

two different summers' field work, using a Suomi-Kuhn "Economical" Net Radiometer, it seems that either of the two regression equations can be used as a general, regional characteristic from which one may obtain approximate mean daytime net flux values from observations of total daily solar radiation.

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N. S. F. Information Office

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UNIVERSITY OF ALASKA GULKANA GLACIER PROJECT, 1962

Studies in glaciology and glacial geology on the Gulkana Glacier of the Central Alaska Range that were begun

in 1960 (Arctic 14:74, 236) were continued during the summer of 1962 by members of the Department of Geology. The program is supported by a grant from the National Science Foundation to Dr. Troy L. Péwé, Head, Geology Department, University of Alaska. The U.S. Army, Ft. Greely, Alaska again generously supplied helicopter support to establish the base camps, and the U.S. Geological Survey kindly lent some equipment.

Gulkana Glacier lies on the south side of the Alaska Range about 4 miles east of the Richardson highway and 135 miles southeast of Fairbanks.

During the 1962 season two groups concentrated on special aspects of this project: (1) the re-formation of foliation at the base of the ice fall, and (2) the Recent history of Gulkana and East Gulkana glaciers.

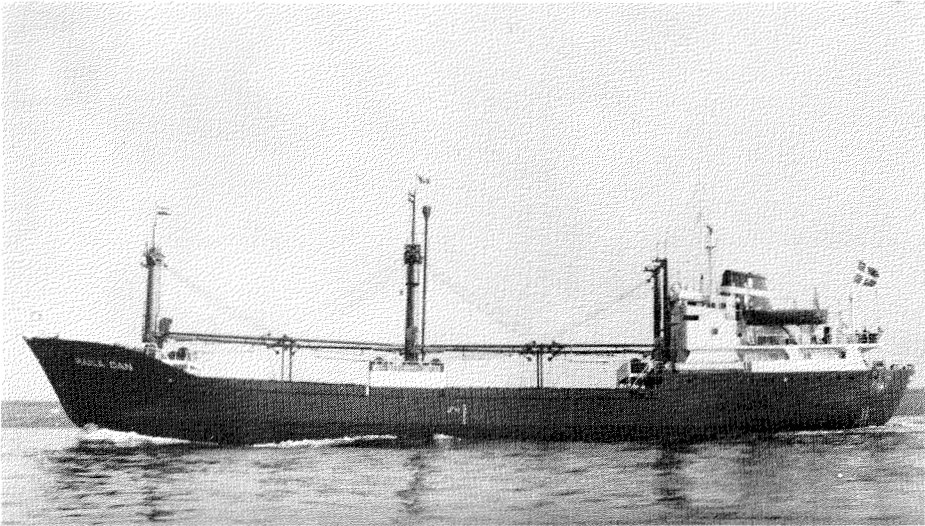
The firn limit lies above the main ice fall of Gulkana Glacier (Gabriel Ice Fall) and thus the internal ice structures are exposed for about 1 to 2 months of the ablation season. To study these structures, particularly the re-formation of the foliation following disruption in the fall, Dr. Donal M. Ragan, Assistant Professor of Geology, with one assistant, Walter Phillips, re-established a base camp at about 5000 feet. A closely spaced net of thirty stakes was set up in and immediately below the ice fall. This net, in combination with stakes surviving from 1961, was used for motion measurements, as a base for plane-table mapping, and for ablation measurements. Internal structures were mapped in detail; these included possible stratification that survived the ice fall, and various secondary planar structures that develop at the very base of the ice fall and that are progressively modified down-glacier into the typical nested-arc pattern. Proposed work on ice fabric was not done this summer because of an early onset of winter snow accumulation.

The Recent glacial history of Gulkana Glacier was studied by Richard D. Reger, graduate student in geology at the University of Alaska; he was assisted by Gerard Bond, also a graduate

student in geology at the university. The objectives of the work were to map and date the Recent moraines of Gulkana and East Gulkana glaciers. Dating of the Recent moraines was done by lichenometry, because the area is above tree line. Lichen diameters were measured on the Recent moraines of the glaciers and were compared with lichen diameters of the Recent moraines of nearby Castner, Canwell, and Black Rapids glaciers. The terminal areas of the Recent moraines of these last three glaciers have trees growing on them and this permits dating of the Recent

glacial advances. Although several species of lichens were measured, *Rhizocarpon geographicum* was the most reliable and provided the bulk of the data.

Tentative results of this summer's work on Gulkana and East Gulkana glaciers indicate that there have been two minor advances during the middle of the 18th and of the 19th century, respectively. Preliminary mapping indicates that the mid-19th-century advance was almost equal to, or in some instances greater than the mid-18th-century advance. TROY L. PÉWÉ



New polar ship

The J. Lauritzen Lines, Copenhagen, Denmark, acquired yet another polar vessel in October 1962 from Bijkers Shipyard, Holland after the M.S. *Railla Dan* had completed her trials.

The vessel is of 2325 tons, fully welded, and is ice strengthened according to Finnish Ice Class 1A. The capacity of the holds is equivalent to about 113,000 cu. ft. of grain. There are two 52.5-foot hatches, each served by four 5-ton derricks, and there is one additional 20-ton heavy duty derrick. A powerful electric plant provides ventilation for the holds.

The main engine is a Smit-Bolnes 10-cylinder two-stroke crosshead engine with supercharger, which develops 1700 BHP and gives the ship a speed of 12.5 knots.

The engine is placed aft and above it are the living quarters, which provide single cabins for officers and crew. The accommodation provides modern comforts and is decorated with reproductions of the works of famous artists.

An "Atlas" generator provides fresh water and the navigational equipment includes such modern aids as true-motion radar, gyro compass, automatic steering gear, and Decca.