

Ground deformation at Katla: Results of precision levellings 1967–1995

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Abstract — *The volcano Katla in South Iceland is known to have erupted about twice each century in historic time. The last large eruption occurred in 1918 but a minor eruption probably occurred in 1955. Three optical levelling tilt stations were constructed in 1967 in the vicinity of Katla, to detect and observe any ground deformation which might precede the next Katla eruption. Two of these stations were located near the east edge of the Mýrdalsjökull glacier, and one near the south edge, all at a distance of 10 km or more from the volcanic vent which erupted in 1918. These stations were levelled once each year from 1967 to 1973. No observations were made from 1973 to 1986, when the levellings were resumed. The results of these repeated levellings at the optical levelling tilt stations near Katla are that ground tilt caused by annual variation of the glacier load is observed at the stations near the east edge of the glacier. Ground tilt related to the volcano Katla has not been observed, although uplift towards west or north-west at a rate of $0.1 \mu\text{rad}$ per year at the station Kötlukröki is vaguely suggested.*