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The effects of global warming on the North Pole have put the Arctic and the Northwest Passage on thin ice. Someday, ships will be able to pass through the strait, something the Inuit aren't looking forward to.

Doug Struck, Washington Post

ICEBREAKER CHANNEL, NORTHWEST PASSAGE -- The Amundsen's engines growl low. The ship steels ahead, its powerful spotlights stabbing at fog thick with the lore of crushed ships and frozen voyagers. The Amundsen, a Canadian Coast Guard icebreaker, weaves in graceful slow motion through the ice pack, advancing through the legendary Northwest Passage well after the Arctic should be iced over and shuttered to ships for the winter.

The fearsome ice is weakened and failing, sapped by climate change. Ultimately, this night's ghostly procession through Icebreaker Channel will be the worst the ship faces on its late-season voyage. Much of the trip, crossing North America from west to east through the Northwest Passage, will be in open water, with no ice in sight.

The Amundsen is here to challenge the ice that has long guarded the legendary Northwest Passage across the roof of the Earth, and to plumb the scientific mysteries of an Arctic thawing from global warming.

A relentless climb of temperature -- 5 degrees in 30 years -- is shrinking the Arctic ice and reawakening dreams of a 4,000-mile shortcut just shy of the North Pole, passing beside the Arctic's beckoning oil and mineral riches.

"Shipping companies are going to think about this, and if they think it's worth it, they are going to try it," says the captain of the Amundsen, Cmdr. Alain Gariepy, 43. "The question is not if, but when."

More ships will bring the risk -- the certainty, some say -- of accidents and black oil spills smeared on the white Arctic Ocean.

"This water is our hunting ground," Maria Kripanik, an Inuit born 52 years ago in a tent on the beach of Igloolik, told researchers who visited from the ship. "I don't know if the people here will like the idea of seeing ships all the time in our hunting ground," she said.

Equally wary are the scientists aboard the Amundsen. They occupy the Coast Guard ship for three months each year to study climate change in the fragile north, where the effects of a warmer globe are being felt first.

They set off last summer from Quebec City and churned their way west to the Beaufort Sea. As fall came on frigid gusts, the ship turned east again toward the Northwest Passage.

The Arctic ice pack rarely tolerates intruders in late October. It splintered the wooden ships of early explorers who stayed, seized fast the steel vessels that followed, and mocked dreams of regular transit through any of the routes in the maze of straits and channels of the passage.

British explorer John Franklin, whose search for the Northwest Passage transfixed the Western world, died near here in 1847. Searching for him, many others fell. The map of the Arctic is littered with their names.

A cool and careful Norwegian, Roald Amundsen took three years to thread these snowy islands a century ago. The Amundsen was built to follow its namesake. It is 323 feet long, with engines nearly three times more powerful than normal. The propellers, rudder and hull are hardened. The S-shaped bow rides up on the ice, using the ship's 8,500 tons to crush down through the pack. The Amundsen can maintain a steady march through ice 4 feet thick and can go through scattered 10-foot floes.

Its nemesis is old ice. Leached of salt, multiyear ice is concrete-hard. Capped by deceptively fluffy coats of snow, its swollen blue belly under the surface can weigh as much as a building.

A half-day east of Kugluktuk, once called Coppermine, the Amundsen meets a flat, gray plate on the water, new ice formed this year. The ship's hull slices cleanly through.

Seals poke their heads above water to watch this strange beast. A young polar bear, apparently on a floe, scampers from the path of the vessel, then ambles on the ice alongside for a while.

For one month in September, if the last winter's ice has finally melted and before the new ice forms, ships nose tentatively into parts of the Northwest Passage. Barges bring supplies to Inuit communities and mines. Last year, seven cruise ships poked around the eastern fjords. Icebreakers from Canada, the United States and Russia ply the waters. Only seven ships made it all the way through last year, two of them icebreakers. And none so late as this voyage by the Amundsen.

Abreast of the island where the frozen skeletons of Franklin's ice-stranded crew were found, the Amundsen enters Icebreaker Channel. This slim corridor past the southeastern tip of Victoria Island opens into the path of the vast ice pack flowing south from the Pole. The ice pack offers the Amundsen its toughest challenge. The ship enters at night, picking carefully through a field of new and old ice.

The darkened bridge of the ship is hushed; orders lowly given by the captain are echoed quietly by the helmsman. The vessel avoids the largest floes and plows over others.

"You can't just use brute force," Captain Gariepy explains. "A seven-foot-thick ice chunk the size of the ship weighs 4,000 tons. You don't just slam into it; you need more finesse."

The ship emerges to head for Bellot Strait, a narrow channel usually choked with ice. Gariepy spends the night before reading old accounts of navigating the risky strait, named for a young French officer swallowed by an ice crevice. Before edging in, he sends the little red Messerschmitt helicopter from his stern deck to scout.

"This is always the worst place for the ice," says pilot Michel Fiset, 57. He climbs to view the expanse of water beyond. "This is very unusual. We can see 10 to

15 miles and we don't see even an ice cube. It's open."

At the eastern mouth of Hecla Strait, the residents of Igloolik are surprised the ship is coming through the Northwest Passage in late October. They are not pleased at the weather. They count on a frozen strait to travel to Baffin Island to hunt caribou.

"We get tired of eating seal meat and walrus by this time," Michael Immaritok, 38, tells visitors to Igloolik, a village of about 1,600. The hunting has been disrupted by "weird, crazy weather in the last five years," he said.

Some think the worries are overblown. "I think the passage is going to be used, but I don't think it's going to be a navigation highway," says Frederick Lasserre, a professor of geography at Laval University, on board the ship.

Michael Byers, an international law expert at the University of British Columbia, sees the open water in more ominous terms.

"The reputable shipping companies would not come here" until the risks of icebergs are low, he acknowledges. He said he worries about a steamer registered under a flag of convenience. "They run into an uncharted rock, and all of a sudden it's Exxon Valdez times ten," he said.

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