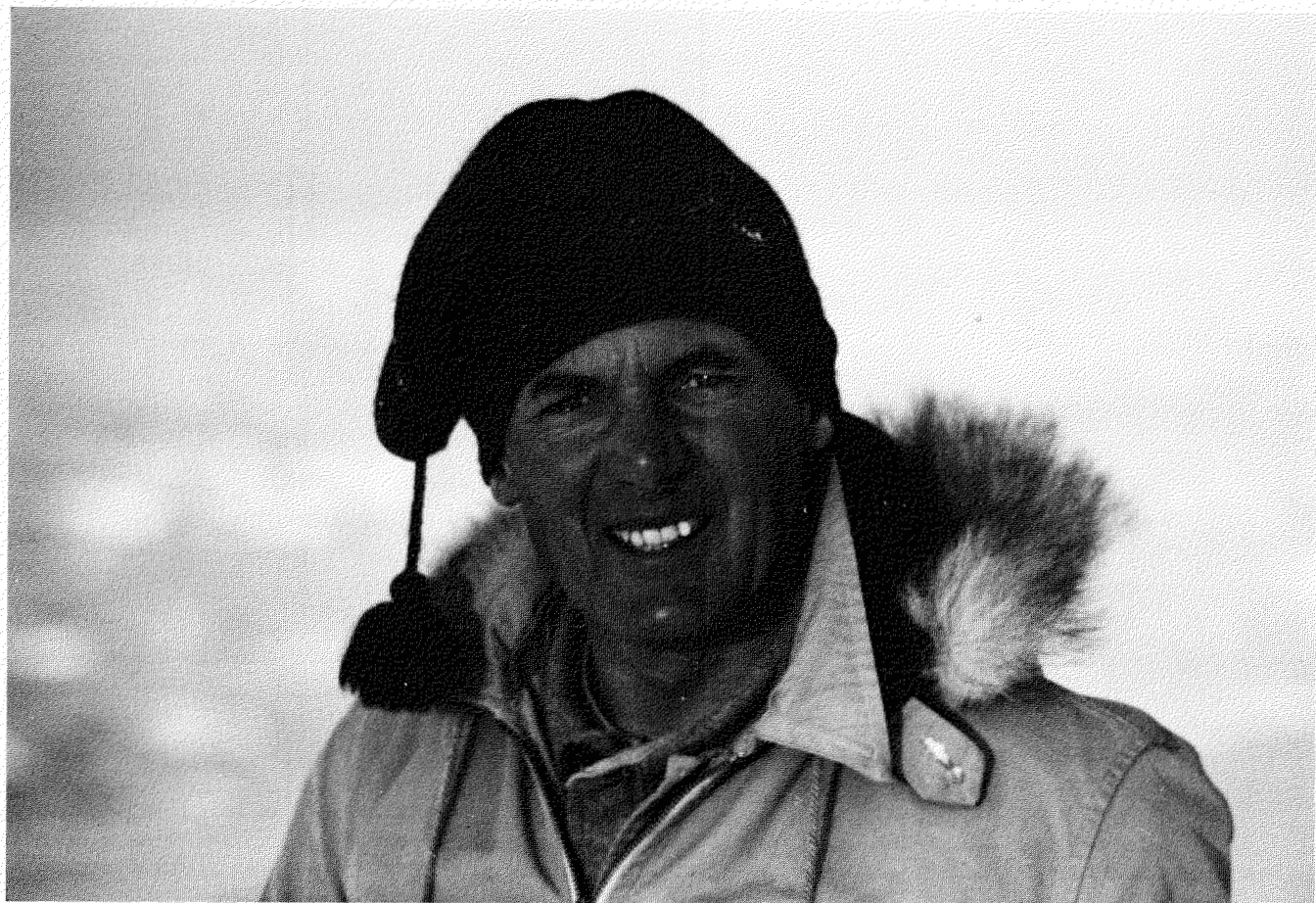


KENNETH C. MACLURE  
(1914-1988)



Kenneth Maclure at Resolute Bay.

On 24 March 1988 Canada lost one of its pioneer polar air navigators in the sudden death of Kenneth Maclure while vacationing with his wife Margaret (Blackmore) in Mexico.

Kenneth Maclure, a long-standing Fellow of the Arctic Institute of North America, was originally from Montreal, where he received his early education and worked as an actuary prior to World War II. His career in the Royal Canadian Air Force began as a navigation instructor in Canada at the start of the war. Shortly thereafter he was posted to the Empire Air Navigation School (EANS) at Shawbury, England, where he served throughout the conflict. The EANS was considered the leading allied air navigation school at the time.

In 1941, while a member of the staff of EANS, Flight Lieutenant Maclure proposed a grid system for measuring direction in high latitudes to overcome the problem created by the extreme convergence of the meridians. The school was investigating methods of polar air navigation and Maclure's work appeared as a technical paper in 1942. Due to the war it was May 1945 before the EANS polar studies were followed up by a series of experimental flights in the regions of the north magnetic and north geographic poles by the Royal Air Force using a modified Lancaster bomber named *Aries*. Squadron Leader Maclure took

part in the exercise, which became known as the Aries Flights. As a result, he was the first Canadian to reach the North Geographic Pole.

Maclure's grid direction proposal was thoroughly tested and proved to be a simple technique for measuring direction on polar flights. Shortly thereafter Maclure's grid was altered to further simplify navigation on high latitude flights originating from North America. The Aries Flights ushered in a new era in polar flying, which witnessed the rapid development of aids and techniques for navigating in high latitudes and in which Canadians played a major role.

A preliminary report on these historic flights was presented by Maclure to a meeting of the U.S. Institute of Navigation in 1945 and published as the premier article in *Navigation*, Volume 1, Number 1, March 1946, the journal of the institute. In his account Maclure spoke of the immense amount of research and other scientific work needed for a better understanding of the vast arctic regions and of the role of the newly formed Arctic Institute of North America in coordinating and assisting in such activities.

Maclure was promoted to Wing Commander in 1945 and received the Air Force Cross for his contribution to polar air

navigation. The American Institute of Navigation recognized his contribution to high latitude flying by honouring him with their prestigious Thurlow Award for 1945. In 1949 he was elected a Fellow of the Royal Institute of Navigation.

On returning to Canada after the war, Maclure's interest in northern research continued through a two-year secondment to the Arctic Section of the newly created Defence Research Board. His work with the Arctic Section took him on numerous scientific flights across the Canadian Arctic and to Alaska. These included the Ptarmigan weather flights by the USAF out of Alaska over the Arctic Ocean and Operation Cariberg, to study the migration of caribou from timberline to the barrens and to study the amount and state of ice in Hudson's Bay. Operation Cariberg was the first long-range exercise for the RCAF's new four-engine North Star aircraft, away from regular routes and maintenance bases. In 1948 the RCAF sent Maclure to McGill University for post-graduate studies, including a doctorate in nuclear physics in 1952.

Dr. Maclure's sojourn at McGill was followed by a succession of appointments in the RCAF, one of which was with the Central Experimental and Proving Establishment at Rockcliffe. As his primary interest lay in research and development, this was one of his most enjoyable assignments in the RCAF. In 1958, after being promoted to Group Captain and serving as Director of Armament at RCAF Headquarters, Maclure went to Warsaw, Poland, for three years as Defence Attaché.

In 1961 Maclure was again seconded to the Defence Research Board and posted to the Pacific Naval Laboratory (PNL), later to become known as the Defence Research Establishment Pacific. The next ten years were spent at Esquimalt as a scientific officer. At the time, PNL was active in northern research, in addition to supporting military operations in the Pacific through a range of scientific programs. The environment was ideal for Maclure, as he was a researcher at heart and also because of his long-standing interest in the Arctic. His work included acoustic and electromagnetic research in ice-filled waters, which necessitated many visits to the Canadian Arctic Archipelago. He

retired from the Canadian Forces in 1969 with the rank of Group Captain, but continued his research at PNL for another two years. Maclure probably found the work at Esquimalt the most satisfying of all his undertakings in a long career in the service of his country. Unfortunately, because of the military sensitivity of much of his work at PNL, his contributions to a better understanding of the arctic marine environment are not widely known.

In 1971 Maclure was named Chief of the Defence Research Liaison Staff at the Canadian High Commission in London, England, an appointment he held for four years. On returning to Canada in 1975 he joined the staff of National Defence Headquarters as a senior research and development planning officer, a position he held until retiring in 1979. The Canadian Aeronautics and Space Institute, of which he had been a member for many years, elected him into Fellowship in 1976 for his contribution to science and engineering related to aviation.

Ken and Margaret Maclure remained in Ottawa on retirement. Maclure continued his interest in the Arctic by participating in the activities of the Arctic Circle, a locally based club of which he was an executive and a founding member in 1947. He was a devout Christian and active in many aspects of church life. Assisting handicapped adults was one of his primary interests. Maclure was instrumental in establishing the Circle Sandridge Community Life program for mentally and physically disabled persons. He was chairman of the board, and the loss of his dedication and inspiration is a severe blow to the program.

This quiet, modest Canadian, a major contributor to modern-day polar air navigation, will be greatly missed by his former associates and all who knew him. Deepest sympathy is extended to his wife, Margaret, of Ottawa, sons, Richard, of Ottawa, and Malcolm, of Boston, daughters, Margaret-Anne, of Montreal, and Rowena, of Toronto, and his two sisters, Margaret Prill, of Texas, and Nancy Burgess, of Toronto.

*Keith R. Greenaway  
Ottawa, Ontario*