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Middle Pleistocene activity of the Hekla volcano

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Hekla volcano is one of the most active volcanoes in SE Iceland. Hekla is a ridge-shape stratovolcano, located near the apex Icelandicelandic hot spot. It is located on the SVZ, initiated with the last rift jump, c.3 Ma and the polarity of the basement lavas yields an age younger than 700 ka. Even if Holocene and late glacial eruptions are well constrained, little is known about the effective age of this volcano. Hekla old lavas are mostly hyaloclastites and are difficult to date, while dykes are deeply weathered by late hydrothermal activity. Field data in the Rangavellir (ou mettre Ytri-Rangá valley) provide evidence for eruptions around the last Interglacial within a large coastal sedimentary prism, the Rangá Formation (130-80 ka) that is buried by the Búdi terminal moraines and Hekla Holocene lava flows. Emplaced after a highly erosive glaciation, this Rangá Formation contains a reworked trachytic tephra in form of pumice pellets that display a vesiculation similar to Hekla pumices. element'sd trace this tephra ts composition of these tephra is very similar to the Holocene pumice from Hekla volcano and confirm that they are coming from an eruption produced by this volcano. 40Ar-39Ar dating of these pumices yielded c.410ka. This age is very similar to those of other acidic volcanoes around the Hofsjökull and the Vatnajökull (Kerlingarfjöll, Torfajökull, Laufafell, Nyðry Hagánga, Snæfell, Kverkfjöll) and also from the Snæfelness peninsula. This confirms that very large glaciations such as MIS 12 and 10 are followed by intense felsic volcanic activity at the onset of the deglaciations