

RECENT FLUCTUATIONS OF THE ITALIAN  
GLACIERS

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GLACIOLOGICAL research on the Italian glaciers was not entirely suspended during the last war. Several willing observers climbed the high valleys of the Alps under considerable difficulties and at great personal risk during the most dangerous periods of the war. The measurements on the glaciers are therefore understandably somewhat irregular and intermittent.

At the end of the war lack of supplies and transport hindered the immediate renewal of the inspections. In this connection it must be remembered that the Italian glaciers number some 740 and are scattered over a range of mountains more than 750 km. in length, leaving out the Calderone Glacier, the only glacier in the Apennines.

Glacier research in Italy is directed by the Comitato Glaciologico Italiano which is supported by the Consiglio Nazionale delle Ricerche and the Club Alpino Italiano. The results of these studies are published annually in the *Bollettino Glaciologico Italiano*.

In considering the figures showing the fluctuations of 114 glaciers of which measurements were made between 1940 and 1949 inclusive we have rejected the data of certain of the glaciers on account of their uncertainty or lack of continuity.\* The most reliable results are summed up in the following table.

TABLE I

	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Observed	28	46	47	21	14	15	38	57	41	81
Advancing	4	6(+4?)	1(+1?)	1(+1?)	0	0	1(+1?)	3	2(+1?)	3
Stationary	2	2	1	0	0	0	0	3	0	2
Retreating	22	34	44	19	14	15	36	48(+3)	37(+1?)	76

We cannot conceal the fact that the data are not very striking, but as we have, as yet, no better results it is hoped that they will provide a certain amount of information from which inferences may be drawn.

During the ten years under review the large majority of the glaciers under observation retreated. Advance was scarcely evident during 1940 and 1941 and further decreased during the following years. Possibly the smaller number of glaciers taken into consideration, and other undefined reasons, contributed to this decrease.

During 1948 and 1949 we noticed some glaciers in a state of advance, but their percentage is very low. We have good reason to think that the forward movement of the fronts may have been caused by local factors such as ice slides, falls of seracs and the like.

The foregoing facts lead to the conclusion that from 1940 to 1949 the Italian glaciers were in a state of retreat. If we observe the most continuous series of data in our general list we cannot identify any uniform trend of advance or retreat of the glacier fronts during this period. The amounts of variations are irregular and are generally within a small range around the middle values.

With the renewal of glacier observations, which began during 1947, we hope that it may be possible in future to ascertain the fluctuations of our glaciers with more precision.

\* The full list is in the possession of the Society and can be consulted by any member interested.—Ed.