

W. S. GARDNER, Editor

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ARCTIC LAKES AND ALASKAN COASTAL STUDIES

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THE MT. CHAMBERLIN-BARTER ISLAND PROJECT, 1959
PROGRAM AND OPERATIONS *

G. William Holmes
U. S. Geological Survey

The investigations based at the Lake Peters station and at Barter Island in part were a continuation of the 1958 program and in part were extensions of topical studies undertaken in other arctic areas. Geologic mapping of the Arctic Coastal Plain and Arctic Foothills was continued by Charles R. Lewis. Limnological studies by John E. Hobbie, initiated well before the ice cover began to melt, were more comprehensive and detailed than his investigations during the summer of 1958. David F. Barnes began a study of lake ice physics which was directed toward the problem of the strength of melting ice sheets; this program was related to Barnes' earlier work on a perennial ice sheet on a lake in northwest Greenland. Meteorological observations were made by Carroll Rock and Ellsworth Clark, as part of the general program of standard weather observations and also in support of the limnological and ice physics studies. Movement stakes on Chamberlin Glacier were resurveyed by Frank Leavitt, and Holmes obtained a few samples of lake deposits for sediment and pollen studies.

The station was opened in late April, following reconnaissance of the snow cover and ice thickness, using light aircraft from the Arctic Research Laboratory. Supplies on hand at the station were sufficient for the initial party while the resupply airlift was underway. Ski-wheel C-123 aircraft from Ladd Air Force Base delivered approximately 45,000 pounds of Air Force fuel, food and scientific equipment, and ARL building materials. Major R. Frank Riddell supervised the camp, and the improvement of the facilities, which included winterization of the existing permanent building, and construction of a generator hut and a second, winterized building. Later, an Air Force helicopter transported food and fuel to the Chamberlin Glacier camp for future glaciological investigations. Throughout the summer, the camp not only supported the basic program, but also was used by transient investigators working in Arctic Alaska. The station was closed in late August, after equipment and supplies were cached in the permanent buildings.

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