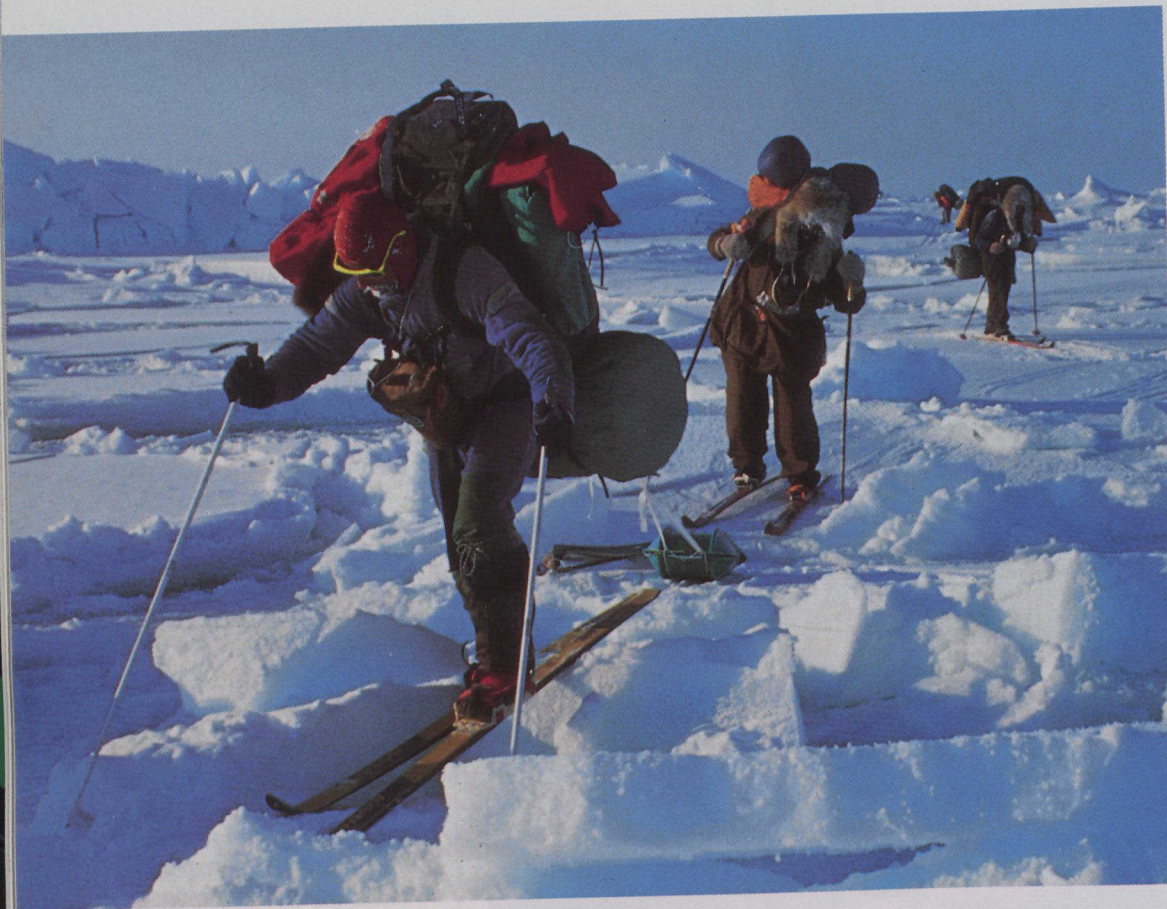


# Bridging the Polar Divide



Chris Holloway

The team survived three months of extraordinary hardship and crossed an entire ocean.

The Polar Bridge Expedition, a joint Soviet-Canadian skiing endeavour, was aimed at forging a symbolical bridge between Soviet Central Siberia and Northern Canada via the North Pole.

The trek was to cover almost 2 000 of the most treacherous kilometres on earth in a scant three months. The team itself included four Canadians and nine Soviets with not one individual in the group fluent in both languages. The conditions they faced were so

extreme that there could be no guarantee of success. Success, indeed survival, depended on how well the two nationalities were able to work together in overcoming a hostile environment. The expedition represented the ultimate test in cultural adaptability and good will.

Cultural differences aside, the demands placed upon the individual expedition members were formidable. Each person had to carry some 45 kg of food and equipment, and all 13 participants had to sleep together in a tent 4 m in diameter. The starting date of March 3, 1988, had them travelling during the darkest and coldest period of the year. For the first six weeks the temperature rarely got

above  $-40^{\circ}\text{C}$ . With no dog sleds or motorized transport of any kind, they relied instead on air drops every two weeks to provide additional supplies — a logistical challenge in its own right.

## Scientific Research

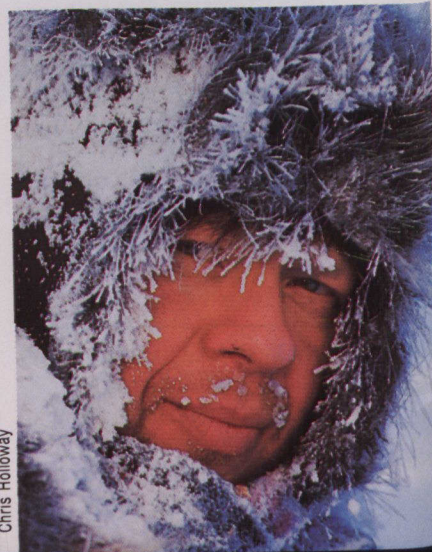
Given that humans so seldom walk this part of the planet, scientists from both countries were eager to develop environmental and scientific experiments that would contribute to the global database on changing snow and ice conditions. Routine scientific activities for the trekkers included measuring snow depths and keeping "ice logs" to determine the amount of ice present in the Arctic Ocean, the

portion that freezes annually and the quantity that leaves the ocean to melt further south.

Part of the expedition's daily chores involved taking snow samples to quantify the chemistry of Arctic Ocean snow and to study concentrations of terrestrial micro-particles useful for identifying trajectories and aerosol characteristics of the Arctic Ocean air masses. This exercise was most unpleasant as it required taking a set of samples with the hands covered by only a pair of plastic gloves so as not to contaminate the snow.

Back in Ottawa and Moscow, these specimens were analyzed for sodium, potassium, calcium and hydrogen ions. Other tests for sulphates, nitrates and similar anions contributed to previous ice core studies extending the knowledge of air and snow chemistry.

At  $-40^{\circ}\text{C}$  the weather was cold enough to freeze eyelashes together in an icy clump and turn human breath into a visible spray of ice fog.



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