



Rapidly recurring Jökulhlaups from Koppangsbreen glacier, Northern Norway

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A jökulhlaup (Glacier Lake Outburst Flood) from a glacier-dammed lake at the glacier Koppangsbreen in northern Norway occurred on 4th June 2013. Approximately two million cubic metres of water were released from the lake over eleven hours, and reached the village of Koppangen down-valley only minutes later. This was followed by another six events over the next thirty days, at intervals of three to ten days. Previous events had occurred from this glacier in the three preceding years, but only one event in each of 2010 and 2011, and two small events in 2012. Thus, the short intervals between each flood in 2013 were unprecedented. Some of the events were connected to rainfall but not all of them, thus this wasn't the only trigger. The almost periodic nature of the events also argues against tunnel collapse and re-opening initiating a new event. However, by considering the input to the lake from a combination of precipitation, snow melt and, as the season progressed, glacier melt, it is shown that in just a few days the lake level increases enough for the water to escape under the glacier.