to the IMO’s Maritime Safety Committee, the Polar Operational Limit Assessment Risk Indexing System (POLARIS): “provides a standard approach for the evaluation of risks to the ship
and the ice conditions encountered/expected (ice regime). POLARIS can be used for voyage planning purposes or in real time to aid in the decision making in support of shipboard operations. POLARIS may be used by Administrations as a means to set operational limitations with respect to ships operating in ice.”

The International Chamber of Shipping (ICS) released its 2018 Annual Review, which includes six key issues of the year: reducing vessel CO2 emissions, the 2020 global sulfur cap (on vessel fuel sulfur content), implementing the IMO Ballast Water Convention (which entered into force in September 2017), the shipping downturn ten years on, the future of the IMO, and shaping the future of shipping—a new ICS brand.

3. ARCTIC SHIPPING ROUTES.

Secure access to, and the capacity limits of, the Panama and Suez Canals will affect the demand for Arctic shipping routes in the coming decades. The Panama Canal Authority completed an expansion project in 2016 that began commercial operation on June 26th, opening a new lane of traffic by adding a third lock to the system. Now, the canal can accommodate container ships of up to 13,000 TEUs (before, it was limited to 5,000 TEU ships).

The New Panamax and Suezmax limits are depicted in the following table:

<table>
<thead>
<tr>
<th></th>
<th>LENGTH</th>
<th>BEAM</th>
<th>DRAFT</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Panamax (third lock)</td>
<td>366 meters</td>
<td>49 meters</td>
<td>14.6 meters</td>
</tr>
<tr>
<td>Suezmax</td>
<td>Unlimited</td>
<td>50 meters</td>
<td>20 meters</td>
</tr>
</tbody>
</table>

For comparison, the commonly cited limiting figures for vessels transiting the Northern Sea Route are 30-meter beam (vessels cannot be wider than the escorting ice-breaker it must sometimes follow), and 12.5-meter draft (due to the shallow and often unavoidable straits between the New Siberian Islands). Limiting drafts in some Northwest Passage deep draft routes are as little as 10 meters.

Northeast Passage (and the Northern Sea Route). The Northeast Passage, which includes what Russia has designated the Northern Sea Route (NSR), traverses the Arctic Ocean north of Russia from the Barents Sea to the Bering Strait, thus serving as a possible northern route between the Atlantic and Pacific Oceans. UNCLOS provides for freedom of navigation (subject to certain limitations) on the high seas, but Russia regulates vessel traffic in the NSR through a system of mandatory navigation permits and transit fees. UNCLOS Article 234, which Russia has at times invoked, allows coastal States to adopt and enforce non-discriminatory regulations related to pollution in ice-covered areas within their Exclusive Economic Zones (up to 200 nm from the baseline). Russia also controversially interpreted UNCLOS to allow it to enclose groups of islands in a system of baselines, encompassing their straits as internal waters subject to unrestricted Russian

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2 Russian law defines the Northern Sea Route (NSR) as those waters between Kara Gate and the Bering Strait.
sovereignty. Whether the NSR eventually provides a viable shipping alternative depends largely on the future of Arctic ice: the Intergovernmental Panel on Climate Change expects 125 days of NSR navigability by 2050.

Russia set up the Northern Sea Route Administration (NSRA) and published new Rules of Navigation on the Water Area of the Northern Sea Route (unofficial English translation). The Russian International Affairs Council (RIAC) provided a reader on the Northern Sea Route with Arctic experts’ in-depth coverage on maritime law, transit in the Bering Strait, ecology, icebreakers, and security.

The Russian government released an Integrated Development Plan for the NSR 2015-2030. The plan stresses the importance of providing safer and more reliable navigation for maritime export of Russian natural resources along the NSR but also the strategic importance of the NSR for Russian national security. The Russian government is attempting to increase international transit cargo transportation on NSR in partnership with China and other Asian countries.

In October 2016, the NSR Administration noted that 688 permits had been issued to pass through the NSR so far in the year, including 136 for foreign ships. This number was up from 672 at the same time in 2015. In December 2016, the Russian Ministry of Economic Development announced that shipments to ports along the route in the first 11 months of the year increased to 6.9 million tons, a new post-Soviet high. China’s biggest shipping company announced that its operations along the Russian Arctic coast were reaching a record high in 2016. Meanwhile, transit shipments remained on a low level in general, reaching only about 210,000 tons of goods transiting from the Bering Strait in the east to the Barents Sea in the west by mid-September.

As of November 1, 2017, a total of 289 ships (214 flying the Russian flag) were registered on the route and had taken a total of 1,782 voyages. Transit shipments were low during the year, with twenty-four transit shipments registered by mid-November. Over the course of the year, 9,737 million tons of goods were shipped on the route, an increase of almost 35 percent from 2016.

Northwest Passage. Northwest Passage (NWP) transits through Canada’s Arctic Archipelago are much more limited than those through the NSR. Neither Transport Canada, NORDREG nor Canadian Coast Guard has yet to provide data on 2018 traffic through the NWP. The Congressional Research Service reports that the NWP is less commercially viable than the NSR and that cargo ship transits have been “extremely rare.”

Canada has declared the NWP internal waters and has enacted an assortment of laws to address maritime risks in the waters.


As the Canadian Department of Fisheries and Oceans’ Arctic Voyage Planning Guide warns, the NWP presents more shipping challenges than the NSR because of more hazardous ice conditions and a relative lack of infrastructure.
An October 2014 Report of the Commissioner of the Environment and Sustainable Development on Marine Navigation in the Canadian Arctic concluded that existing infrastructure adequately supports current traffic levels, but gaps must be addressed to handle the emerging risks of increased traffic.

One unofficial source reported that, between the first NWP transit in 1853 and the end of the 2012 navigation season, 185 complete transits of the Northwest Passage had been made by 135 different vessels. The figure includes transits through all seven of the recognized NWP routes. In 2012, a record number (30) of vessels transited through the Northwest Passage, bringing the total to 215.

In 2013, for the first time, a large bulk carrier, the 75,000 deadweight-ton *Nordic Orion*, transited from Vancouver, BC to Pori, Finland via the Northwest Passage. In 2014, the Fednav cargo ship *MV Nunavik*, carrying nickel ore (and equipped with some ice protection) completed the transit without icebreaker accompaniment.

**Crystal Serenity.** Previous issues of this Year in Review reported on the 2016 and 2017 voyages of cruise ship *Crystal Serenity* through the Northwest Passage. The vessel’s 2018 voyage was cancelled because it did not sell out in 2017.

### 4. INTERNATIONAL AGREEMENTS ON SHIPPING SAFETY

**Polar Code.** The IMO’s mandatory Polar Code entered into force on January 1, 2017. Amendments to the STCW Convention entered into force on July 1, 2018. See Section IV.C.

**Arctic Search and Rescue.** In 2011, the Arctic Council states signed the Agreement on Cooperation on Aeronautical and Maritime Search and Rescue in the Arctic. The agreement, which assigns the areas of SAR responsibility for each state-party, entered into force in 2013.

In view of the conflicting territorial claims in the Arctic, the treaty provides that "the delimitation of search and rescue regions is not related to and shall not prejudice the delimitation of any boundary between States or their sovereignty, sovereign rights or jurisdiction." Future cooperation on search and rescue activities will be facilitated by the Arctic Coast Guard Forum.

### 5. ARCTIC SHIPPING SAFETY MEASURES

**Launch of Ice Navigator Training and Certification Scheme.** On July 3, 2017, the Nautical Institute launched the Ice Navigator Training and Certification Scheme, which is designed to complement the Polar Code but is not restricted to Polar Regions. The course is responsive to the U.S. Coast Guard Policy Letter setting out *Guidelines for Training of Personnel on Ships Subject to the International Code for Ships Operating in Polar Waters* and focuses on actual ship handling and operation of vessels in ice-covered waters. The Institute also published the second edition of Captain Duke Snider’s *Polar Ship Operations* in 2018.

**Polar Code Certification.** Polar Ship Certification is now mandatory for ships operating in the Polar Regions. The classification society DNV GL awarded the MS *Bremen* the Polar Code certification after the ship went through a two-year long phase of preparation.

**Arctic Deep-Water Port.** In 2012 Congress required the Commandant of the Coast Guard, in consultation with the Commanding General of the Army Corps of Engineers, the Maritime Administrator, and the Chief of Naval Operations, to conduct a study on the feasibility
of establishing a deep-water seaport (with a depth of not less than 34 feet) in the Arctic to protect and advance strategic United States interests within the Arctic region. The Coast Guard delivered the Report on February 11, 2014. See Section III.A.7 for a description of the Corps of Engineers’ activity.

Committee on the Marine Transportation System.

In November, 2018, the CMTS released its report: Revisiting Near-Term Recommendations to Prioritize Infrastructure Needs in the U.S. Arctic. The report reviews and provides updates on the 25 near-term recommendations provided by the 2016 CMTS report, A Ten-Year Prioritization of Infrastructure Needs in the U.S. Arctic.

Bering Strait PARS. In 2010 the Coast Guard published a notice in the Federal Register of its intent to conduct a Port Access Routing Study (PARS) for the Bering Strait (75 Fed. Reg. 68,568), the 50-mile wide strait between Russia and Alaska, partly blocked by Little and Big Diomedes Islands. The study was initiated to evaluate the continued applicability of and the need for modifications to current vessel routing measures, and the need for the creation of new vessel routing measures in the Bering Strait. The goal is to help reduce the risk of marine casualties and increase the efficiency of vessel traffic in the study area.

The Coast Guard announced a proposal on February 19, 2015 to establish 4-mile wide traffic lanes running from Unimak Pass in the Aleutian Islands through the Bering Strait and into the Arctic Ocean.

The Coast Guard completed its Preliminary Findings of the Port Access Route Study: In the Chukchi Sea, Bering Strait and Bering Sea on Dec. 23, 2016. The Preliminary Findings called for establishment of Two-Way Route designations from the Bering Sea north of the Aleutian Islands through the Bering Strait, Precautionary Areas at each terminus of the Route, and designation of Areas to be Avoided around several islands.

The United States and Russia later filed a joint proposal to the International Maritime Organization to adopt the Bering Sea/Strait vessel routing measures, and the IMO approved the measures. The Maritime Safety Committee approved the proposal and the recommended traffic scheme entered into effect on December 1, 2018. This is the first internationally recognized regulation approved by IMO for Polar waters in compliance with the International Convention for the Safety of Life at Sea (SOLAS 74/78).

A follow-on PARS for the Alaskan Arctic Coast (AACPARS) was announced in 2018. (See Section V.A “Arctic Marine Shipping” above).

Arctic Waterways Safety Committee. In 2014 the U.S. Coast Guard 17th District facilitated an initial meeting of stakeholders to organize a new Arctic Waterways Safety Committee. The committee held its first formal meeting in Juneau in March 2015, and a public meeting in Anchorage on June 8. The committee provides a forum to solve differences in the Arctic waterways without involving regulatory intervention. It focuses on creating best practices to ensure a safe, efficient, and predictable environment for all users of Arctic waterways. Members include representatives from Arctic municipalities, regional subsistence hunting groups, and the marine industries.

B. POLAR ICEBREAKERS

The most widely cited compilation of icebreakers of the world is produced by the U.S. Coast Guard.
The following is a brief survey of recent icebreaker acquisition, construction and operational developments.

**Australia**

Construction on Australia’s new Antarctic icebreaker RSV Nuyina ‘Southern Lights’ is set to be completed in late 2019 and is due in Hobart in 2020. The new icebreaker will be used primarily to supply Australia’s three permanent Antarctic research stations with cargo, equipment and personnel as well as operating as a research ship with laboratory facilities. The icebreaker will replace the *Aurora Australis*.

**Canada**

The Canadian Coast Guard welcomed the first addition to its aging icebreaker fleet in 25 years on December 14, 2018. The 275 foot icebreaker *CCGS Capt. Myrtle “Molly” Kool* is a retrofitted, repainted ice-class tug (Vidar Viking) from Norway named after the first woman in North America to become a master mariner. The Canadian Coast Guard is expecting two more medium icebreakers from Norway to join its fleet in 2019 and 2020 after they are retrofitted by Chantier Davie shipyard in Quebec.

The 492-foot, Polar Class 2, diesel electric powered Canadian Coast Guard icebreaker *CCGS John G. Diefenbaker* was expected to join the Canadian Coast Guard fleet in 2021-2022; however, that date has slipped, as there are reportedly several research vessels and two navy ships scheduled for construction ahead of her.

**Chile**

Chile’s Astilleros y Maestranza de la Armada (ASMAR) plans to deliver *Antartica 1*, a 364 foot ice class PC5 icebreaker, to the Chilean Navy in 2022.

**China**

The icebreaker *Xue Long (Snow Dragon)*, a repurposed cargo ship originally constructed in Ukraine, completed China’s ninth Arctic expedition in June 2018 after traveling approximately 12,300 sea miles. The purpose of the non-stop voyage led by Zhu Jiangang was to increase China’s knowledge of the Arctic region’s environment and climate.

China’s first domestically built icebreaker, *Xue Long 2 (or Snow Dragon 2)* was launched on September 10, 2018, in Shanghai. The 122.5 meter (402 foot) icebreaker was designed by Finland’s Aker Arctic, and incorporates Chinese developed ice-class steel, earning her Polar Class 3. She is capable of breaking ice up to 1.5 meters (4.9 feet) thick while traveling either ahead or astern. The vessel will undergo a series of sea trials before its planned deployment in 2019.

The *Xue Long 2* will have an operational range of around 20,000 nautical miles and can accommodate a crew of 90. The ship will significantly “boost China’s polar research and expedition capabilities,” according to a Jiangnan shipyard statement.

“It will be equipped with advanced oceanographic survey and monitoring apparatus, enabling experts to carry out research into polar ice coverage, atmospheric and environmental conditions, as well as conduct seafloor and biological resource surveys,” a Jiangnan shipyard press release stated.
In June 2018 China (whose China Ocean Shipping Company ran eight transits over the Arctic in 2018) reportedly also issued a tender to build a nuclear powered icebreaker.

Chile
In the summer of 2017, the Chilean Navy launched its plan to build the country’s first icebreaker ship, Antártica 1, at an estimated total cost of $315 million. The design and basic engineering was scheduled to be completed in September, with the shipyard Astilleros y Maestranza de la Armada taking over for the shipbuilding phase later in the year.

Finland
Finland continues to be a leading nation in the design and construction of icebreakers. The Finnish icebreaking fleet includes nine state-owned, Finnish Navy and commercially-owned vessels.

Polaris, Finland’s newest icebreaker, was completed in 2016. She is the world’s first to feature dual fuel liquefied natural gas (LNG) and diesel propulsion, which makes the vessel Finland’s most powerful icebreaker and the world’s greenest. In late 2016 the icebreaker was undergoing final outfitting at Arctech Helsinki Shipyard and the vessel was delivered to Arctica Icebreaking Oy in mid-2017. Arctica Icebreaking Oy is a subsidiary of state-owned Arctica Shipping, which manages all icebreaking operations in Finland.

Germany
On July 18, 2016, the German research icebreaker Polarstern departed from Tromsø (Norway) to start its 100th expedition. On board there were scientists from 13 nations. Later that year, she departed for Antarctica.

Japan
In March 2018, the Japanese company Mitsui O.S.K. Ltd. launched the country’s first icebreaker, Vladimir Rusanov. The icebreaker, jointly owned with a Chinese company, is one of three the company has ordered for transporting natural gas from Russia’s Yamal LNG project. The 299-meter-long, 50-meter-wide vessel was built by the South Korean company Daewoo and is capable of sailing in seas with ice up to 2.1 meters thick.

Norway
In 2017, the oceanographic icebreaker RV Kronprins Haakon was delivered to Norwegian Polar Institute (NPI). The new NPI research vessel will reportedly be operated by the Institute of Marine Research with the University of Tromsø as the main user. The 100-meter long, 9,000-ton Polar Class (PC) 3 vessel has space for two helicopters, a remotely operated vehicle (ROV), and an autonomous underwater vehicle (AUV). It is capable of breaking ice up to one meter, while meeting the applicable silencing requirements for minimizing the impact of marine mammals.

Russia
On June 16, 2016, Russia launched the Arktika, the world’s biggest, most powerful icebreaker in St. Petersburg. The LK-60 class vessel is 170 meters (568 feet) long and 34 meters wide and
powered by two nuclear reactors. Reportedly, it can break through ice thirteen feet thick. Projected for completion in 2019, the Arktika will be based in Murmansk, and the Russian Federation plans to add two additional LK-60 class vessels for 2020 (Sibir) and 2021 (Ural).

Gazprom Neft took delivery of the twin 121.7 meter diesel-electric icebreakers Andrew Vilitsky and Alexander Sannikov to support operations at the Arctic terminal at Novy Port in Russia’s Gulf of Ob.

One week earlier, Russia launched the 6,000-ton diesel-electric icebreaker Ilya Muromets during a ceremony in St. Petersburg. The vessel was handed over to the Northern Fleet on November 30, 2017. The Ilya Muromets could be the leadship of a new class of icebreakers, depending on how well the vessel will do perform in service. The 6,000-ton ship is 85-meter (280-feet) long and can reportedly break through a meter of ice. With a crew of 35 it can traverse the entire 5,600 kilometer (3,500 mile) length of the Northern Passage and can operate autonomously for up to 60 days.

Russia continues to develop its “Leader 10510 Class” next generation icebreaker. The nuclear powered, 685.5 foot vessels are being designed to operate year-around on the NSR. Vladivostok’s Zvezda shipyard will build the vessels.

The 300-meter Christophe de Margerie — the world’s first icebreaking LNG carrier — entered service in 2017. The vessel is the first of fifteen in the class designed and built in South Korea for Russia’s Sovcomflot to transport LNG from Russia’s Yamal gas field on a year-round basis.

South Korea

South Korea’s icebreaker Araon set sail on its ninth Arctic voyage on July 19, 2018, to conduct polar research. The Korea Polar Research Institute shared that the team of researchers from nine nations will study the melting sea ice and its impacts on climate change during the 77-day mission. The Araon is a 111-meter long and 19-meter wide vessel weighing 7,487 tons and can cut through meter-thick ice. It has been key to South Korea’s polar research.

Sweden

In 2016 the Swedish icebreaker Oden departed Svalbard to join the Canadian icebreaker Louis S. St-Laurent for “Arctic Ocean 2016,” in support of Canada’s continental shelf claim. For six weeks, the two vessels operated in the Amundsen Basin and the Lomonosov and Alpha Ridges.

Sweden recognizes that efficient ice-breaking operations are required to promote maritime safety and improve accessibility in ice-infested waters. Swedish ice-breakers can support increasing commercial shipping in the Arctic as well as help with both the monitoring of the vulnerable marine environment and Arctic research. The Swedish Maritime Administration’s five ice-breaking vessels are well suited to Arctic and sub-Arctic waters. In addition, the private operator, Trans Viking Icebreaking and Offshore, operates three ice-capable vessels.

United States
Icebreaker acquisition attracts much attention among Arctic observers. The High Latitude Region Mission Analysis prepared for the Coast Guard by ABS Consulting in 2011 concluded that the Coast Guard needs three heavy and three medium icebreakers to fulfill its statutory missions (Vol. II of the study analyzes Arctic Mission Area Needs). To fulfill its statutory missions and maintain the continuous presence requirements of the Naval Operations Concept (2010) would require six heavy and four medium icebreakers.

American Icebreaker Gap in the Arctic. The Commandant of the Coast Guard, Adm. Karl Schultz, has articulated the service’s needs with the 6:3:1 framework: the Coast Guard needs 6 icebreakers, 3 of which must be “heavy” icebreakers (which he now calls Polar Security Cutters) and 1 “right now.” At the same time, the Coast Guard is seeking funds to complete procurement of 58 Fast Response Cutters, 11 National Security Cutters, 25 Offshore Patrol Cutters, and an unspecified number of Waterways Commerce Cutters. The Coast Guard has two active polar icebreakers: USCGC Healy (WAGB 20), a medium icebreaker with a projected service life of 2030, and USCGC Polar Star (WAGB 10), a heavy icebreaker whose original 30-year service life ended in 2006, but then completed a service life extension program in 2013. Former Commandant of the Coast Guard Adm. Paul Zukunft pointed out the problem posed by the “one deep” icebreaker fleet several years ago: “if one gets in trouble, we don’t have self-rescue capability” because the other one will almost certainly be undergoing its annual maintenance availability.

A third polar icebreaker, the Polar Sea (WAGB 11), was prepared for “preservation drydocking” in 2015 and now largely serves as a floating spare parts warehouse for her sister ship, Polar Star, which is expected to reach the end of her extended service life not later than 2023, potentially leaving the nation without a heavy icebreaker to support its Antarctic activities.

The American icebreaker gap does not appear to be going away anytime soon. Section 122 of the FY 2018 National Defense Authorization Act authorized funds to begin the construction of one Polar Class heavy icebreaker, and Section 151 of the FY 2019 John McCain National Defense Authorization Act authorized five more, bringing the total authorized to six. President Trump included $750 million in his FY 2019 budget proposal to build one new heavy icebreaker; however, Congress has so far failed to appropriate the funds necessary to begin construction (both authorization and appropriation are required). As a result, 2018 ended with no appropriation for even a single new icebreaker.

Other than the icebreakers operated by the U.S. Coast Guard, four ice-capable ships fly the U.S. flag. One, Sikuliaq (261 feet long and launched in 2014), is owned by the National Science Foundation and operated by the University of Alaska Fairbanks. Two are owned by Edison Chouest Offshore and chartered to the National Science Foundation: Nathaniel B. Palmer (308 feet long and launched in 1992) and Laurence M. Gould (230 feet long and launched in 1997). The fourth, the 360-foot Aiviq (launched in 2012), is an ice-capable anchor handling tug supply (AHTS) vessel originally built to support Royal Dutch Shell in the Arctic. Her owners offered Aiviq to the Canadian Coast Guard as a replacement for CCGS Louis S. St-Laurent. However, in June 2018, it was announced that the Canadian government would partner with
Davie Shipbuilding, but using three ships from Viking Supply Ships.

C. ARCTIC LIVING MARINE RESOURCES

Nine States and the EU Sign Agreement on Central Arctic Ocean Fisheries. On October 3, 2018, the five states bordering the Arctic Ocean, Canada, Denmark (Greenland and the Faroe Islands), Norway, Russia, and the U.S., together with Iceland, Japan, South Korea, China, and the EU (on behalf of its member-states), signed a legally binding international accord that will protect approximately 1.1 million square nautical miles of the Central Arctic Ocean from unregulated fishing.

The Central Arctic Ocean Fisheries Agreement was signed in Ilulissat, Greenland and will enter into force after all the signatories have ratified it. The agreement, which builds on the 2015 “Oslo Declaration” by the five states that border the Arctic Ocean described in earlier editions of this Year-in-Review, will prevent commercial fishing in the high seas of the Arctic Ocean for at least 16 years while scientific research is conducted to learn more about its marine life and resources.

The Agreement comprises 15 articles, incorporates a precautionary approach, and is to be implemented consistently with the 1982 UN Convention on the Law of the Sea, the 1995 Straddling Fish Stocks Agreement and the 1995 Code of Conduct for Responsible Fisheries.

Reduction in Cod Quotas in the Barents Sea. The International Council for the Exploration of the Sea recommended further reductions in the cod quota for 2019. The Russians and Norwegians reached an agreement in October 2018 to further reduce the cod quotas for the following year. The cod quota will be reduced by 6.5 percent, bringing it to 725,000 metric tons for 2019. Norwegian and Russian fisheries in the region have enjoyed high quota levels in recent years, with an all-time high of 1,021 million tons in 2013. According to the Norwegian Institute of Marine Research, the high quotas were largely due to good cod year classes in 2004 and 2005, but now there is a natural decline in Atlantic cod stocks.

U.S. Arctic Fisheries. In 2009, the Secretary of Commerce approved the North Pacific Fisheries Management Council’s Fishery Management Plan for the Fish Resources of the Arctic Management Area (Arctic FMP). The Arctic FMP imposes a moratorium on commercial fishing in the “Arctic Management Area,” which includes the waters of the U.S. exclusive economic zone north of the Bering Strait, including the Chukchi and Beaufort Seas eastward to the limits of U.S. jurisdiction. The moratorium on fisheries is to remain in place until scientists can determine what fish stocks exist (e.g., Arctic cod, saffron cod, snow crab, and Pollock) and how crucial they are for maintaining a fragile Arctic ecosystem. The plan was implemented by the National Marine Fisheries Service in 2009 (74 Fed. Reg. V. 74 No. 211, Dec. 3, 2009). Canadians
protested the eastern reach of the U.S. Arctic Management Area, claiming that it extended into waters claimed by Canada (the Beaufort Sea boundary between the U.S. and Canada is disputed).

An initial study on the Arctic ecosystem was published by a researcher at NOAA’s Alaska Fisheries Science Center in Seattle (G.A. Whitehouse, Preliminary Mass-balance Food Web Model of the Eastern Chukchi Sea).

Any decision on fishing activity in the harsh and distant waters of the 200,000 square mile Arctic Management Area must consider National Standard 10 of the Magnuson-Stevens Act, which dictates that conservation and management measures must, to the extent practicable, promote the safety of human life at sea.

Walrus.

The Pacific walrus population continued to decline this year—only 129,000 animals are left. The massive Pacific walrus “haulout” was repeated in autumn 2018, when thousands of the animals congregated on beaches to rest. Declining sea ice cover has caused Pacific walruses to come to shore each year for the past decade. The haulouts are dangerous for the walruses as they are easily spooked and cause deadly stampedes while rushing to the ocean.

Last year, disturbances to a haulout in Russia caused the death of 500 walruses.

Around 35,000 walrus hauled out along the shore near Point Law, AK in 2014 (Photo Credit: NOAA).

The haulouts were first observed off Alaska’s Point Lay in 2007, coinciding with a record sea ice melt in the Arctic. Female walruses and their young generally spend their summers on the sea ice, foraging in shallower areas for food. But as summer sea ice retreats, walruses are forced to go ashore.

Polar Bears. Global polar bear numbers are projected to decline by thirty percent due to the reduction in sea ice cover. Scientists estimate the global polar bear population numbers to be 22,000 to 31,000, but they caution that data on populations in Russia and East Greenland are lacking. About sixty-eighty percent are in Canada. Polar bears are also found in the U.S. (Alaska), Russia, Greenland, and Norway (Svalbard).
The IUCN lists the polar bear as a vulnerable species, citing sea ice losses from climate change as the single biggest threat to polar bear survival. In 2017, the IUCN Polar Bear Specialist Group reported that of the nineteen populations of polar bears, one population is declining; seven are stable; two are increasing; and there is insufficient data on the other nine.

The Southern Beaufort Sea population along the northern coast of Alaska and western Canada plunged by about forty percent over the ten-year study period from 2001-2010, dropping from about 1500 bears to 900 bears before stabilizing. However, Norway’s Barents Sea polar bear population has increased by thirty percent over the past eleven years.

Polar bears rely on the sea ice to hunt, travel, breed, and sometimes to den. Scientists report that, confronted by dramatically diminished sea ice, polar bears are increasingly being forced to swim much longer distances between haul outs, increasingly their activity level at the same time food sources are less accessible. See Miriam Matejova, *Is Global Environmental Activism Saving the Polar Bear?* 47 Environment 14 (Oct. 2015).

The five nations with polar bear populations signed a non-binding conservation agreement on September 2, 2015. Canada, Denmark, Norway, Russia, and the United States agreed on a circumpolar action plan to protect and manage polar bears and their habitats. Signatories to the agreement plan to draft an implementation plan and publish progress reports and action tables.

The Inuit Circumpolar Council noted that the five-nation agreement recognizes the right of Inuit to harvest polar bears under Canadian land claims agreements and Greenland’s legislation.

**Russia-Norway Plan for Polar Bear Conservation**

In 2016 Norway hosted the first meeting of the working subgroup for the conservation of the polar bear population and of the working group for cooperation in biodiversity under the Joint Russian-Norwegian Commission on Environmental Protection.

The parties completed a draft plan of joint work for polar bear protection that will be implemented from 2017-2018. The group gave special attention to cooperation in the Pasvik-Inari cross-border specially protected natural area. No further developments have been reported.

**New Marine Protected Area in the Arctic**

In 2016 the Government of Canada and Northern partners announced the establishment of a new marine protected area in the Arctic. Located in the Beaufort Sea near the community of Paulatuk, Northwest Territories, the Anguniaqvia niqiqyuam Marine Protected Area was created in collaboration with the Inuvialuit, as well as partners from industry, non-governmental organizations, and other stakeholders. For the first time, the Government of Canada utilized conservation objectives that
were specifically based on Indigenous traditional knowledge.

On December 21, 2017, the Canadian federal government announced the creation of seven new marine refuges off the coasts of Nunavut, Newfoundland, and Labrador that will cover a 145,598-square-kilometer swath of ocean and add more than two percent to Canada’s marine protected areas.

**Biodiversity and Invasive Species.**

Reports continue to come in on non-Indigenous species in Arctic waters. In 2014, a research vessel examining mackerel stocks caught three large Bluefin tuna in the Denmark Strait, much farther north than these fish usually range.

In a December 8, 2015 article titled *Arctic Invasion* in Hakai magazine, Geoffrey Giller reported that scientists sampling arriving ships’ ballast water in Svalbard identified twenty-three non-native species, including crabs, barnacles, and copepods, in the ballast water. So far, it appears that the surrounding waters are too cold for the species to survive.

**Arctic High Seas Fisheries.**

Much of the Arctic Ocean lies beyond the U.S. or any other nation’s 200-mile exclusive economic zone. Within that high seas Arctic “doughnut hole” (not to be confused with a similar high seas doughnut hole in the Bering Sea between the U.S. and Russian EEZs, which is governed by a 1994 international agreement) all nations enjoy the freedom to fish consistent with the U.N. Convention on the Law of the Sea and other applicable international law, such as the Straddling Fish Stocks Agreement.

On June 3, 2008, President George W. Bush signed a congressional joint resolution relating to Arctic Fisheries (Pub. L. No. 110-243). That resolution emphasizes the need for the United States to work with other nations to prepare for conserving and managing future Arctic fisheries. It further declares that the U.S. should support international efforts to halt the expansion of commercial fishing activities in the high seas of the Arctic Ocean until such international conservation measures are in place.

For over five years, the U.S. encouraged the other states bordering the Arctic Ocean to negotiate an agreement to regulate Arctic fisheries. Russia balked for several years, but in 2012 it signaled its willingness to support an agreement. Talks among the Arctic states began in the spring of 2013. At a February 2014 meeting in Nuuk, Greenland, officials from Canada, Denmark, Norway, Russia, and the United States agreed on tentative terms.

In 2015, the five nations with Arctic Ocean coastlines signed an agreement to keep their fleets out of the ocean’s so-called “donut hole.”

From July 6-8, 2016, delegations from Canada, Denmark in respect of the Faroe Islands and Greenland, the European Union, Iceland, Japan, South Korea, Norway, Russia, and the United States met in Iqaluit, Canada to continue discussions concerning the prevention of unregulated commercial fishing in the high seas area of the central Arctic Ocean.

**Fishing Agreement to Protect Arctic Waters**

In May 2016, leaders in the catching industry reached an agreement “that from the 2016 season the catching sector will not expand their Cod fishing activities with trawl gear into those areas where regular fishing has not taken place
before.” The agreement was precipitated by an investigation by Greenpeace in March that revealed suppliers of cod to major British seafood brands were taking advantage of melting Arctic ice to push further north with fleets of destructive giant bottom trawlers. The agreement, which spans the whole supply chain and covers an area twice the size of France, represents the first time the seafood sector has voluntarily imposed limitations to industrial fishing in the Arctic. Any fishing companies operating in these Arctic waters will not be able to sell their cod to the brands supporting this deal, including McDonald’s, Tesco, Birds Eye, Espersen, Russian group Karat, and Fiskebåt, which represents the entire Norwegian oceangoing fishing fleet.

D. ARCTIC NON-LIVING MARINE RESOURCES

International policy leaders almost universally agree that the world should strive to keep global average temperature rise related to greenhouse gas emissions below 2° C above pre-industrial levels. Several studies indicate that meeting that goal throughout the twenty-first century requires a specific cap on global carbon emissions. Other studies estimate that emissions from using all the fossil fuels still left in the ground would exceed that cap by three times.

A study published in the science journal Nature in January 2015 compared the relative environmental costs of extractive activities in reserve locations around the world. The purpose was to arrive at a scientifically supportable conclusion about exactly which reserves should remain untapped. The results indicate “that all Arctic resources should be classified as unburnable” if the temperature rise is to remain below 2° C.

Major energy companies such as BP, Eni, ExxonMobil, Repsol, Shell, and others committed to cutting methane emissions from the natural gas assets they operate around the world in 2017. The Guiding Principles are to continually reduce methane emissions, advance strong performance across gas value chains, improve accuracy of methane emissions data, advocate sound policies and regulations on methane emissions, and increase transparency. The Principles were developed in collaboration with the Environmental Defense Fund, the International Energy Agency (IEA), the International Gas Union, the Oil and Gas Climate Initiative Climate Investments, the Rocky Mountain Institute, the Sustainable Gas Institute, The Energy and Resources Institute, and United Nations Environment Programme.

The Arctic Oil and Gas Potential

A widely-cited 2008 report by the U.S. Geological Survey estimates that the Arctic holds 90 billion barrels of oil, 1,669 trillion cubic feet of natural gas, and 44 billion barrels of natural gas liquids, of which approximately 84 percent is expected to occur in offshore areas, where exploration and development risks and costs greatly exceed onshore counterparts.

The International Energy Agency’s World Energy Outlook 2016 notes that major transformations in the global energy system will take place over the next decades. It projects that renewables and natural gas will be the big winners in the race to meet energy demand growth until 2040. However, a detailed analysis of the Paris Agreement finds that the era of fossil fuels is not over and will complicate the process of reaching ambitious climate goals. Implementing current international pledges under the Agreement will only slow down the projected rise in energy-
related carbon emissions from an average of 650 million tons per year since 2000 to around 150 million tons per year in 2040. The authors argue that this achievement will not be enough to avoid the worst impact of climate change as it would only limit the rise in average global temperatures to 2.7°C by 2100, but a decrease to 2°C could be possible if policies to accelerate further low carbon technologies and energy efficiency are put in place across all sectors.

UNITED STATES

The federal Outer Continental Shelf Lands Act (OCSLA) defines the OCS as all submerged lands lying seaward of state coastal waters which are under U.S. jurisdiction. Under the federal Submerged Lands Act, most states (including Alaska) have title to the adjacent submerged lands out to 3 miles offshore. Under the OCSLA, the Secretary of the Interior is responsible for the administration of mineral exploration and development of the OCS. The Act empowers the Secretary to grant leases to the highest qualified, responsible bidder based on sealed competitive bids, and to formulate regulations as necessary to carry out the provisions of the Act. The Act also provides guidelines for implementing an OCS oil and gas exploration and development program.

OCSLA leasing responsibility is delegated to the DOI’s Bureau of Ocean Energy Management (BOEM). The statutorily authorized OCSLA leasing program begins with preparation of five-year leasing plans. In 2016, Secretary Jewell announced the second proposal, the Proposed Program for 2017-2022. There were thirteen potential lease sales in four program areas in all or parts of the six proposed outer continental shelf planning areas. This included ten sales in the combined Gulf of Mexico Program Area, and one sale each in the Chukchi Sea, Beaufort Sea, and Cook Inlet Program Areas offshore Alaska.

BOEM estimates that the Chukchi Sea contains between 2 and 40 million barrels of unproved technically recoverable crude oil and up to 10 to 210 trillion cubic feet of unproved technically recoverable natural gas.

Trump Allows Drilling Lease Sales in Chukchi and Beaufort Seas.

The Trump administration reversed President Obama’s withdrawal of Outer Continental Shelf from oil and gas leasing in nearly all the Chukchi and Beaufort Seas Planning Areas. The administration has proposed a five-year leasing plan set to begin in 2019. The Bureau of Ocean Energy Management submitted an announcement asking where companies might want to drill, and which areas might be too environmentally sensitive.

Liberty Island Project. On October 24, 2018, the Department of Interior’s Bureau of Ocean Energy Management (BOEM) issued conditional approval to Hilcorp Alaska LLC for its Liberty Project oil and gas development and production plan. If developed, the facility would be the first oil and gas production facility in federal waters off Alaska. The project entails construction of a 23-acre gravel island in Foggy Island Bay, 15 miles east of Prudhoe Bay. The island would serve as a platform for five or more extraction wells that could tap oil 6 miles from shore in the Beaufort Sea. The Center for Biological Diversity opposes the project.


The National Petroleum Council is a federally-chartered, privately-funded advisory group established to represent the oil and gas
industry’s view to the federal government. At the request of Secretary of Energy Moniz, it produced a thorough report in March 2015: Arctic Potential, Realizing the Promise of U.S. Arctic Oil and Gas Resources. The report notably concludes that existing technology allows the safe development of Arctic oil and gas, but U.S. regulatory practices discourage exploration activity.

CANADA

In 2016, Prime Minister Justin Trudeau announced that Canadian Arctic waters are indefinitely off limits to new offshore oil and gas licensing, a decision to be reviewed every five years through a science-based review.

Canada’s National Energy Board confirmed on in late 2014 that Chevron withdrew from a hearing on Arctic drilling rules after deciding to indefinitely shelve plans to drill in the EL 481 block of Canada’s Beaufort Sea. Chevron reportedly cited economic uncertainty, though not directly related to the 48 percent decline in oil prices since June 2014. Chevron was unlikely to drill until 2025, so its decision probably reflects a more long-term assessment of the costs and benefits of its Arctic operations.

NORWAY

Norway’s Statoil finished 2014 amid reports of escalating costs, declining prices, and disappointing failures. Statoil came up dry in all three Arctic wells drilled during its 2014 Barents Sea exploration season.

Italian oil company ENI reportedly plans to move ahead with its plans to drill in the Norwegian Arctic, provided Norway approves.

RUSSIA

Russia’s leading resource extraction and development companies, Gazprom (natural gas) and Rosneft (the world’s largest publicly-traded petroleum company), continue to explore new resources in the Arctic. To succeed, however, Russia will need access to Western technology and investment funds, and sanctions have impeded access to both.

Multilateral sanctions imposed on Russia, Russian companies, and selected Russian individuals following Russia’s 2014 invasion of Ukraine continue to affect Russia’s ability to develop its offshore oil and gas resources.

In his November 17, 2015, testimony before a House committee, Admiral Papp reported that “The U.S. is in lockstep with the E.U. and Norway on sanctions that target, among other things, Russia’s ability to develop resources in its Arctic waters.”

Sanctions were expanded in August 2015 to bar transporting certain equipment to Gazprom’s Yuzhno-Kirinskoye field. And Rosneft postponed drilling a second well in the Kara Sea until 2018, because sanctions have reportedly prevented access to equipment and funding.

In September 2015, Russia’s Ministry of Natural Resources and Environment, Sergei Donskoi, announced that Russia will issue four field licenses to Rosneft, the country’s largest oil producer, and Gazprom for development of the Arctic Shelf. Donskoi also commented that the ministry had considered suspending issuance of licenses but would continue issuing them under Russia’s current legislation.

On Dec. 29, 2015, Gazprom Chairman Alexey Miller underlined his company’s commitment to the Russian Arctic region. The statement followed news that Gazprom’s board of directors had approved a $11.8 billion investment
program for 2016. Noting Gazprom’s leadership position in the Russian petroleum industry, Miller said: “We have been efficiently developing the Prirazlomnoye field in the Arctic Shelf. In November, the amount of oil output reached one million [tons] there and this vividly demonstrates that we operate this complex and extremely promising region in a productive and safe manner.”

Miller was referring to Gazprom Neft’s news that it has brought its second well into production at the Prirazlomnoye field, with output field now up to 1,800 tons per day (up from 300,000 tons/day in 2014). The Prirazlomnoye field is located in the Pechora Sea, 30 nautical miles from shore.

E. MARINE POLLUTION PREVENTION, RESPONSE & LIABILITY

There were no significant marine pollution incidents in the Arctic in 2018.

U.S. Vessel Response Plan Requirements. In 2013, the Coast Guard promulgated its final rule on Nontank Vessel Response Plans (NTVRPs), 78 Fed. Reg. 60,100. The rule went into effect on January 30, 2014. Foreign vessels in innocent passage through the U.S. territorial sea or transit passage through an international strait in U.S. waters (e.g., Unimak Pass, which some 3,000 vessels transit each year) are exempt. On December 20, 2013, the Coast Guard granted a temporary Alternative Planning Criteria (APC) request by the Alaska Maritime Prevention & Response Network for the waters of the Western Alaska Captain of the Port region.

In May 2015, the Coast Guard approved a second APC service provider for a limited area of Western Alaska. Resolve Marine Group and National Response Corporation (NRC) partnered to form 1 Call-Alaska. The new provider’s coverage is limited to the northern Pacific great circle route and to non-tank vessels transiting through the Aleutian Islands. This second APC approval raised concerns that competition between service providers will provoke a “race to the bottom,” and discourage the investment necessary for the region to meet the more demanding National Planning Criteria for vessel spill response plans.

The Coast Guard extended the Network’s and 1-Call’s non-tank vessels APCs until 2021. The Alaska Response Corp (ARC) APC was not renewed after it expired on June 30, 2018. Operators using ARC will not have coverage until amendments are submitted.

Section 823 of the Coast Guard Authorization Act of 2018 rewrote the Alternative Planning Criteria for pollution response and requires a detailed report to Congress.

Trump Signed Legislation to Clean Pollution from the Ocean. On October 11, 2018, President Trump signed the “Save Our Seas Act.” The legislation commits the United States to increase its efforts to clean up around 8 million metric tons of litter polluting the oceans. Ocean clean-up has been authorized through 2022. The National Ocean and Atmospheric Administration will continue leading the effort, now with funding of $10 million per year.

F. ARCTIC MARINE SCIENTIFIC RESEARCH

Scientific Cooperation between China, Japan, and Korea. The three observers to the Arctic Council met in June 2017 and agreed to strengthen cooperation on environmental protection and scientific research in the Arctic. The meeting was the second of its kind following
the first gathering of the three states in Seoul in April 2016. The countries issued a joint statement after the meeting, noting that it is “indispensable for the international community to ensure the protection and preservation of the fragile marine environment of the Arctic Ocean, and maintain peace, stability and constructive cooperation based on a rule-based maritime order.”

U.S.-led Scientific Mission. The U.S National Ice Center (USNIC) collaborated with the Office of Naval Research, Office of the Oceanographer of the Navy, the Danish Joint Arctic Command, Environmental and Climate Change Canada, and the University of Washington to deploy buoys into the Arctic Ocean in September 2017. The joint mission was conducted to collect weather and oceanographic data to enhance forecasting and environmental models thereby reducing operational risk for assets in the Arctic.

Swedish-U.S. Research Expedition.

The Swedish-American ‘Arctic Ocean 2018’ research expedition on board the Swedish icebreaker Oden departed on July 31, 2018. The icebreaker was moored to an ice flow for a month in the middle of the high Arctic Ocean. The researchers studied the formation of clouds over the Arctic and how they impact climate change. ‘Arctic Ocean 2018’ was a research expedition conducted by the Swedish Polar Research Secretariat together with the National Science Foundation (NSF), USA. Scientific Meetings

The 2018 Arctic Science Summit was held in Davos, Switzerland from June 15 – 26, 2018.

Assessments and Studies

The ongoing Sea State and Boundary Layer Physics of the Emerging Arctic Ocean study, an Office of Naval Research Departmental Research Initiative (DRI) chaired by Dr. Jim Thomson of the UW Applied Physics Laboratory, seeks to identify factors affecting the spatial and temporal variability of sea state, and improve forecasting of waves on the open ocean and in the marginal ice zone.

In launching the initiative, ONR noted that there remain fundamental gaps in our knowledge of the physical environment and processes, interactions and feedbacks that are critical to understanding the seasonal evolution of sea ice and the effect of increasing open water on the ice and on the atmosphere, at the Arctic to hemispheric scale.

Experts at the University of Manitoba conducted a study finding that Arctic sea ice is expected to continuing surging in the North Atlantic Ocean. In May and June of 2017, ice clogged the area around Newfoundland, trapping and sinking several vessels. Ice arches normally prevent sea ice from drifting into seafaring lanes, but with climate change, the arches are failing and not forming as robustly each year, allowing more ice to flow into seafaring lanes.

The National Snow and Ice Data Center and NASA scientists reported in March 2018 that the Arctic sea ice annual maximum extent had been reached. The sea ice extent was at the lowest level ever recorded. The reduced sea ice extent speeds up climate change, hurts human and animal communities, and altered shipping routes. The shipping routes have veered 180 miles closer to the North Pole, and by smaller vessels resulting in increased risks.

The State of the Polar Oceans 2018 was released in July 2018 by the British Antarctic Survey (BAS). The BAS report emphasizes the need to further
study the least understood regions on Earth as studies have revealed new knowledge on climate change, biodiversity, and conservation of marine life. Professor Mike Meredith, the leader of the BAS Polar Oceans Team shared, “We are beginning to understand what [oceanic] changes mean for climate, sea level, for the marine ecosystem as well as for humans and society. This report highlights the state-of-the-art science behind those changes and their implications and stresses the need for ongoing sustained observations of these key regions of the Earth System.” The Earth’s polar oceans control global temperatures and absorb extra heat. The oceans have warmed rapidly—summer temperatures in the Arctic Ocean are now 2–3°C warmer than the 1982–2010 mean, with a corresponding reduction in summer sea ice extent of nearly 50 percent from the late 1970s to 2017.

G. INDIGENOUS ARCTIC RESIDENTS

The Arctic region is home to thirty different Indigenous groups and four million residents. The Arctic Council has granted Permanent Participant status to six Arctic Indigenous communities.

The International Whaling Commission (IWC) establishes aboriginal catch limits. For 2013 through 2018 the IWC has authorized Alaskan and Chukotka native whalers to land up to 336 whales to meet subsistence needs.

On July 31, 2015, the European Union formally approved the Government of Nunavut as a Recognized Body under the Indigenous Communities Exemption of the EU Seal Regime, which means that the Government of Nunavut will be able to certify sealskins as having been harvested according to the rules of the exemption. The EU seal ban issue had previously been cited by Canada as the reason for their objection to EU Observer status at the Arctic Council.

Inuit leaders attended the COP21 climate change conference in Paris. Vice President of the Inuit Circumpolar Council-Canada Herb Nakimayak, Nunavut Premier Peter Taptuna, and Nunavut MP Hunter Tootoo of the federal fisheries ministry attended the summit as part of the Canadian delegation. Additionally, the Joint Arctic Peoples delegation to Paris was headed by ICC’s international chair Okalik Eegeesiak and holds observer status at the Conference. The Inuit hoped to see support for Inuit adaption and mitigation efforts, use of native knowledge in decision making, and creation of global financing to support Indigenous peoples to monitor and battle climate change.

On October 25, 2016 IMO Secretary-General Kitack Lim received a delegation of Arctic Indigenous leaders at IMO headquarters in London. In this unprecedented meeting, the delegates discussed a wide range of issues, including their concerns regarding the impacts of Arctic shipping on Indigenous communities. The group hopes to achieve permanent status for Indigenous communities in this international forum to be party to decisions that will increasingly affect their livelihoods.

H. MILITARY ACTIVITIES IN THE ARCTIC

When the Arctic Council was established in 1996, the founding states elected not to include
military security issues in the council’s mandate. Some have argued that the decision to exclude security issues should be reconsidered. Recommendations include a complete demilitarization of the Arctic (as is the case with Antarctica) and declaring the Arctic region to be a nuclear-weapons-free zone.

CANADA

Canada is a charter member of NATO. Its armed forces number 68,000 active and 7,000 reserves. In addition, the Canadian Coast Guard, a civilian, non-paramilitary organization, has over 4,500 civilian members.

It is too early to predict how Trudeau’s national security policy might differ from those of the Harper government, but the immediate withdrawal of Canadian military forces from Syria and Iraq may foreshadow a more isolationist posture.

Vessel procurement requirements for the Royal Canadian Navy and Canadian Coast Guard are consolidated in the National Shipbuilding Procurement Strategy. In 2011, the Canadian government awarded a $25 billion contract to build six to eight Arctic Offshore Patrol Ships as well as fifteen other warships for the RCN over the next two decades. The Canadian Press reported that the Arctic ship order was on time and under budget. By December, however, the Canadian Parliamentary Budget Office estimated that only four ships would be built, with a 50 percent chance of on-time delivery.

FINLAND

Finland, which has adopted a non-alignment policy, is not a member of NATO; however, NATO and Finland actively cooperate on peace and security operations. Finnish and international concerns were raised in late 2014, when Russia reopened its Cold War era military base in Alakurtti, less than forty miles from the Finnish border. In 2015, rumors circulated that Finland’s new government was exploring the possibility of joining NATO. Finland’s defense policy has been to keep the possibility of joining NATO open, without formally applying to join the alliance. Politicians have said if Finland were to join, it would join at the same time as Sweden. Finland’s military numbers 35,000 standing armed forces and 900,000 reserves.

NATO

The North Atlantic Treaty Organization (NATO), established by the Atlantic Treaty of 1949, now includes twenty-eight member-states. Article V of the treaty states that if an armed attack occurs against one of the member-states, it should be considered an attack against all members, and

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3 The Council’s Charter states that “The Arctic Council should not deal with matters related to military security.” Ottawa Declaration, page 1, note 1.
other members shall assist the attacked member with armed forces if necessary.

In May 2018, the U.S. led an anti-submarine exercise in the northern Norwegian Sea with four other NATO members—Norway, Canada, France, and the U.K. The anti-submarine drills led by the U.S. 6th Fleet were intended to increase interoperability and tactical proficiency amongst the countries. U.S. Captain Roger E. Mayer, commander of Task Force 69 with the 6th Fleet said, “This exercise is a key opportunity for U.S. and allied partners to practice anti-submarine warfare skills in a tactically challenging environment.” A U.S. Navy submarine, Norway’s frigate KNM Helge Ingstad, along with other naval vessels were accompanied by maritime surveillance air crafts Orion from Norway and a P-8A Poseidon from the U.S.

NATO TRIDENT JUNCTION 2018: NATO’s “most important military exercise since the end of the Cold War.” From 25 October to November 7, 2018, some 50,000 participants (14,000 from the U.S. Army, Marine Corps, Navy and Air Force) from 31 NATO and partner nations (Sweden and Finland), 250 aircraft, 65 ships (including the aircraft carrier USS Harry S. Truman and her Carrier Strike Group Eight), and up to 10,000 vehicles participated in NATO Trident Junction 2018 in Norway, and the surrounding areas of the North Atlantic and the Baltic Sea, along with important advance elements taking place in Icelandic, Swedish, and Finnish airspace. Hosted by Norway and billed as NATO’s most important military exercise since the end of the Cold War, the exercise tested the NATO Alliance’s readiness to meet their obligations of collective self-defense against a threat from a fictional near-peer adversary on the north-eastern flank of the Alliance.

Tragically, on November 8, 2018, while returning from the exercise, the Norwegian frigate Helge Ingstad collided with the tanker Sola TS, and began taking in water. The ship was intentionally run aground in an unsuccessful attempt to prevent her sinking. Seven Norwegian sailors were injured in the incident.

Norwegian frigate Helge Ingstad intentionally ran aground following collision. (Getty Images)

NORWAY

Norway is a charter member of NATO. Its armed forces number 26,200 active and 56,200 reserves. The Russian announcement that it will soon add a marine brigade to its Northern Fleet and station those marines near Pechenga (Murmansk Oblast)—just 9 miles from the Norwegian border—raised concerns in Norway.

At the CSIS forum described in Section III.1 above, Norway’s Foreign Minister Børge Brende expressed Norway’s grave concern with Russia’s violations of international law, which has created a “new security environment in Europe.” Brende observed that Norway was compelled to impose sanctions and suspend military cooperation, but would continue to cooperate with Russia on fisheries, maritime safety, nuclear safety and environmental protection.
RUSSIA

Since 2016, much has been written about the nature and extent of the security threat posed by a resurgent Russian Federation under President Vladimir Putin. The adjacent Baltic States were among the most outspoken. This map, posted on Twitter by Agnia Grigas, depicts the growing Russian military footprint in the Arctic.

The Nagurskoye base in Franz Josef Land was completed in 2017 and is said to be the largest building in the entire circumpolar high Arctic.

In 2014 President Putin signed the revised Russian Military Doctrine (official Russian language document). After characterizing NATO as a major threat to Russia’s security, the doctrine named the protection of national interests in the Arctic as a main priority for Russian armed forces in times of peace.

Russian Defense Minister Sergei Shoigu said in late July 2018, that Russia would react if Finland and Sweden joined NATO. He cited an agreement signed in May between Finnish, Swedish, and U.S. defense ministers as evidence of NATO security cooperation between the countries. Shoigu stated: “The deal signed in May allows these countries to participate fully in NATO exercises and to use NATO forces. In turn NATO has been granted full, unobstructed access to these countries’ airspace and territorial waters...These kind of steps by our western colleagues lead to the destruction of the current security system, increase mistrust and force us to take counter-measures.”

Russia established its Arctic Command in 2014 to coordinate all military activities in the region. On “Navy Day” in July 2015, Russia announced a new naval doctrine (in Russian), in which the Arctic plays a central role. Russia’s Northern Fleet now comprises two-thirds of the nation’s navy. That fleet will soon be reinforced with a marine brigade stationed near Pechenga (9 miles from the Norwegian border). In 2015, Russia reopened its military installation in Alakurtti, 60 kilometers from the northeastern border of Finland.

Russia increased its military budget by nearly $11 billion from 2014 to 2015. It has announced its intent to modernize 70 percent of its military by 2020. Russia’s first upgraded ballistic missile submarine began sea trials in December 2018 and will be put into service on the Barents Sea in 2019. The Borey-class submarine can hold 96-160 nuclear warheads on board when fully armed.

Mark Ferguson, commander of the U.S. Navy in Europe and Africa and head of NATO’s joint force command in Naples, stated that Russia’s “arc of steel” from the Arctic to the Mediterranean is evidence of the country’s remilitarization. Russia maintains 20-30 icebreaking ships, and opened a specialized Arctic rescue center for emergencies in its Murmansk port in 2015.

Commenting on Russia’s militarization of the Arctic, Admiral Robert Papp, the U.S. Special

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Representative for the Arctic, commented that “The problem is less due to the military buildup than the buildup of rhetoric...President Putin and his associates, their rhetoric about how important the Arctic is to them and their need to defend it is not useful to the type of cooperative efforts we would like to do within the Arctic.”

Admiral Paul Zukunft, Commandant of the U.S. Coast Guard, commented on Russia’s buildup of capability in the Arctic, noting that his concern stems from the “complete lack of transparency” in the process.

The late Senator McCain visited the Arctic in 2015 and explained in a Wall Street Journal Op-ed that Russia’s rush to nationalize and control waterways in the Arctic Ocean raises issues of commercial shipping, military, and intelligence. McCain expressed concern about Russia’s activities, stating that the country is “threatening the security and prosperity of the Arctic and Northern Europe by assertively deploying its military power, patrolling its neighbors' coastlines both above and below water, and building or reopening numerous military outposts across the region.” Alaska’s freshman Senator Dan Sullivan has repeatedly voiced his concerns about Russia’s military activities in the Arctic.

In 2016, Russian submarine launched its Kalibr missile from the Barents Sea less than 24 hours after the deputy head of the Federation Council’s Committee for Defense and Security threatened Sweden that Russia will deploy more missiles to its northern regions if Sweden enters NATO.

The Northern Fleet conducted large-scale drills from June 13-22, 2018, in the Barents Sea that exercised its complete range of maritime, shore, and undersea capabilities. The drills were the Northern Fleet’s largest Arctic naval exercise in 10 years. The exercise involved 36 warships, submarines, and support vessels; some 20 aircraft; more than 150 heavy weapons; coastal missile and artillery units; ground forces; marine infantry; and air defense units.

In 2016-2020, the Russian Ministry of Defense will focus on the development of military infrastructure in the Arctic region and on the Kuril Islands.

SWEDEN

Sweden maintains a policy of military non-alignment. Sweden has declared itself a neutralized state and therefore not a member of NATO. However, Sweden is an active participant in peace and security operations with NATO. Sweden has considered becoming a member of NATO if Finland also decided to join. The Swedish Armed Forces number 20,000 active, 12,000 reserve and 22,000 Home Guard.

UNITED STATES

The United States is a charter member of NATO. Its armed forces (not including the Coast Guard) number over 1.3 million active and 800,000 reserve. The United States has about 200,000 active troops deployed abroad in over 170 countries.

The House Armed Services Committee passed the FY2018 National Defense Authorization Act (NDAA) in December 2017, which provided the Department of Defense (DOD) appropriations for many areas including the procurement of military equipment, research & development, operations and maintenance, and military construction. FY2018 required the secretary of defense to develop a new military strategy to respond to Russia’s growing military presence in the Arctic. Section Act 1054 of the FY2018 NDAA
requires the Secretary of Defense to submit a report to Congress on the department’s capability and resource gaps and required infrastructure, including specific sections on infrastructure in the Arctic to protect national security, and requests a review of Navy capabilities in the Arctic region under section 1065. Section 1233 provides a perspective on European security and notes that Russia continues to pose a threat, with one supporting factor being the country’s increasing military activity in the Arctic region.

The FY2019 John S. McCain NDAA was signed into law on August 13, 2018. Among its many provisions, it authorizes a total active duty force of 1.338 million and a reserve force of 817,700. Section 1071 called upon the Secretary of Defense to submit to Congress a Report on an Updated Arctic Strategy to improve and enhance joint operations not later than June 1, 2019. Section 1250 calls for a regular review and update of the Alliance Maritime Strategy of NATO to reflect the increased military activity in the North Atlantic and Arctic Oceans. Finally, Section 1261 declares that long-term strategic competition with China is a principal priority for the United States and calls upon the President to develop a whole-of-government strategy that, among other things, addresses China’s “Polar Silk Road in the Arctic, as a means to gain access and influence.”

**U.S. Military Exercises.**

The U.K. HMS Trenchant joined USS Hartford and USS Connecticut for ICEX2018 – conducting transits and surfacing under Arctic ice in March 2018. ICEX 2018 was a five-week biennial exercise to assess operational readiness, increase experience, and build relationships. Meanwhile, the U.S. Marines joined Norway for an exercise dubbed “Joint Reindeer” involving 5,000 troops. The military drills were held in Troms County in northern Norway under freezing conditions.

**VI. SELECTED CONFERENCES AND REPORTS**

Three major Arctic shipping conferences were held in 2018. The Arctic Shipping Forum was held in Helsinki on April 19-20, 2018. The Arctic Shipping Forum North America in St. Johns, Canada, followed on October 17-19, 2018. Finally, the 13th Annual Arctic Shipping Summit was held in in Hamburg, Germany, December 5-6, 2018.

The 11th Polar Law Symposium was held in Tromsø, Norway this year from October 2-4, 2018. The Faculty of Law, the KG Jebsen Centre for the Law of the Sea (JCLOS), and the research group for Sami Law at UiT The Arctic University of Norway co-hosted the event. The Polar Law Symposium brings together scholars and researchers from around the world to share research on polar law and policy.

The 12th Arctic Frontiers conference was held in Tromsø, Norway from January 21-26, 2018. The 2018 Arctic Frontiers focused on five main areas: (1) State of the Arctic, (2) Technology and Connectivity, (3) Resilient Arctic Societies and Business Development, (4) Healthy and Productive Oceans, and (5) Industry and the Environment. The 13th Arctic Frontiers conference will take place in Tromsø from January 20-24, 2019.

The Fifth Arctic Encounter Symposium was held in Seattle from April 19-20, 2018. Speakers included Deputy Secretary Elaine Duke from the
Department of Homeland Security, U.S. Senator Lisa Murkowski, Consulates from Finland and Canada, Aleqa Hammond, Former Prime Minister of Greenland, and prominent members of the scientific and business communities.

The annual Northern Premiers Forum took place in Ottawa on May 2-3, 2018. The forum brings together the premiers of the Yukon, Northwest Territories, and Nunavut to discuss issues affecting the North. This year the premiers all met together for the first time with Prime Minister Justin Trudeau. They discussed the importance of having Northerners involved in discussions about the North.

The Ecosystem Studies of Sub-Arctic Seas (ESSAS) Annual Science Meeting Symposium on was held in Fairbanks, Alaska from June 12-14, 2018. A “primary focus of the meeting was on remote sensing applications in the study of climate change impacts on high-latitude ecosystems. Additional sessions and workshops focused on ocean acidification and other stressors; the biology, ecology and paleoecology of Arctic Gadids, and the use of Integrated Ecosystem Assessments (IEA) as a framework for understanding and managing subarctic and Arctic marine ecosystems.”

The U.S. National Ice Center and the U.S. Arctic Research Commission hosted the 7th Symposium on the Impacts of an Ice-Diminishing Arctic on Naval and Maritime Operations, July 18-20, 2018, at the U.S. Navy Memorial & Naval Heritage Center, in Washington, D.C.

The 2018 Arctic Circle Assembly convened from October 19-21, 2018, in Reykjavik, Iceland. The Arctic Circle highlights issues and concerns, programs, policies and projects; it provides platforms for dynamic dialogue and constructive cooperation. A second Korea Forum of the Arctic Circle titled “Asia Meets the Arctic: Science, Connectivity and Partnership,” was held in Seoul, South Korea, on December 7-8, 2018.

The Congressional Research Service updated its Changes in the Arctic: Background Issues for Congress (R41153) on December 13, 2018. It also updated its Coast Guard Polar Security Cutter (Polar Icebreaker) Program: Background and Issues for Congress (RL34391) on December 10, 2018.


VII. UNIVERSITY OF WASHINGTON ALPI

The University of Washington’s Arctic Law and Policy Institute (ALPI) Director Professor Craig H. Allen continued to serve as a Research Fellow in the U.S. Coast Guard’s Center for Arctic Study and Policy and a member of the National Maritime Security Advisory Committee. He also published an article titled “Determining the Legal Status of Unmanned Maritime Vehicles: Formalism vs Functionalism,” in 49 J. Mar. L. & Com. 477-514 (2018). Alyssa Nevala (UW Law ’20) succeeded Malina Dumas as the appointed Hazelton Fellow for the UW Arctic Law and Policy Institute.

The University of Washington’s Arctic Law and Policy Institute (ALPI) is a collaborative, university-based, multidisciplinary think tank chartered to provide objective analysis of selected law and policy issues related to Arctic marine science, governance, pollution prevention and response, safety of navigation, conservation and management of natural
resources and measures to ensure a healthy and sustainable future for Arctic peoples.

Readers are encouraged to report new developments for inclusion in future end-of-year reviews by writing to the Institute at: ALPI@uw.edu.