

teach people to climb safely. In 1949 attendance so increased that it was necessary to schedule duplicate lectures and field trips. For week-end "experience climbs," several peaks of the same difficulty were designated, to give students a choice and to keep down the number on any one trip. There were 220 registrations for the beginning course and 130 for the intermediate. Lectures for the elementary course began on March 8th. Each course had seven sessions and four field trips. "Experience climbs" were scheduled on 14 week ends during the summer and fall. It is now required that a student serve as rope leader on four varied climbs (rock and glacier) and help instruct in three basic practices in the beginning course. Usually a student attends the intermediate course for several years before graduation. No one may graduate from both courses in one year.

Another very popular activity is skiing. The club owns three ski lodges and leases a fourth. Club races were held at Meany Ski Hut, and some of the better skiers entered interclub competitions. A ski-mountaineering course was given from January 4th through March 1st, and field trips were scheduled for a number of week ends—including an overnight igloo-building trip to Stevens Pass, and roped skiing on Nisqually Glacier. Ski ascents were made of several peaks, including Mt. St. Helens. Those who wished to take part in ski trips were tested and classified according to their ability. The trips were also rated, so that each person could tell whether he was eligible.

B. B. BICKFORD

*Mazamas.* The Mazamas, of Portland, Oregon, held their 56th Annual Outing in Grand Teton National Park, 16-31 July 1949. The main camp was at String Lake. Seventy-two persons registered, of whom 37 arrived from the west by chartered bus. Six peaks were climbed, two of them twice. There were side trips to Yellowstone Park and other points, as well as trail hikes, fishing and boating. The 1950 Outing is planned for the Elwha Basin in the Olympic National Park, 15-30 July 1950.

In 1949 the Mazamas continued their participation in the development of a municipal forest park in the hills adjacent to Portland. Two tree-planting and trail-development trips were held.

Dr. Donald B. Lawrence, member of the research committee of the Mazamas and associate professor of botany at the University

of Minnesota, reports the following in connection with his work on certain of the glaciers in southeastern Alaska during July and August 1949. He was assisted in this work by Elizabeth Lawrence and Lloyd Hulbert.

“By a study of the age of trees growing on and beyond the recent terminal and recessional moraines, the history of glacier fluctuation in southeastern Alaska for the past six centuries was worked out in a preliminary way. Special attention was paid to the glaciers emanating from the southern half of the Juneau Ice Feld where recessions of 1.3 to 5 miles have occurred since the stage of maximum advance of the mid-1700's which had not been exceeded since at least 1300 A. D. and quite possibly since the waning stages of the Wisconsin Glaciation. In Glacier Bay, recessions since the mid-1700's have amounted to as much as 62 miles, which is 15 times as rapid as anywhere else in the world. An apparent relation was noted between glacier fluctuation and known solar activity. The technique employed in these investigations is described in an article in the April 1950 issue of the *Transactions of the American Geophysical Union*, and the results are described in detail in articles in the 1949 *Mazama Annual* and in the April 1950 issue of the *Geographical Review*. This work was sponsored by the American Geographical Society of New York, Office of Naval Research, Graduate School of the University of Minnesota, the Mazama Hardesty Trust Fund, the United States Forest Service, and the Committee on Glaciers of the American Geophysical Union.”

F. D. AYRES

*Sierra Club.* The regular summer outings of the Sierra Club in the Sierra Nevada gave opportunity for a great deal of relatively easy climbing at elevations from 12,000 to 14,496 ft. The Base Camp spent four weeks beneath the 14,000-ft. peaks seven miles S. of Mt. Whitney, and 105 of the party spent the night on the summit. The High Trip was in the region of the Kaweah peaks, and a number of them were climbed. A second trip to the Teton range was led by John Thune. The primary objective was knapsacking through the remote back country of the park, with an ascent of the Grand Teton and some of the other fine peaks of the range. A knapsack trip is scheduled from August 1st to 10th in the wild Kintla region of the N.W. corner of Glacier National Park. Members of the A.A.C. are always welcome on any Sierra Club trip.

R. M. LEONARD