# METEOROLOGICAL STUDIES IN ICELAND

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In August and September 1956 the 61 members of the British Schools Exploring Society's eighteenth Expedition spent six weeks in central Iceland, during which time various scientific tasks were undertaken. On this occasion meteorological studies were to receive special attention, and for this reason a large collection of standard and self-recording instruments was very kindly provided by the Meteorological Office.

The Expedition's Base Camp near point A on the accompanying sketch-map, was located near the south-eastern corner of Langjökull in latitude 64°27′N, longitude 20°15′W. Stretching for some miles to the east, west and south was a barren stone-covered desert of volcanic and glacial debris, and immediately to the north lay the Jarlhettur, a range of very steep-sided tuff and lava hills which, it was hoped, would provide at least some degree of protection from those strong winds which were expected to sweep southwards off the ice-cap.

The meteorological programme was based on the assumption that weather over the area with which we were concerned would be affected by the proximity of the ice-cap to a very marked extent. Members of the Society's 1951 Expedition to central Iceland had experienced certain conditions of cloud and ice-cap winds (Hannell and Stewart 1952) which required further investigation. After advice concerning these and other related phenomena had been sought from, and freely given by, certain specialists on the staff of the Meteorological Office and Sigurdur Thorarinsson of the Reykjavik Museum of Natural History, the aims of the Expedition's meteorological party were defined as follows :

1. To carry out an accurate series of observations of the main weather elements throughout the five-week period 7 August–12 September, to keep records and to transmit coded messages to the Icelandic Weather Bureau at Reykjavik in accordance with a pre-arranged schedule.
2. To make hourly observations of temperature, humidity and wind at three different altitudes on Langjökull throughout a more restricted period and, in particular, to obtain information concerning the frequency, strength and duration of katabatic winds.
3. To make hourly observations of night temperature at depths of up to 8 in. below the ice-cap's surface.
4. To take daily measurements at ablation stakes placed at half-mile intervals up the southward-facing slope of Langjökull and, if possible, to ascertain the effect of varying meteorological conditions on the rate of surface-lowering.