



Testimony

Before the Subcommittee on Coast
Guard and Maritime Transportation,
Committee on Transportation and
Infrastructure, House of Representatives

For Release on Delivery
Expected at 10:00 a.m. ET
Wednesday, December 7, 2022

ARCTIC MARITIME INFRASTRUCTURE

Government-wide and Coast Guard Strategies Lack a Means to Measure Progress

Statement of Andrew Von Ah, Director,
Physical Infrastructure

GAO Highlights

Highlights of [GAO-23-106411](#), a testimony before the Subcommittee on Coast Guard and Maritime Transportation, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

Arctic sea ice has diminished, lengthening the navigation season and increasing opportunities for maritime shipping. However, the lack of maritime infrastructure exacerbates risks inherent to the Arctic such as vast distances and dangerous weather.

This statement discusses: (1) U.S. Arctic maritime shipping trends since 2009, (2) the extent to which federal actions have been informed by risk, and (3) government-wide and Coast Guard strategies to address maritime infrastructure and assess outcomes.

This statement is based primarily on GAO's [April 2020](#) report on Arctic maritime infrastructure and its [June 2016](#) report on Coast Guard Arctic capabilities. Since these reports, GAO reviewed White House and Coast Guard actions in response to GAO's recommendations. For this statement, GAO also interviewed the Arctic Executive Steering Committee and collected Coast Guard shipping data.

What GAO Recommends

GAO made five recommendations in its April 2020 and June 2016 reports. Two of these recommendations have been implemented and three remain open. The open recommendations are: (1) that the Executive Office of the President develop a strategy for Arctic maritime infrastructure with goals and measures, (2) that the Coast Guard develop measures for assessing how its actions have helped to mitigate Arctic capability gaps, and (3) that the Coast Guard design and implement a system to systematically assess progress. The White House and the Coast Guard are in the process of addressing these recommendations.

View [GAO-23-106411](#). For more information, contact Andrew Von Ah at (202) 512-2834 or vonaha@gao.gov.

December 7, 2022

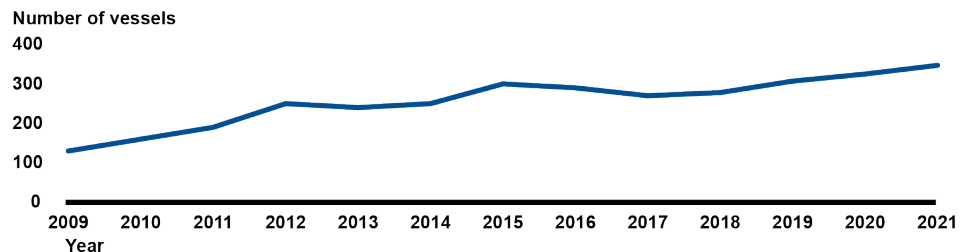
ARCTIC MARITIME INFRASTRUCTURE

Government-wide and Coast Guard Strategies Lack a Means to Measure Progress

What GAO Found

Maritime shipping activity, as indicated by the number of vessels in the U.S. Arctic, has increased from 2009 through 2021 (see figure). Although diminished sea ice has prolonged the shipping season, environmental changes also resulted in less predictable conditions and more volatile weather and sea ice. Such factors create safety risks, particularly when combined with the lack of maritime infrastructure such as a deep draft port and comprehensive nautical charting.

Number of Vessels in the Coast Guard Arctic Area of Interest, 2009-2021



Source: GAO analysis of Coast Guard data. | GAO-23-106411

Note: The Coast Guard District 17 area of interest extends north of the Bering Strait to the North Pole, east to Banks Island in the Canadian Arctic, and west to the New Siberian Islands in Russia.

Federal agencies' actions to address Arctic infrastructure gaps have not been informed by a government-wide assessment of risks. Federal efforts include the Coast Guard's Arctic seasonal forward operating bases and the National Oceanic and Atmospheric Administration's continued charting of Arctic waters. However, GAO found in April 2020 that such actions were not based on a government-wide assessment of the economic, environmental, and safety risks posed by infrastructure gaps. As a result, GAO recommended that the interagency U.S. Committee on the Marine Transportation System conduct such a risk assessment. The Committee has recently implemented this recommendation and provided information that could inform federal agency investment decisions.

Although the White House and Coast Guard have issued Arctic strategies, neither has included a means to measure progress in addressing Arctic maritime gaps as GAO recommended. In April 2020, GAO found that government-wide efforts to address U.S. Arctic maritime infrastructure lacked a current strategy and consistent interagency leadership. Since then, the White House designated the Arctic Executive Steering Committee as the interagency group responsible for federal Arctic coordination and published a national strategy. However, the strategy does not establish goals and measures as GAO recommended in April 2020. Similarly, although the Coast Guard published its own Arctic strategy, it has not yet implemented GAO's recommendations from June 2016 to develop a means to measure progress in addressing capability gaps. Without implementing GAO's recommendations, the results of government-wide and Coast Guard efforts cannot be demonstrated, and decision makers cannot gauge the extent of federal progress in addressing maritime infrastructure and capability gaps.

Chairman Carbajal, Ranking Member Gibbs, and Members of the Subcommittee:

I am pleased to be here today to discuss our work on Arctic maritime infrastructure. As we have previously reported, climate change has led to widespread effects, including warming in the Arctic that has exceeded the warming in the rest of the world. Since 1900, the Arctic region has warmed by about 3.6 degrees Fahrenheit—double the rate of the global temperature increase—leading to a significant decline in sea ice cover over the last four decades.¹ Record low levels of sea ice have made Arctic waters navigable for longer periods of time and have increased opportunities for shipping in the region. This change presents potential economic opportunities as well as safety and environmental risks, particularly given the lack of maritime infrastructure in the region. In particular, the U.S. Arctic does not have the typical elements of a marine transportation system, such as a deep-draft port,² comprehensive waterways charting, and robust communications infrastructure. These gaps in infrastructure exacerbate the inherent challenges of maritime activity in the Arctic—vast distances, dangerous weather, and unpredictable ice conditions—that pose risks to mariners as well as to the fragile Arctic ecosystem.

Within the United States, there are a number of stakeholders involved in maritime infrastructure in the Arctic, and they include several federal agencies, such as the Coast Guard, the National Oceanic and Atmospheric Administration, and the U.S. Army Corps of Engineers. The Coast Guard is a multi-mission, maritime military service that is responsible for maritime safety and security, environmental protection, and national security, among other responsibilities. Given the growing expanse of navigable waters and human activities, the Coast Guard faces expanding responsibilities for implementing and enforcing maritime policy in the region.

¹*Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II* (Washington, D.C.: U.S. Global Change Research Program, 2018).

²The U.S. Army Corps of Engineers defined a deep-draft port as one that can accommodate large vessels such as big cargo ships with a water depth greater than 35 feet. See U.S. Army Corps of Engineers, *Alaska Deep-Draft Arctic Port System Study* (March 2013). The closest deep-draft port is Dutch Harbor in the southern Bering Sea and is over 800 miles from the Bering Strait.

We have previously made five recommendations to strategically plan and assess progress in federal efforts to address gaps in Arctic maritime capabilities and infrastructure. As described in greater detail in this statement, we are pleased to report that the U.S. Committee on the Marine Transportation System (CMTS) and the Executive Office of the President have addressed two of the three recommendations in our April 2020 report.³ Specifically, the CMTS—a federal interagency coordinating committee focused on the maritime transportation system—has addressed our recommendation to assess the risks posed by gaps in U.S. Arctic maritime infrastructure. In addition, the Executive Office of the President has addressed our recommendation to designate a group responsible for leading and coordinating federal Arctic maritime efforts. The Executive Office of the President has partially addressed our other April 2020 recommendation to develop a strategy to address U.S. Arctic maritime infrastructure that identifies goals and objectives, performance measures to monitor agencies' progress. Meanwhile, the Coast Guard has not yet implemented our two June 2016 recommendations: (1) to develop measures for assessing how its actions have helped to mitigate Arctic capability gaps and (2) to design and implement a process to systematically assess its progress.⁴

My statement today will address:

1. trends in maritime shipping in the U.S. Arctic since 2009,
2. the extent to which federal actions to address maritime infrastructure have been informed by risk, and
3. government-wide and Coast Guard strategies to address maritime infrastructure and assess outcomes.

³GAO, *Maritime Infrastructure: A Strategic Approach and Interagency Leadership Could Improve Federal Efforts in the U.S. Arctic*, [GAO-20-460](#) (Washington, D.C.: Apr. 29, 2020).

⁴GAO, *Coast Guard: Arctic Strategy Is Underway, but Agency Could Better Assess How Its Actions Mitigate Known Arctic Capability Gaps*, [GAO-16-453](#) (Washington, D.C.: June 15, 2016). In addition, GAO has issued several other reports on federal priorities in the Arctic. See GAO, *Arctic Capabilities: Coast Guard is Taking Steps to Address Key Challenges, but Additional Work Remains*, [GAO-20-374T](#) (Washington, D.C.: Feb. 5, 2020); GAO, *Coast Guard Acquisitions: Polar Icebreaker Program Needs to Address Risks before Committing Resources*, GAO, [GAO-18-600](#) (Washington, D.C.: Sept. 4, 2018); and GAO, *Arctic Planning: Navy Report to Congress Aligns with Current Assessments of Arctic Threat Levels and Capabilities Required to Execute DOD's Strategy*, [GAO-19-42](#) (Washington, D.C.: Nov. 8, 2018).

This statement is based primarily on our April 2020 report on U.S. Arctic maritime infrastructure gaps and June 2016 report on the Coast Guard's Arctic capabilities.⁵ For the reports cited in this statement, among other methodologies, we reviewed Arctic strategies, interviewed selected agencies involved with maritime infrastructure and capabilities, and compared efforts to leading practices. Since the issuance of these reports, we received and reviewed information from the White House and the Coast Guard on the actions taken in response to our recommendations. In addition to our prior work, for this statement we spoke to the Executive Director of the Arctic Executive Steering Committee (AESC) and collected updated Arctic shipping data from the Coast Guard. Based on our review of these data for anomalies, outliers, or missing information and our previous assessment of such data for our April 2020 report, we determined that these data were sufficiently reliable for our purposes of describing Arctic shipping trends since 2009.

More detailed information on our scope and methodology can be found in the reports cited in this statement. We conducted the work on which this statement is based in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

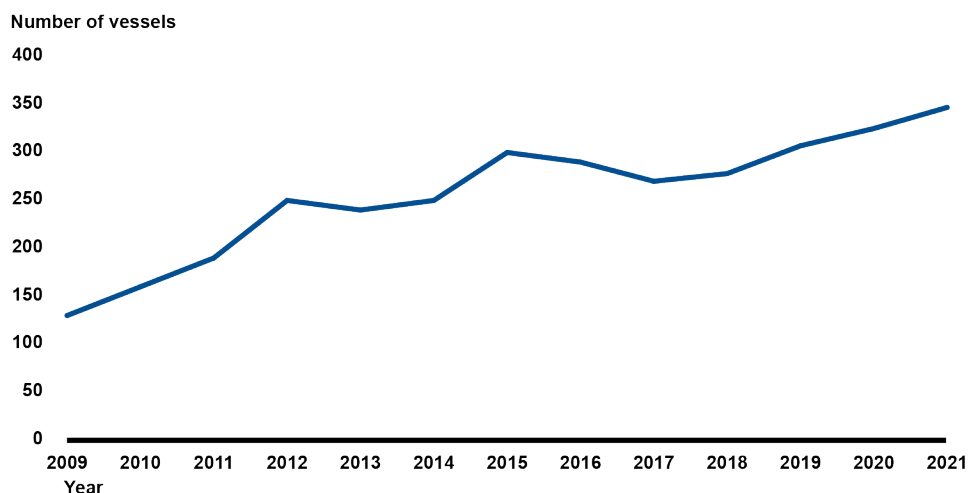
Maritime Shipping in the U.S. Arctic Has Increased from 2009 through 2021 despite Challenging Safety Conditions

Coast Guard data indicate that both the number of vessels in the U.S. Arctic and the number of transits through the Bering Strait increased from 2009 through 2021. Specifically, the number of vessels in the U.S. Arctic more than doubled from 130 in 2009 to 347 in 2021 (see fig. 1). Given that a single vessel can make multiple trips per shipping season, the Coast Guard also measures maritime activity by the number of transits that vessels make per year through the Bering Strait, a key convergence point for trans-Arctic routes to the Pacific Ocean. According to that data, the number of transits through the Bering Strait increased from 280 in 2009 to 545 in 2021. The Coast Guard attributed increased cargo traffic levels in 2016 to the construction of a liquefied natural gas facility on the

⁵The term "Arctic" refers to the entire region north of the Arctic Circle. We define the "U.S. Arctic" as bounded by a line at 60 degrees north that crosses the Bering Sea. This definition was set by the International Maritime Organization, the United Nations agency responsible for the safety and security of shipping.

Yamal peninsula and, in subsequent years, identified Russian shipments from the facility as a driver of Bering Strait vessel traffic.

Figure 1: Number of Vessels in the Coast Guard Arctic Area of Interest, 2009-2021



Source: GAO analysis of Coast Guard data. | GAO-23-106411

Note: The Coast Guard District 17 Arctic area of interest extends north of the Bering Strait to the North Pole, east to Banks Island in the Canadian Arctic, and west to the New Siberian Islands in Russia.

Although warming over the past decades has made trans-Arctic maritime routes more accessible, Arctic sea ice extent remains seasonal, with most shipping occurring during a narrow window extending from summer to early fall. Arctic sea ice typically reaches its maximum extent in March and its minimum in September each year; as a result, the shipping season is typically from June through October. As shown in figure 2, the extent of sea ice in September 2019 had a much smaller coverage area than the median September extent from 1981 to 2010. Meanwhile, the contraction of sea ice over time has increased accessibility to the Northwest Passage through the Canadian archipelago and the Northern Sea Route along the northern border of Russia. These two trans-Arctic maritime routes enable shipments between non-Arctic destinations, such as between Asia and Europe.⁶ However, most traffic in the U.S. Arctic is destinational, meaning it transports goods to and from the U.S. Arctic. Such traffic includes shipping supplies to U.S. Arctic communities, as well

⁶Coast Guard officials note that because of more ice and much shallower draft restrictions, the Northwest Passage contains far less marine traffic than the Northern Sea Route.

as transporting natural resources extracted from the U.S. Arctic to the global marketplace.

Figure 2: Trans-Arctic Maritime Routes and Arctic Sea Ice Extents from March and September 2019 Compared with the September Median, 1981 to 2010



Sources: GAO analysis of National Snow and Ice Data Center; Office of Naval Intelligence; Map Resources. | GAO-23-106411

Although diminished sea ice has prolonged the shipping season and opened up shipping routes, environmental changes have also resulted in less predictable conditions, with more volatile weather and sea ice. In April 2020 we reported that stakeholders told us variation in ice conditions from year to year makes planning Arctic voyages difficult to do with reasonable accuracy.⁷ The unpredictable and harsh weather and ice conditions—combined with the vast distances and lack of maritime infrastructure—pose safety risks that stretch the region’s already limited search and rescue capabilities and slow incidence response, according to stakeholders.

Federal Agencies’ Actions to Address Arctic Infrastructure Gaps Have Not Been Informed by a Government-wide Assessment of Risks

We have previously identified gaps in maritime infrastructure that can exacerbate inherent challenges to shipping in the Arctic.⁸ For example, since all of the Coast Guard’s permanent assets are based well below the Arctic Circle, the agency is constrained by the time for surface vessels and aircraft to travel the vast distances to support operations above the Arctic Circle.⁹ See table 1 for examples of maritime infrastructure gaps in the U.S. Arctic identified by the U.S. Committee on the Marine Transportation System (CMTS) and other federal agencies as we reported in April 2020.¹⁰

⁷GAO-20-460.

⁸GAO-20-460.

⁹GAO-16-453.

¹⁰CMTS is a federal interagency coordinating committee focused on the maritime transportation system.

Table 1: Examples of Maritime Infrastructure Gaps in the U.S. Arctic as GAO Reported in April 2020

Infrastructure Category	Examples	Status in the U.S. Arctic
Environmental information	Charting and mapping	GAO reported in April 2020 that less than 5 percent of the U.S. maritime Arctic had been comprehensively surveyed to modern standards for nautical chart updates, according to the National Oceanic and Atmospheric Administration (NOAA).
	Weather and sea ice forecasting	NOAA's National Weather Service and the U.S. National Ice Center—a partnership among NOAA, the U.S. Navy, and the Coast Guard—produce sea ice and weather forecasts. NOAA has previously noted that observations that are needed for timely forecasts, such as for wind and clouds, are very limited in the Arctic.
Response services	Search and rescue	There is limited infrastructure to support aviation-based search and rescue operations. The nearest Coast Guard air station to Utqiagvik, on Alaska's northern coast, is about 945 miles away in Kodiak.
	Oil spill response	NOAA, Coast Guard, Interior, and the State of Alaska have roles in this area. Their ability to respond to oil spills is affected by the communications limitations in the region and the vast distances over which responders and their equipment must travel.
	Icebreakers	The Coast Guard's medium polar icebreaker <i>Healy</i> was commissioned in 2000 and is the primary polar icebreaker used in the U.S. Arctic. The only Coast Guard heavy polar icebreaker, the <i>Polar Star</i> , was commissioned in 1976 and is typically used in Antarctica to support McMurdo station.
Operating environment and Navigation	Communications	Communications, which are sufficient to support voice and data needs in the Bering Sea but limited at higher latitudes, are necessary for vessels to receive weather and sea ice information or request emergency services.
	Deep-draft port	The closest deep-draft port is Dutch Harbor in the southern Bering Sea and is over 800 miles from the Bering Strait.
	Harbors of refuge	A harbor of refuge is a port, inlet, or other body of water normally sheltered from heavy seas by land in which a vessel can safely moor during severe conditions or when it needs repairs. The U.S. Arctic lacks such a harbor designated by the International Maritime Organization (IMO).

Source: GAO analysis of federal agency information. | GAO-23-106411

In 2020, we found that federal agencies had taken some actions to address gaps in U.S. Arctic infrastructure. For example, the Coast Guard reported that it had taken a flexible approach to addressing infrastructure gaps by establishing seasonal, forward operating bases in the U.S. Arctic as needed to provide search and rescue support in areas where major shipping activity is occurring. In addition, the National Oceanic and Atmospheric Administration reported in 2019 that it had acquired nearly 1,500 square nautical miles of Arctic hydrographic survey data over the past 3 years. This, however, is a small percentage of the over 200,000 square nautical miles significant to navigation in the U.S. Arctic.

We also found in 2020 that the agencies' actions were not based on a government-wide assessment of the economic, environmental, and safety risks posed by maritime infrastructure gaps to inform investment decisions in the U.S. Arctic. Rather, agency officials said that they based Arctic infrastructure decisions on their agency-specific missions, strategies, and collaborative efforts. Agency officials said that securing the resources to address U.S. Arctic infrastructure is challenging because such projects must compete with other established agency mission areas. For example, officials told us that infrastructure investments may not compete well against other agency-established priorities in other parts of the country, in part, because the Arctic is an emerging region and because of the considerable costs of developing infrastructure in the harsh Arctic environment.

We reported that without a government-wide assessment of the economic, environmental, and safety risks posed by maritime infrastructure gaps, agencies lack assurance that their investments are addressing the highest-priority risks.¹¹ Risk management is a widely endorsed strategy for helping policymakers decide about allocating finite resources and taking actions in conditions of uncertainty.¹² A government-wide risk assessment could better enable agencies to evaluate potential U.S. Arctic infrastructure expenditures and assess the extent to which these expenditures will mitigate identified risks.

We noted that the U.S. Committee on the Marine Transportation System (CMTS) was well suited to conduct such an assessment based on the committee's statutory role to coordinate the establishment of domestic transportation policies in the Arctic and its past work in this area. Therefore, we recommended that the CMTS complete a government-wide assessment of the economic, environmental, and safety risks posed by gaps in maritime infrastructure in the U.S. Arctic to inform investment priorities and decisions. In 2022, we confirmed that CMTS had taken several actions that, taken together, addressed the intent of this

¹¹[GAO-20-460](#).

¹²GAO, *Risk Management: Further Refinements Needed to Assess Risks and Prioritize Protective Measures at Ports and Other Critical Infrastructure*, [GAO-06-91](#) (Washington, D.C.: Dec. 15, 2005). See also GAO, *Enterprise Risk Management: Selected Agencies' Experiences Illustrate Good Practices in Managing Risks*, [GAO-17-63](#) (Washington, D.C.: Dec. 1, 2016).

Government-wide and Coast Guard Strategies Lack a Means to Measure Progress in Addressing Infrastructure

recommendation.¹³ As a result, the federal agencies responsible for addressing gaps in U.S. Arctic maritime infrastructure will have more useful information to better inform their investment decisions.

In April 2020, we found that government-wide interagency efforts to address U.S. Arctic maritime infrastructure lacked an up-to-date strategy and consistent interagency leadership to guide agency actions.¹⁴ In particular, in our April 2020 report we recommended that the appropriate entities within the Executive Office of the President, including the Office of Science Technology and Policy (OSTP):

1. Develop and publish a strategy for addressing U.S. Arctic maritime infrastructure that identifies goals and objectives, performance measures to monitor agencies' progress over time, and the appropriate responses to address risks.
2. Designate the interagency group responsible for leading and coordinating federal efforts to address maritime infrastructure in the U.S. Arctic that includes all relevant stakeholders.¹⁵

As of December 2022, the Executive Office of the President has addressed our recommendation to designate a group responsible for leading and coordinating federal Arctic maritime efforts. It did so in September 2021 by announcing the White House would reactivate the Arctic Executive Steering Committee (AESC) as a mechanism to advance U.S. interests and coordinate federal actions in the Arctic, including maritime infrastructure.¹⁶ In doing so, the White House appointed an executive director who convened the first meeting in December 2021. As of December 2022, according to the Executive Director of the AESC, the group has met several times and has developed and approved eight

¹³In March 2022, CMTS published its "U.S. Arctic Marine Transportation System Infrastructure Risk Resource Compendium," which addresses a range of risks, including the economic, environmental, and safety issues affected by Arctic infrastructure gaps. While this compendium does not represent a government-wide assessment of all risks posed by the infrastructure gaps, it provides useful information to federal agencies responsible for addressing gaps in U.S. Arctic maritime infrastructure to better inform their investment decisions.

¹⁴[GAO-20-460](#).

¹⁵OSTP is an office within the White House that leads interagency science and technology policy coordination efforts.

¹⁶The AESC is chaired by the Director of the OSTP and it includes members from more than 20 other federal departments and entities.

interagency initiatives. One of the eight initiatives—to advance safe and environmentally secure Arctic shipping—is led by the Coast Guard.

In addition, as of December 2022, the Executive Office of the President has partially addressed our April 2020 recommendation to develop a strategy to address U.S. Arctic maritime infrastructure. In October 2022, the White House issued a *National Strategy for the Arctic Region*, which updated the previous *National Strategy for the Arctic Region*, issued by the Obama Administration in May 2013.¹⁷ OSTP officials told GAO that they had participated in this work, which had been led by the National Security Council (NSC). The updated strategy covers the period from 2022 to 2032, and establishes four “pillars” to address both domestic and international issues in the U.S. Arctic. They are: (1) security; (2) climate change and environmental protection; (3) sustainable economic development; and (4) international cooperation and governance. The strategy identifies needed maritime capability improvements in the U.S. Arctic, including for enhanced communications, mapping, charting, and navigational capabilities, as well as the need for a deep draft harbor in Nome, Alaska.

However, the current strategy does not establish goals and measures specifically to addressing Arctic maritime infrastructure as GAO recommended in April 2020. For example, although the strategy identifies an objective to invest in infrastructure such as supporting the development of a deep draft harbor, the strategy does not specify how agencies should prioritize these investments or identify goals and measures to assess progress. In November 2022, the AESC Executive Director told GAO that the White House—including OSTP and NSC—is early in the process of developing an implementation plan for the strategy. The AESC Executive Director noted that for each major action in the strategy, the implementation plan should identify lead and supporting agencies as well as a way to measure progress and to identify investment priorities and resources necessary to implement these actions. By completing this plan and establishing goals and associated performance measures, the federal government would have the tools to demonstrate the results of its efforts, and decision makers could gauge the extent of progress in addressing maritime infrastructure gaps.

¹⁷Our April 2020 report noted that agency officials and stakeholders regarded the 2013 strategy as outdated, given the changes in conditions in the region. In particular, agency officials said national security was a growing concern in the Arctic.

In addition, in June 2016, we found that the Coast Guard identified various gaps in its U.S. Arctic capabilities but had not assessed its progress in addressing these gaps.¹⁸ For example, the Coast Guard polar icebreaking fleet comprises two operational polar icebreakers—the *Polar Star* and *Healy*—of which only the *Healy* is currently operating in the Arctic. However, we found that, although the Coast Guard was taking some actions related to maritime in the Arctic, the Coast Guard had not assessed how its actions helped to mitigate its Arctic capability gaps. We noted that such an assessment—which would include developing measures for gauging its progress, when feasible—is critical to the Coast Guard’s understanding of its progress toward addressing these gaps.

As a result, we recommended that the Coast Guard (1) develop measures for assessing how its actions have helped to mitigate Arctic capability gaps and (2) design and implement a process to systematically assess its progress.¹⁹

As of December 2022, however, the Coast Guard had not yet implemented these two recommendations. The Coast Guard is currently updating its implementation plan for the Arctic strategy it published in 2019. The plan is expected to provide the foundation for assessing efforts to address Arctic capability gaps. Coast Guard officials stated that they are also developing a strategic metrics framework for measuring progress in addressing the capability gaps. Coast Guard officials did not identify when they plan to complete the plan and framework, stating that these are longer-term efforts.

Developing a means to measure progress in addressing capability gaps is especially important given recent and planned investments in Coast Guard capabilities. For example, the Coast Guard, in collaboration with the Navy, plans to invest an estimated \$13.3 billion for the acquisition, operation, and maintenance of three heavy polar icebreakers—also known as the Polar Security Cutters—over their entire 30-year life cycle.²⁰ The Coast Guard initiated procurement of the first Polar Security Cutter, awarding a \$746 million contract for design and construction in April

¹⁸[GAO-16-453](#).

¹⁹[GAO-16-453](#).

²⁰This estimate is the acquisition program baseline as of May 2021. See GAO, *DHS Annual Assessment: Most Acquisition Programs Are Meeting Goals Even with Some Management Issues and COVID-19 Delays*, [GAO-22-104684](#) (Washington, D.C.: March 8, 2022).

2019. By assessing and measuring how its actions have helped to mitigate capability gaps, the Coast Guard will be better positioned to plan its Arctic operations more effectively, including prioritizing activities to target gaps and allocating resources.

Chairman Carbajal, Ranking Member Gibbs, and Members of the Subcommittee, this completes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

GAO Contacts and Staff Acknowledgments

If you or your staff have any questions about this testimony, please contact Andrew Von Ah, Director, Physical Infrastructure, at (202) 512-2834 or VonAhA@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. In addition to the contact named above, Matt Barranca (Assistant Director); Emily Larson (Analyst-in-Charge); Godwin Agbara; Amanda Jones Bartine; Susan Bernstein; Melanie Diemel; Geoffrey Hamilton; Dawn Hoff; Chelsa Kenney; C. James Madar; Heather MacLeod; Marie Mak; Malika Rice; and Elizabeth Wood made key contributions to the testimony.

This is a work of the U.S. government and is not subject to copyright protection in the United States. The published product may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.

GAO's Mission

The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through our website. Each weekday afternoon, GAO posts on its [website](#) newly released reports, testimony, and correspondence. You can also [subscribe](#) to GAO's email updates to receive notification of newly posted products.

Order by Phone

The price of each GAO publication reflects GAO's actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO's website, <https://www.gao.gov/ordering.htm>.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

Connect with GAO

Connect with GAO on [Facebook](#), [Flickr](#), [Twitter](#), and [YouTube](#).
Subscribe to our [RSS Feeds](#) or [Email Updates](#). Listen to our [Podcasts](#).
Visit GAO on the web at <https://www.gao.gov>.

To Report Fraud, Waste, and Abuse in Federal Programs

Contact FraudNet:

Website: <https://www.gao.gov/about/what-gao-does/fraudnet>

Automated answering system: (800) 424-5454 or (202) 512-7700

Congressional Relations

A. Nicole Clowers, Managing Director, ClowersA@gao.gov, (202) 512-4400, U.S. Government Accountability Office, 441 G Street NW, Room 7125, Washington, DC 20548

Public Affairs

Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, DC 20548

Strategic Planning and External Liaison

Stephen J. Sanford, Managing Director, spel@gao.gov, (202) 512-4707
U.S. Government Accountability Office, 441 G Street NW, Room 7814,
Washington, DC 20548

