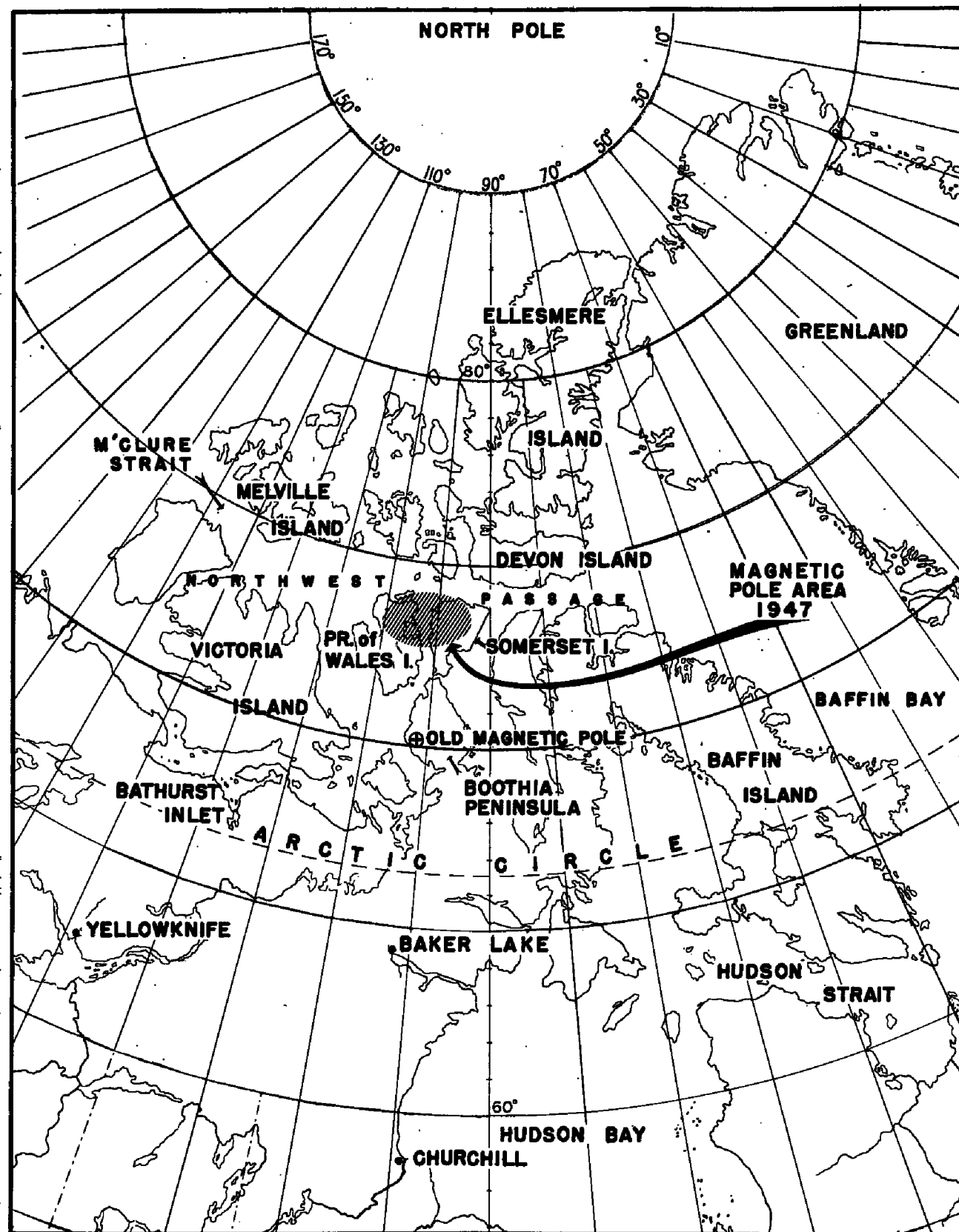


MOVEMENT OF NORTH MAGNETIC POLE



Shaded area on the map, covering parts of Prince of Wales and Somerset Islands, northwest of Hudson Bay, indicates present position

of the North Magnetic Pole. Its former position, 200 miles south, 50 years ago, is shown by the circled cross.

200-MILE SHIFT IN 50 YEARS: After a seven-week Arctic safari by R.C.A.F. amphibious aircraft, Paul H. Serson, a 23-year-old scientist of the Dominion Observatory, has returned to Ottawa to report on the latest position of the North Magnetic Pole.

According to Serson's observations, which will be subject of exact, long-range, scientific verification by Observatory officials, the area of the Pole now lies in the vicinity of Prince of Wales and Somerset Islands, District of Franklin, Northwest Territories. During the past fifty years it has moved north approximately two hundred miles.

While observatory scientists have been studying magnetic phenomena in the area for the past twelve years, this is the first full scale airborne expedition to make magnetic observations in the vicinity of the Pole and the most extensive single aircraft operation to work out from Arctic islands.

"The air force did a wonderful job" Serson said. "This was an unusually bad season for fog and sea ice. We expected to be in the air 60 hours, instead of which it took us 200 hours. That gives you some idea of the hard flying which the pilot had to do to get us to our stations. Outside of war, Arctic flying is probably the toughest in the world."

The North Magnetic Pole is an area rather than a fixed point on the map. Each day it moves within a known orbit except during periods of magnetic disturbance when it shifts about rapidly within a radius of some fifty miles. Every summer Dominion Observatory scientists must check its shifting course. Unlike the sun, moon and stars, the North Magnetic Pole is not cut out for steady domestic routine. With each shift in its position magnetic charts must be revised.

WHY EXACT KNOWLEDGE NECESSARY

Upon exact knowledge of the location of the Pole depends the accuracy of all magnetic charts used on the ground, in the air and on the sea - the safety of all those whose business lies in the Canadian north. Aircraft, ice-breaker, ships of the Hudson's Bay Company, the trapper, miner, explorer and prospector - each is at the mercy of his magnetic charts and must be able to rely upon them absolutely in that raw, white wilderness of fog and treacherous, drifting ice.

With Paul Serson went John F. Clark, 24, of Bounty, Saskatchewan, also on the staff of the Dominion Observatory, Surveys and Engineering Branch, Department of Mines and Resources, and two geologists from the Mines and Geology Branch, Dr. Y.O. Fortier, 33, of Quebec City and Harold R. Steacy, 24, of Ottawa. In command of the aircraft was Flying Officer J.F. Drake, Victoria, B.C. who, with Flying Officer J.E. Goldsmith, Halifax, also of the party, rediscovered legendary Spicer Island in 1946.

Three out of the four scientists were already veterans of the Canadian Arctic. For Ottawa-born, Scientist-in-Charge Serson, this has been his third trip north. In 1945 he took the Magnetic Survey as far north as Coppermine and Cambridge Bay and, in 1946, returned to the Arctic on the Nascopie and continued the survey on to Fort Ross, on Somerset Island.

Serson is, like his colleagues, typical of Canada's newest generation of scientists. A graduate of Toronto University, last winter he designed and helped to construct an electronic instrument for the making of precise magnetic observations in the vicinity of the North Magnetic Pole, the first time that such an instrument has been used for magnetic survey in the Arctic. "The instrument went a good deal further than our expectations," Serson said. "Especially in the regions nearest the Pole where our usual instruments proved useless".

Raw Arctic fog and unusually heavy sea ice repeatedly threw the party off schedule; forcing the aircraft to land on still - uncharted lakes. The expedition carried two months rations, tents, sleeping bags, aircraft spare parts and living equipment. Six R.C.A.F. aircraft, operating out of Fort Norman and Port Radium on photo survey work, as well as the RCAF Search and Rescue Organization which operates in the north country, were available in case of emergency. Five times dense fog forced the party back to their base camp at Cambridge Bay. A second Canso aircraft, not of the party but flying in the same area, crashed on September 1st in the foul weather.

OBSERVATIONS AT TEN STATIONS

Magnetic observations were made at ten stations throughout the Northwest Territories. Six of these are in the Arctic Islands surrounding the area in which the North Magnetic Pole is believed to be located; two are on eastern Victoria Island; two on Prince of Wales Island; one on King William Island; one on the east coast of Boothia Peninsula.

R. Glenn Madill, Chief of the Division of Terrestrial Magnetism at the Observatory who, for the past twenty-five years has been carrying on magnetic observations in the Canadian Arctic, planning and directing the long-range programme of magnetic research, said, "I assigned to Serson and Clark one of the most difficult operations yet attempted in the extension of our Magnetic Survey to the Pole. Text book scientists are no use in practical work in the Arctic. For this type of duty only top-ranking experts are chosen. In addition to their scientific knowledge and training, they must have youth, resourcefulness, tact, good judgement and the outlook of the pioneer mind. The Arctic has its own ways of testing men."

Madill knows the Canadian Arctic as few other scientists in this country. His expe-