

InfoNorth

Review of the Film Produced and Directed by Steve Smith Entitled, *Albedo: In Search of a Frozen Ocean*. The Enduring Ice Project, Canada

by Tony Gaston

A*lbedo: In Search of a Frozen Ocean* tells the story of vanishing Arctic sea ice and its implications for global climates. The film focuses on the experiences of a five-person expedition that set out to kayak 500 km south, down Nares Strait, from Discovery Harbour on Lady Franklin Bay to Alexandra Fjord. Despite Herculean efforts, involving incredibly strenuous bouts of man-hauling, the expedition failed to reach its destination and had to improvise a Twin Otter pickup from Carl Ritter Bay (hands up all who have heard of that place before), less than halfway to their destination. If the movie had been made to highlight the expedition and its explorations, then this would have been a disaster, but the whole scenario that plays out illustrates the exact point the movie is making: Arctic ice is changing at an unprecedented speed, with implications for the lives of everyone on the planet.

As I write, Eastern Arctic sea ice is at the lowest level since records began and represents about 60% of the median cover recorded from 1991–2020 (Canadian Ice Service, 2025). This is a situation that should be appearing as headline news, way ahead of the FIFA World Cup draw currently hogging the media limelight. But the bald fact of shrinking Arctic sea ice (recently, at about 12% per decade) conceals details that have important ramifications for many aspects of Arctic oceanography, geography, and biota. The film highlights one particular consequence, and the grief that it caused for the expedition.

In 2004, Steven Smith, the producer and director of the movie, undertook a similar kayak trip at the same season. Then, the ice cover in Nares Strait comprised immense, thick, multi-square kilometre ice pans, providing stable platforms for camping and smooth surfaces for kayak hauling, when necessary. These giant pans were separated by broad leads that allowed easy kayaking within relatively sheltered channels. The thickness and durability of the pans allowed the formation of the sort of ice bridges that create the famous North Water polynya at the north end of Baffin Bay.

The more recent expedition found a totally different ice environment, with shallow-drafted pans shattered into thousands of mini pans, jumbled on top of one another, or forming a kind of ice soup, through which the expedition had to thread its way, alternating between paddling through

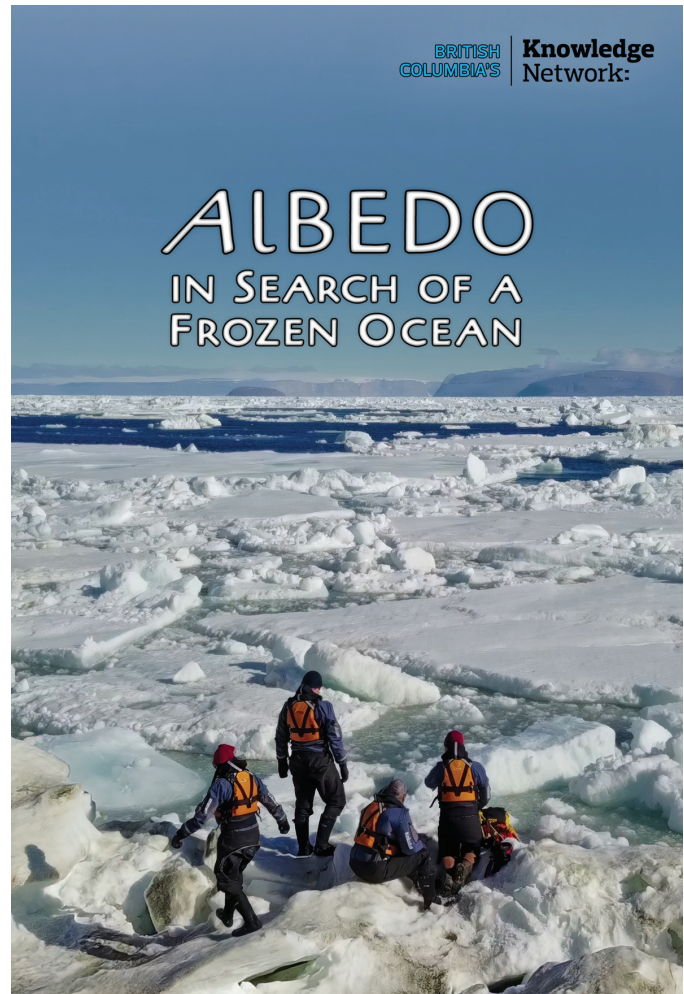


FIG. 1. © The Enduring Ice Project.

brash ice, and then hauling out their kayaks to sled them a few tens of metres before dumping them in again for another few minutes of paddling. Meanwhile, even setting foot on the pans was hazardous, with soft, decaying ice giving way underfoot, and tiny pans tipping alarmingly. Everyone found themselves in the water from time to time. For long periods, the only option was to haul the kayaks along the landfast ice foot, which provided a slender ribbon of somewhat level ice, although it meant following every

smallest wiggle of the coastline. To anyone familiar with travel over Arctic sea ice, the undertaking looks impossibly strenuous, and it is a tribute to the team and to their plastic kayaks that both survived five weeks of this battering without any serious medical or structural damage.

Meanwhile, the movie provides a sumptuous and realistic introduction to the highest of the High Arctic, from the glories of endless summer days, with the ice shimmering under blue skies and Arctic hares nibbling the saxifrage, to the misery of being imprisoned in a pup tent tied down with guy-wires every 20 cm, being flayed by 100 km h⁻¹ winds for days on end. Not conditions under which a bathroom break is welcome.

Estimates suggest that the effect of the total loss of summer ice cover will be equivalent to adding an additional 25%–44% to the effects of current anthropogenic carbon dioxide emissions. This is mainly a result of the ice–albedo feedback loop, which, as the documentary’s title suggests, is a topic at the heart of the movie. As the expedition’s polar oceanographer, Chris Horvat, explains, the high albedo of sea ice reflects a large proportion of incoming sunlight back into space. On the other hand, open water with less than 10% albedo absorbs heat, warming the water and the surrounding atmosphere, causing further warming, and exposing more dark water: a self-reinforcing cycle.

Meanwhile, as the ice-free period expands, a wide range of ice-associated organisms, from Arctic cod to narwhal, see their habitat shrink, while terrestrial animals, like Peary caribou and Arctic wolves, see their opportunities for over-ice dispersal reduced, marooning island populations into potentially less viable fragments. Current models suggest that we are unlikely to avoid the total loss of Arctic summer sea ice in this century: it is something we shall

need to learn to live with. The required adaptation will upend many aspects of the world as we currently know it. The movie gives us a stark reminder not of what we may face, but of what we are facing. By bringing awareness of events unfolding in a remote but vital area of the planet, it makes an important statement about our current jeopardy. I highly recommend this visually stunning and sagely narrated film to those who wish to find out more about the mechanisms and results of climate change, and especially to those involved in environmental education, for whom this movie provides an excellent tool.

The film’s trailer can be seen at: <https://vimeo.com/669863529/ac8a5355f1>. For approximately the next three years, Canadians will be able to watch the film online from coast to coast using the following Knowledge Network link: <http://knowledge.ca/program/albedo-search-frozen-ocean>. The film will also continue to be broadcast in British Columbia and the Yukon on the Knowledge Network TV channel.

REFERENCE

Canadian Ice Service. 2025. Historical ice coverage: Environment Canada.
<https://ice-glaces.ec.gc.ca/prods/CVCHDCTEA>

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