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A new windgust record of 71 m/s at sea level in Southeast-Iceland

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In the evening of 1 November 2012, 10 min mean winds of 38 m/s and a wind gust of 71 m/s were recorded at the coast of Hamarsfjörður, Southeast-Iceland. This is the strongest windgust ever recorded by a reliable instrument close to sea level in Iceland. The atmospheric conditions leading to the strong windgust are explored and described. The flow is statically stable and there is strong gravity wave activity on scales ranging from the scale of Iceland (>100 km) to the scale of the Hamarsfjörður fjord (<10 km). At mid-tropospheric levels, there is a critical level in terms of wave energy trapping and on the $\sim$1 km horizontal scale, there is a lowering in topography. Both these features appear to contribute to the acceleration of the flow. The mean wind speeds are reasonably well reproduced in a high-resolution simulation, but the observed gusts are greater than predicted by the Brasseur method. Guided by the low level wind speed, the wind direction and the vertical profile of temperature, the frequency of similar events in future climate scenarios is explored.