EDGE OF ICE

When the Arctic seas freeze up for the winter it is not the end of a process. Rather, it is the majestic beginning of one. As water solidifies, crystals grow and coalesce over a vast area of ocean, setting the scene for a beautiful and dynamic story: a portrait of the life above, below and within the sea-ice off Baffin Island.

National Film Board of Canada
Office national du film du Canada

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In much of the world, sea-ice is considered a remote, hostile environment, a barren impediment to shipping lanes. Yet this same ice is the major habitat of some of the most spectacular wildlife on earth. It is also the main source of Inuit livelihood and the foundation of Inuit culture.

Crossing the ice of Lancaster Sound with an Inuk hunter, one comes to appreciate the extraordinary nature of the surface on which the Inuit travel. In the process of freezing, drifting and finally thawing over a multi-year cycle, ice acts as an energy pump, driving the circulation of cold seas and deep oceans. At the bottom of the ice is an inverted, submarine "landscape" with a rugged beauty and ecology of its own. Here, algae have evolved to exploit the dim light, the low temperatures, and the chemistry and physics of frozen sea water. These algae form the basis of a food chain that culminates in such singular creatures as the narwhal and the polar bear.

The zone where ice, open water and air meet — the edge of ice — is the place where living organisms concentrate. Whether that edge is along a narrow crack or bordering a vast area of open water, it is here that air-breathing marine mammals and birds have access to the food supply on the underside of the ice.

This film illuminates a new perspective on Arctic processes and informs viewers of the intricate nature of sea-ice. Unique underwater photography shows rare views of sea birds, seals, whales and walrus diving beneath the canopy ice. Micro- and macro-photography enhance the worlds within individual ice crystals, and fine aerial and landscape shots further reveal the exceptional beauty of Arctic ice in its varying forms, deepening our understanding of its significance.

Scenes from Inuit hunting camps at the floe edge clearly show the relationship of the people of the Arctic to this elegant and deceptively simple ecosystem. For centuries, the Inuit have lived in this very special and rich environment, closely attuned to a nature they respect and enjoy.

Audiences

General audiences; grades 4 through university; special interest groups (environmental scientists; oil rig operators, northern peoples, ice-breaking engineers, hunters, mariners and educators for whom this ecosystem is of great significance).

Some Questions for Discussion (elementary and secondary)

Pre-screening

What notions do you have about Inuit life in the high Arctic?

Post-screening

1. What information in the film stood out for you?
2. Why is ice so vital both for the Inuit and for the polar ecosystem?
3. What forms the basis for the polar ecosystem? Why is the polar cod called the key link between the smaller and upper levels in the food chain?
4. What adaptations did Arctic animals make in order to survive? How is this adaptation vital for the Inuit?
5. Why are polynyas so significant in the Arctic seascape?

Activities

1. Research and report on three of the following: planktonic and ice-loving algae; diatoms; protozoa; herbivorous crustacea; roundworms; polar cod; walrus; beluga; narwhal; seals; polar bear; polynyas.
2. Write an essay on the close association of human beings and nature in the North.

Written and Directed by
William Hansen

Director of Photography
Mosesee Kiponik

Edited by
Bruce Mackay

Underwater Camera
William Hansen

Micro/Macro Camera
Eric Chamberlain

Aerial and Time-lapse Camera
Rick Bujold

Location Sound
David Poisey

Narrators
Vlasta Vrana
Seemee Nookiguak

Music
Neil Smolar

Sound Editor
Wojtek Klis

Music Editor
Bruce Mackay

Re-recording
Hans Peter Strobl

Scientific Consultant
Dr. Max Dunbar

Microscopist
Kenneth Fukasawa

Producers
Bruce Mackay
William Hansen
Adam Symansky

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55 minutes 33 seconds

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P.O. Box 6100, Montreal, Quebec H3C 3H5

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