

THE HAZY FUTURE. ADAPTATION OF TRANSARCTIC SEA ROUTES TO SOLVE NAVIGATION PROBLEMS IN SEA FOG

The study entitled "Adapting to a Foggy Future Along Trans-Arctic Shipping Routes", published in the journal *Geophysical Research Letters* ([volume 50, issue 8](#)), emphasizes the need to take into account the impact of sea fog on shipping operations and calls for a revision of routes to ensure safer navigation.

The study shows that delays due to sea fog can range from 1 to 4 days, which is approximately 23% to 27% of the total passage time of the Northwest Passage and from 4% to 11% of the total passage time of the Northern Sea Route compared to previous indicators.

To solve this problem, the researchers propose a new route design considering the estimated extent of sea ice and the frequency of fogs. By detouring routes with less sea fog, the new route can reduce the sailing time by 24 hours. It is important to note that this alternative route saves time and transportation costs, as well as reduces the risk of catastrophic accidents compared to direct route, which can be in conditions of denser fog. In addition, the new route design considers the safety of navigation and minimizes the need for unplanned port calls, which also helps to avoid additional costs.

The study highlights that approximately 20% to 30% of Arctic shipping routes regularly encounter sea fog.

Sea fog creates a serious problem for the operation of ships, especially in areas with floating ice, which leads to potential collisions, environmental damage and financial losses. Even by having modern navigation devices, such as radar and searchlights, vessel's speed decrease due to sea fog can jeopardize the safety of navigation.

Previous assessments of optimal navigation routes in the Arctic have mainly been focused on the state of sea ice under various climatic scenarios. However, this

study highlights the urgent need to consider the impact of sea fog on transarctic shipping routes. The projected increase in the frequency of sea fogs in the 21st century requires a comprehensive reassessment of route planning to ensure safer navigation and minimize economic costs.

Researchers provide valuable information about the future of Arctic sea routes by analyzing the variability of sea fog and its relation to atmospheric conditions. In addition, the results highlight the importance of adaptation to a changing climate and consideration of the full range of environmental factors affecting shipping operations.

SEAFARER'S DAY IS JUNE 25, 2023.

Set the sails, because June 25th is the Seafarer's Day. This is a professional holiday for sailors of all fields: from the Coast Guard to the Navy, for every fisherman, marine biologist or cruise ship Master. If your work is connected with sea water in one way or another, then this day is dedicated to you!

Seafarer's Day is an annual holiday initiated by the International Maritime Organization (IMO) to celebrate the unique, often unrecognized role that seafarers play in our global community. Celebrated on June 25, this day pays tribute to the vital contribution made by seafarers around the world to international maritime trade, the global economy and society.