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Hazards and timelines of risk and respond: Sólheimajökull, Skaftárkatlar and Öræfajökull, S Iceland

Ingibjörg Jónsdóttir (1), Baldur Bergsson (2), Melissa Anne Pfeffer (2), Guðrún Jóhannesdóttir (3), Ármann Höskuldsson (1), Thor Thordarson (1), Esther Hlíðar Jensen (2), and Gunnþóra Ólafsdóttir (1)

(1) University of Iceland, Institute of Earth Sciences, Department of Earth Sciences, Reykjavik, Iceland (ij@hi.is), (2) The Icelandic Meteorological Office, Reykjavík, Iceland, (3) National Commissioner of the Icelandic Police, Reykjavík, Iceland

The combination of glaciers and volcanism has many aspects and is well known in Iceland. Associated hazards include floods, lahars, gas pollution, tephra fall and pyroclastic flows, all of which can cause intense risk to infrastructure, local population and tourists.
Tourism has increased very rapidly in the last decade in Iceland, partly due to more general interest in the region after the eruption in Eyjafjallajökull in 2010. This is particularly the case in South Iceland, where the combination of landscape, weather and infrastructure has resulted in higher number of tourists throughout the year, in an industry that used to be highly seasonal. Many tourist companies specialize in activities that are strongly related to glaciers and geological features.
This study compares geothermal areas associated with three different volcanoes in South Iceland: Katla, Skaftárkatlar and Öræfajökull. Although the volcanoes have many things in common, the timeline from the onset of an event to the exposure of risk to people is quite different, and the monitoring efforts vary.
We inspect the interplay of hazards, monitoring systems and risk for these volcanoes, and how the timeline for warning, evacuation and mitigation of harm and damage, differs.
A recent study looked in detail at this for the Sólheimajökull outlet glacier, a popular destination for glacier walks, and in the summer of 2017, a rapid evacuation was carried out after signs of unrest in Katla volcano. We present results from interviews with tourist guides from before and after the evacuation, and conclude on what can be learned from this, in order to increase preparedness for similar hazards elsewhere.