



“A Ten-Year Projection of Maritime Activity in the U.S. Arctic Region, 2020-2030”

Frequently Asked Questions

What is this report about?

The Arctic region is undergoing unprecedented changes, and the Arctic marine transportation system (MTS) is no exception. The U.S. Committee on the Marine Transportation System (CMTS) developed this report to update critical information to their Federal partners and to stakeholders about the present and future state of marine transportation in the waters of the high U.S. Arctic and surrounding waters.

The report has three key parts:

- An overview of what drives vessel activity in the Arctic, as determined from a technical workshop held in November 2018 which brought together 40 subject matter experts from the Federal government, international partners, the shipping industry, and the Arctic region.
- A summary of past and present vessel activity in the Arctic, using automatic identification system (AIS) data and other relevant historical data sets, such as transits from the Northern Sea Route and the Northwest Passage. The report details:
 - who is operating in the region (by flag and vessel type),
 - where they are operating (with both quantitative track density plots and qualitative position maps), and
 - when exactly vessel navigation begins and ends in the Arctic’s seasonally dynamic maritime environment (with data from the Marine Exchange of Alaska and an analysis of AIS through time)
- A projection of future vessel activity to 2030, built stepwise by combining thirty-six potential sources of growth in four different scenarios.
 - Sources of growth considered include (1) natural resource projects, both in the U.S. and in neighboring Arctic countries, (2) infrastructure development projects, (3) launch of new vessels specifically designed to operate in the Arctic region, and (4) shipping vessels seasonally rerouted through the Arctic.
 - The four scenarios each considered increasing levels of operational certainty, which in turn resulted in increased and sustained growth for each of the thirty-six potential sources of growth.

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What will traffic look like in and around the Bering Strait in 2030?

The report's projections all point to traffic increasing over baseline levels by 2030, and the increase in this traffic will largely be a result of natural resource activities (particularly LNG from Russia and sealift to support mining activities in Canada), and by vessels being seasonally rerouted through the Arctic in place of other transoceanic routes. Activities related to infrastructure development will be small as measured by number of unique ships, but much larger as measured by transits or operating hours.

- Under the Most Plausible Scenario, vessel traffic will grow at an average rate of 2.58% annually, adding 124 additional vessels to the study area of interest by 2030.
- Under the Reduced Activity Scenario, vessel traffic will grow at an average rate of 0.30% annually, adding just 29 vessels to the study area of interest by 2030.
- Under the Optimized Growth Scenario, vessel traffic will grow at an average rate of 3.31% annually, adding 171 vessels to the study area of interest by 2030.
- Under the Accelerated, but Unlikely Scenario, traffic will grow at an average rate of 4.93% annually, adding 281 vessels to the study area of interest by 2030, more than doubling the amount of vessels over today's levels.

Of the four scenarios, the Most Plausible Scenario most closely agrees with historical trends from vessel data in the region and with the current data available on sources of future growth, but we expect that future growth will be somewhere between the Reduced Activity Scenario and the Optimized Growth Scenario.

What else did the CMTS find in this new report?

There were several new insights gained from a close examination of AIS data in the region, including:

- There was an average of 255 ± 26 (mean \pm standard deviation) unique ships broadcasting AIS operating in the study area of interest annually from 2015–2017.
- Vessels transiting in and around the Bering Strait are a complex mixture of vessels, including cargo (31% of unique vessels), tug/towing (21%), fishing (11%), tourism (9%), tankers (7%), government (6%), and research vessels (5%).
- By flag, the U.S. is the largest operator in the region (41% of unique vessels), followed by Russia (24%), and the remaining third is a mix of 30+ other flag states.
 - The number and diversity of operators, however, is becoming increasingly complex as the region shifts from primarily regional operators to an increasingly international mix of operators. This trend was true of the selected years for this study's area of interest (2015–2017), and for operations along the Northern Sea Route (2014–2018).
- The duration of the navigation season in and around the Bering Strait is growing longer each year, by as much as 7–10 days longer each year. Historically, the region's maritime activity has begun in late May/early June, has peaked in August/September, before returning to virtually no activity in November.

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Relying on AIS data alone, however, meant that this analysis overlooked vessels without AIS, which includes some smaller fishing vessels, pleasure crafts, some small vessels launched from parent ships, and vessels used for subsistence hunting. Excluding subsistence whaling activities alone may have underestimated the total number of vessels operating in the region by as much as 40%, according to report estimates.

Does this report only talk about U.S. flagged ships?

Although the U.S. is the largest operator in the region by flag, this report's analysis of past and present vessel activities includes non-U.S. flagged ships, and the report's projections incorporate non-U.S. flagged vessels related to foreign natural resource development and Arctic fleet expansion. The Bering Strait is an artery to the Arctic, and the Pacific region's only entry point into the Arctic, and by including foreign activities, the CMTS report develops a more comprehensive projection of changes to come in the region.

Why did the CMTS choose to focus on the study area it did and not (a) the complete U.S. Arctic? Or (b) just the waters within the U.S. EEZ?

- a) The report focus on waters north of 60°N in the Bering Sea, which excludes the waters of the southern Bering Sea legally defined as Arctic waters by U.S. law. The reason to focus on waters of the so-called 'High Arctic' was to focus on the regions which historically have had very few vessels passing through them and which are now undergoing unprecedented change. Waters of the southern Bering Sea have much more traffic due to the large amounts of fishing vessels and large cargo ships on the Great Circle Route connecting east Asia to western North America. According to one estimate, the number of ships passing through the southern Arctic each day is about as many ships that pass through the waters of the northern Arctic each year.
- b) Just as the report chose not to focus exclusively on U.S. flagged ships, it also chose not to focus on just waters within the U.S. EEZ so that the report could understand the greater Arctic region as a whole.

What will this report be used for?

This report aims to provide decision makers with information about the Arctic MTS needed for regional planning and future policy making.

Additionally, detailed methods and supporting data have been included in the report so that projections can be updated easily as more information becomes available or be adapted to other regions of the Arctic.

What does infrastructure in the Arctic have to do with marine transportation?

While the Lower 48 are connected by a vast system of roads and railways, much of western and northern Alaska relies heavily (and in some cases, exclusively), on aviation and marine transportation. Marine transportation remains a critical mode for transporting materials too large or too expensive to fly to the region. Additionally, in order for new infrastructure to be built in the

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region—even infrastructure that has nothing to do with marine transportation—much of the materials must be shipped in. Therefore, it is critical that the infrastructure to support the Arctic MTS be able to meet the changing demands of the region. Infrastructure to support the MTS includes things beyond physical infrastructure, such as informational infrastructure and MTS response services. The CMTS Arctic IAT has been engaged with infrastructure and the marine transportation system in the U.S. Arctic since the team was established in 2010.

Why did the CMTS issue an update to its 2015 projections report?

In 2015, the CMTS issued the report, [“A 10-Year Projection of Maritime Activity in the U.S. Arctic Region”](#), as part of the National Strategy for the Arctic Region. While the projection values from the 2015 report were on track with the observed levels, the drivers behind the observed vessel traffic in the Arctic were not as expected. The price of oil fell in 2015, triggering Shell, a major driver of vessel activity at the time, to withdraw from offshore oil exploration in the U.S. Arctic. Meanwhile, research, government, and tourism traffic continued to climb, and specific infrastructure projects, such as Quintillion’s undersea fiber optic cable, added vessels to the region. Recognizing these changes and the growing importance of the Arctic MTS, the CMTS Arctic IAT began the process of updating the 2015 report in late 2018.

How were regional perspectives incorporated into this document?

The CMTS Arctic IAT took multiple steps to include regional perspectives in the making and shaping of this document.

At the project outset, a number of local stakeholders were invited to the technical workshop on Arctic vessel activity, including members of Alaska Native Regional Corporations, village corporations, borough governments, city governments, the State of Alaska, and operators from the marine shipping sector currently engaged in shipping in the U.S. Arctic. The Arctic IAT also includes Federal partners based in the Arctic region, whose guidance was invaluable throughout the many steps of the project. Additionally, in March 2019, the CMTS presented and solicited feedback on the project from the Arctic Waterways Safety Committee Meeting in Anchorage, AK. Finally, as part of the simultaneous public comment and interagency review period, the IAT conducted an email campaign to reach out to regional stakeholders and held a public webinar to brief the public on the findings of the draft report.

If I have more questions about this report, who do I talk to?

You may also visit www.cmts.gov to access past CMTS reports about the Arctic or to learn about other ways the CMTS is working across 25+ Federal partner agencies to support the U.S. MTS. For more specific information about the CMTS, please contact the CMTS Executive Secretariat at 202-366-3612 or by emailing MTSInfo@cmts.gov.