

What did trigger the rockslide in the Askja caldera on the 21st of July 2014?

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On the 21st of July 2014 a large rockslide occurred in the Askja Caldera in the northeastern highlands of Iceland. This rockslide is the largest rockslide which has occurred in Iceland since the settlement of the island more than 1100 years ago. The slide was initiated in the southeastern rim of the caldera and fell into the 220 m deep Öskjuvatn Lake, causing a 20-30 m high displacement wave in the lake. Earth tremors were observed in nearby seismic stations giving the exact time of the slide at 23:24. At around 23:27 a white plume rose up from the site. The scar of the rockslide is about 900 m wide and about 350 m above the surface of the lake, at 1056 m a.s.l. The movement of the slide is a rotational slide, but the location of the lower boundary is presently not known. It is estimated that the size of the slide is between 15-30 million m³. The runout length is 3100 m and the fall height 500 m. During the last 3 decades the volcano has been deflating at a rate from 7 cm/yr, down to a 2-3 cm/yr in recent years. Indications of movements prior to the slide obtained from photographs show that slow movement of the slide mass had already begun few years before the slide. It is likely that thick snow cover and rapid melting the days before the slide may have initiated the slide.