

prevent drift. An outboard motor, attached to the raft, facilitated moving it from one coring site to the next.

With the equipment here described, cores have been obtained where the glacier lake has been several hundreds of feet deep and in sediments ranging from glacial silt to fine sand. It is interesting to consider conditions and possibilities for the use of this method in other lakes for the study of varved samples and for the collection of bottom material for pollen and radio-carbon analyzes.⁴ For investigations in larger glacial lakes, where logistical requirements do not preclude the use of heavier equipment and power-driven hoisting gear, the application of related techniques which have given satisfactory results to the oceanographers may well be reviewed.^{5, 6, 7}

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GLACIER FLUCTUATION, 1952

SWISS ALPS

By hindering the ordinary work of the foresters, and by causing an unusually early series of snow falls, the extremely severe autumn of 1952 unfortunately reduced the number of glaciers which could be observed—49 instead of the usual 80.

The small Scex Rouge (Diablerets) alone showed a definite advance; the Rhône Glacier maintained its length as measured in 1951, as also the Moiry Glacier (Valais). The other 46 all showed an increased recession, often in excess of 20 m., with an average of 14 m. Thus from 1951 to 1952 2 per cent of the glaciers were in advance, 4 per cent were stationary and 94 per cent had receded, the average recession being 14 m.*

P.-L. MERCANTON

* On the subject of accumulation see Kuhn, W. Der Firnzuwachs pro 1951/1952 in einigen schweizerischen Firmgebieten. *Vierteljahrsschrift der Naturforschenden Gesellschaft in Zürich*, 1952, p. 277-82.

NORWAY

Jostedalbreen	..	..	..	12 glaciers observed
Jotunheimen	..	..	..	17 glaciers ,,
Svartisen	..	..	..	2 glaciers ,,

During the years 1946/47, 1947/48, 1948/49, 1949/50 and 1950/51 all the glaciers under observation retreated with the exception of Veslejuvbreen in Jotunheimen, a glacier of small size, which had also advanced slightly in 1947/48 and 1948/49.

During 1951/52, however, Store Suphellebreen and Briksdalsbreen in Jostedal had advanced 5 and 10 m. respectively, and Engabreen in Svartisen had advanced 21.5 m.

Measurement of the regime of Storbreen in Jotunheimen showed the following:

Year	Total accumulation	Total ablation	Increase or decrease	Increase or decrease per km. ²
1949/50	8.2 × 10 ⁶ tons	11.5 × 10 ⁶ tons	-3.3 × 10 ⁶ tons	-0.57 × 10 ⁶
1950/51	6.3 × 10 ⁶ ,,	9.3 × 10 ⁶ ,,	-3.0 × 10 ⁶ ,,	-0.52 × 10 ⁶
1951/52	7.8 × 10 ⁶ ,,	6.1 × 10 ⁶ ,,	+1.7 × 10 ⁶ ,,	+0.29 × 10 ⁶
1952/53	7.1 × 10 ⁶ ,,	—	—	—

O. LIESTØL

EASTERN ALPS

All the glaciers of the Eastern Alps are observed by the Oesterreichischer Alpenverein either yearly or biennially, measurements being made of the distance to the snout from a fixed mark. These observations are under the direction of Professor R. von Klebelsberg, who reports in detail upon them in the *Mitteilungen des Oesterreichischen Alpenvereins*.

In the period 1951/52 70 glaciers in all the more important mountain groups were measured. Without a single exception all had receded. The recession was greater than in the previous year. This was particularly marked in the Oetzal and Stubai Alps.

The tongues had not only receded but had also fallen considerably in height, and the glacier speed was reduced. This was particularly the case in the largest of the Eastern Alp glaciers, the Pasterze, although for the first time for many years a slight rise in the cross-section of the glacier surface was to be noted in the higher regions. Except for this, however, there is no evidence at all that the recession of these glaciers is near its end.

H. KINZL

ICELAND

Year	Total number observed	Advance	Stationary	Retreat
1949/50	.. .. 36	20%	8%	72%
1950/51	.. .. 35	17%	6%	77%
1951/52	.. .. 33	9%	6%	85%

The second column shows the number of individual outlets measured. The right and the left sides of the bigger outlets are treated separately, as experience has shown that they often advance or retreat independently.

The high percentage of advance in 1949/50 is probably due to the cold winter of 1948/49.

J. EYTHÓRSSON

FRANCE

Observations by members of the Ministère de l'Agriculture (Eaux et Forêts) on French glaciers, obtained through the courtesy of the Société Hydrotechnique de France, report recession and decreasing regime in all cases.*

* See also Veyret, Paul. Le recul des glaciers dans les alpes françaises. *Bulletin de la Section de Géographie du Comité des Travaux historiques et scientifiques* (Paris), 1952, p. 159-65.