

The data compiled from the two summers' work prompt the conclusion that during late-Pleistocene times the Torngat Mountains were influenced by two distinct glaciations, separated by an interglacial period of considerable intensity. The final glaciation, during which large areas remained ice-free, is tentatively correlated with the "classical" Wisconsin of central North America<sup>1</sup> whereas the date of the preceding glacial period is uncertain. It may be the equivalent of the Illinoian Glaciation, or even be of post-Sangamon age, and in this case be comparable with a cold phase tentatively identified in central North America, which is older than the "classical" Wisconsin Glaciation, and is separated from the latter by a warmer period.

Reconnaissance from the air during flights along the Labrador coast and some distance inland suggests that these general conclusions might well be applicable to the entire coastal zone of Labrador. Farther south, however, it is anticipated that the small mountain groups, such as the Kaumajet, Kiglapait and Mealy Mountains, might prove to be more important centres of local late-Wisconsin glacierization, as in that direction precipitation is heavier today, and probably was in the past.

The Beaver aircraft returned to base camp on September 8 and the party was flown to Knob Lake via Nain.

The work was made possible by a grant from the Banting Fund, provided through the Arctic Institute of North America, and by the provision of air transport by the British Newfoundland Exploration Company. This work will be written up in full during the present winter at the McGill Sub-Arctic Research Laboratory.

J. D. IVES

#### **Arctic investigations by the Fisheries Research Board of Canada, 1956-57**

The work of the former Eastern Arctic Investigations, now the Arctic Unit, was extended in 1955 to cover the entire Arctic. In 1956 and 1957 five parties carried out arctic field investigations between Herschel Island and Frobisher Bay. In addition, marine mammal studies continue off Newfoundland and in the Gulf of St. Lawrence.

*Fisheries investigations.* In 1956 fisheries studies were concentrated in the Mackenzie Delta region between Herschel Island and Tuktoyaktuk, where fishes are relatively varied and abundant. A party worked at Whitefish Station, near Tuktoyaktuk, from July 7 to September 15, and another worked at the mouth of the Firth River, Y. T., from July 27 to August 10 and at King Point Harbour, just east of this, from August 12 to August 30. In addition to substantial beluga and ringed seal collections which were made for the mammal investigations, about 11,000 fish were sampled in all. In co-operation with the Canadian Wildlife Service, a preliminary survey of fish stocks in Pelly and Garry lakes of the Back River system was undertaken from August 2 to August 23. The lakes, which are shallow (20-30 feet), were found to support sufficient stocks of whitefishes and lake trout to permit organized subsistence fishing should this be necessary.

In 1957 one party carried out fisheries studies up the Mackenzie River from Aklavik to Fort Norman, and another surveyed fish stocks at Coppermine, N.W.T. An intensive study was made of the char run in Rowley River on Rowley Island, Foxe Basin by the M.V. *Calanus* and in northern Hudson Bay by whaleboat and by peterhead from Coral Harbour. Forty-five walrus were tagged in the latter area, and 20 were examined in detail. In Foxe Basin 60 walrus and 220 seals were sampled. The reproductive cycle, ages at maturity, and life expectancy have to a large extent been clarified by work on aging from growth layers in the cementum of molar teeth and in tusk development.

<sup>1</sup>Flint, R. F. 1957. *Glacial and Pleistocene Geology*. New York: John Wiley and Sons. 553 pp.

At Herschel Island, a 7-inch mesh nylon fish gill-net was found to be four times as successful in netting ringed seals as the traditional larger mesh, heavy cotton-twine nets.

In 1957, excessively heavy ice conditions in Foxe Basin hampered walrus investigations in Foxe Basin to such an extent that only a few specimens were obtained. The party engaged in this work was forced to remain shore bound on Amittioke Peninsula for most of the season.

In 1956 and 1957, a continued increase in the fishery for pilot whales in Newfoundland (1956 catch, about 10,000) led to emphasis on population studies. Investigations were begun as well on minke whales or lesser rorquals, with a small fishery at Dildo, Newfoundland as the source of material.

*Biological oceanography.* During a 12-month period beginning in September 1955, collecting of plankton, benthos and hydrographic samples was carried out in northern Foxe Basin from the M.V. *Calanus*, based at Igloolik. Biological samples included net plankton, microplankton, bottom fauna and intertidal collections. Hydrographic sections were run across Fury and Hecla Strait, and between Jens Munk and Koch, Koch and Rowley, Koch and Baffin, Baffin and Bray, and Bray and Rowley Islands. Additional stations were occupied and water temperature, salinity, oxygen and phosphate values were determined. It thus has been possible to follow through a complete yearly cycle of hydrography and productivity in Foxe Basin.

The M. V. *Calanus* broke free of ice at her winter quarters at Igloolik on July 31, 1956. It was decided to winter her again in Foxe Basin, rather than bring her south to Churchill at the end of the summer, in order to get a more profitable working period in the Basin. No party stayed over winter this time, and the ship was beached on Rowley Island on September 19. A party stayed aboard the ship from May to September 1957, but the heavy ice conditions mentioned above made it impossible to move

the ship and she remains for a further winter on Rowley Island. In addition to the char study, the party carried out a program of hydrography, plankton and bottom sampling during their stay on the ship.

The results of work written up since the last report (*Arctic*, Vol. 8, No. 2, 1955) can be found in the following reports of the "Calanus" Series:

Dunbar, M. J. 1957. The determinants of production in northern seal of *Themisto libellula* Mundt. Can. J. Zool. "Calanus" Series No. 14. In press.

—————1958. Physical oceanographic results of the "Calanus" expeditions in Ungava Bay, Frobisher Bay, Cumberland Sound, Hudson Strait and northern Hudson Bay. J. Fish. Res. Bd. Can. "Calanus" Series No. 15. In press.

Grainger, E. H. and M. J. Dunbar. 1956. Station list of the "Calanus" expeditions, 1953-4. J. Fish. Res. Bd. Can. 13 (1): 41-45. "Calanus" Series No. 10.

McLaren, I. A. 1958. Biology of the ringed seal (*Phoca hispida* Schreber) in the eastern Canadian Arctic. Bull. Fish. Res. Bd. Can. "Calanus" Series No. 12. In press.

—————1958. Some aspects of growth and reproduction of the bearded seal, *Erignathus barbatus* (Erxlesen). J. Fish. Res. Bd. Can. "Calanus" Series No. 13. In press.

Squires, H. J. 1957. Decapod crustacea of the "Calanus" expeditions in Ungava Bay, 1947 to 1950. Can. J. Zool. 35: 463-494. "Calanus" Series No. 11.

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#### Carnegie program of arctic research

In 1956 the Carnegie Corporation of New York approved an \$88,000 renewal of its grant for arctic studies at McGill University. This new grant was to be used in a further five-year scholarship program, along fairly similar lines to those of the previous five-year period. The original (1951) Carnegie grant had included a Senior Fellowship each year in addition to several graduate scholarships, and some support of the Arctic Institute and its library. As a result of the first Carnegie grant for arctic studies, thirty-three scholarships were granted and these have resulted, so far,