

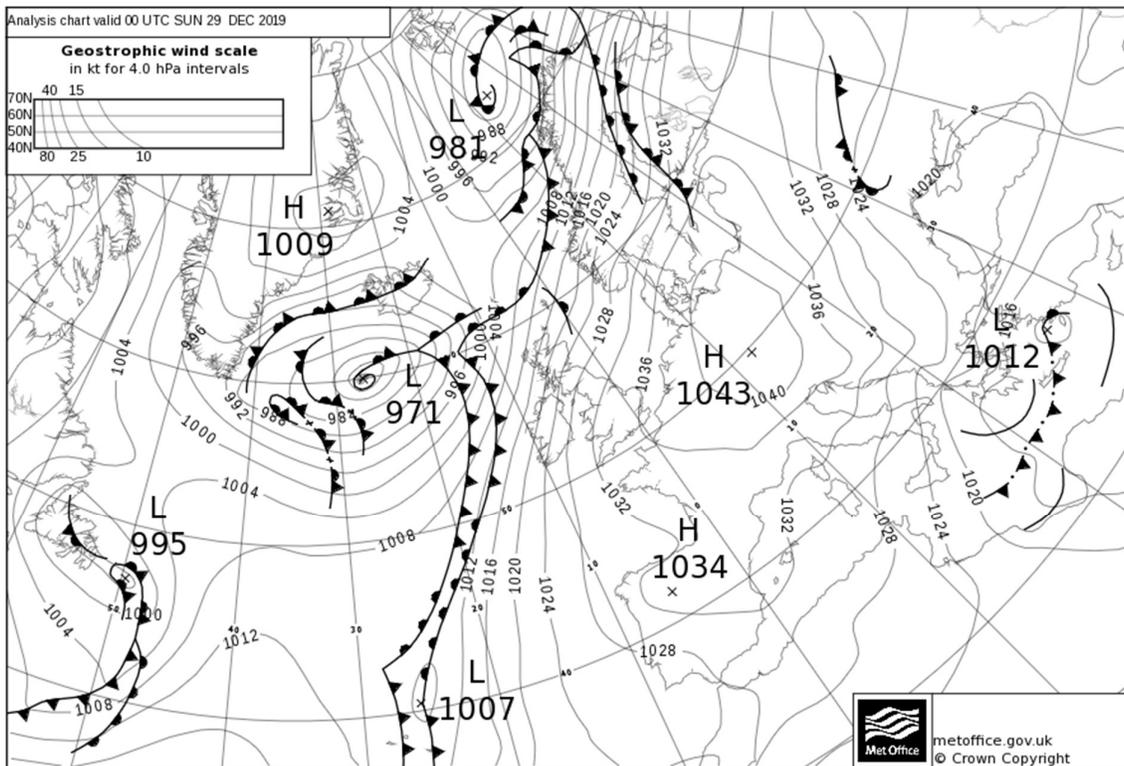
UK temperature record, December 2019

On 28 December* the daily maximum temperature at Achfary (Sutherland) reached 18.7 °C, the UK's highest December temperature on record. Temperatures locally across the far north-west of Scotland were 8 to 10 °C or more above average for the time of year, due to a Foehn effect in a very mild southerly airflow across the West Highlands.

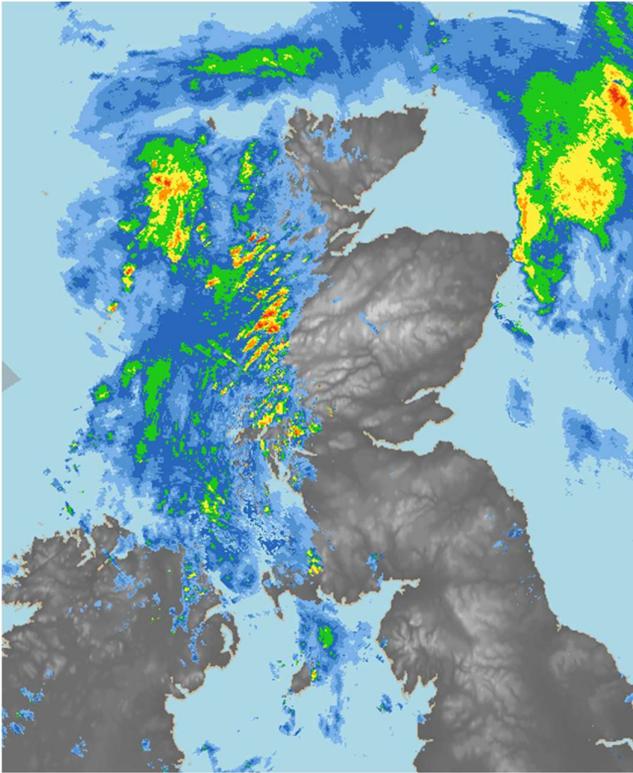
*Observing period 09 UTC 28th to 09 UTC 29th. The maximum occurred around 02 UTC on 29th.

Weather data

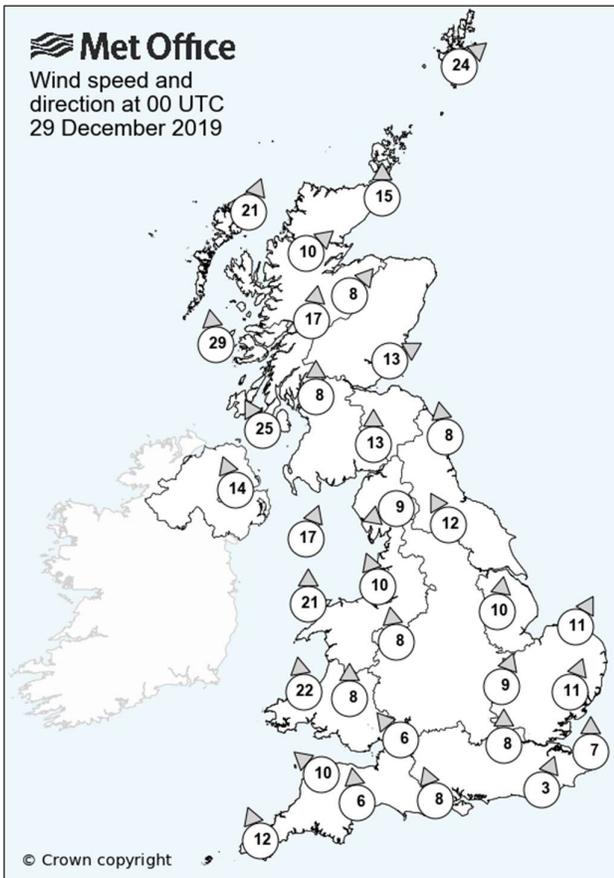
The analysis chart at 00 UTC 29 December 2019 shows an area of high pressure to the south-east of the UK and a low pressure system to the west. Western parts of the UK were situated in a flow of Tropical Maritime air with rain affecting north-western areas.



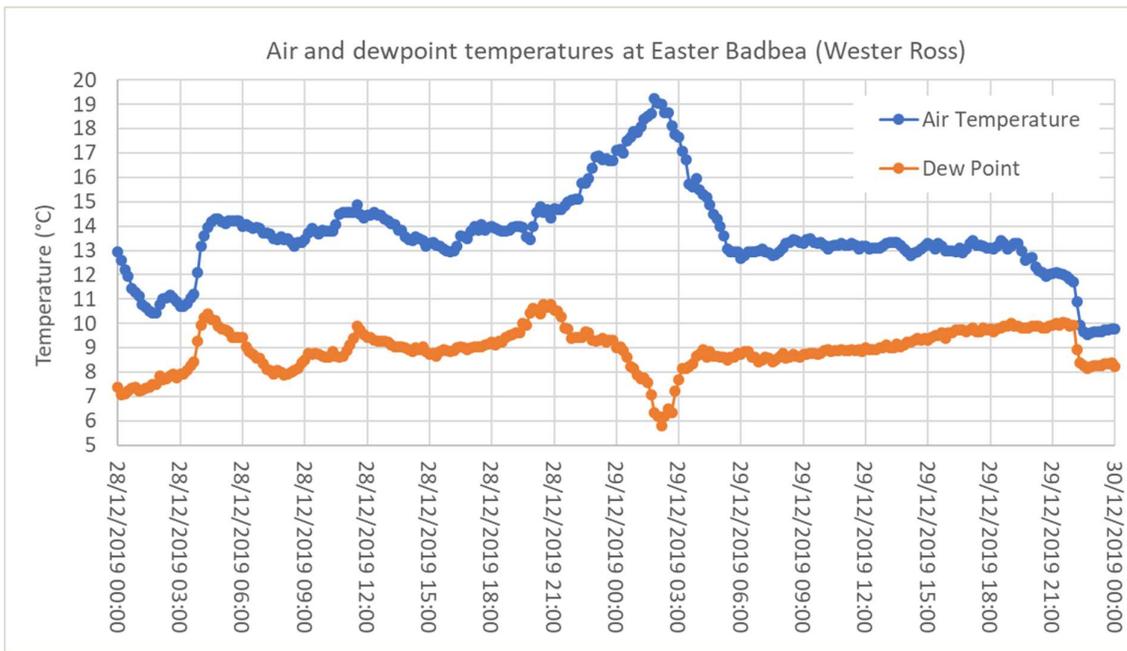
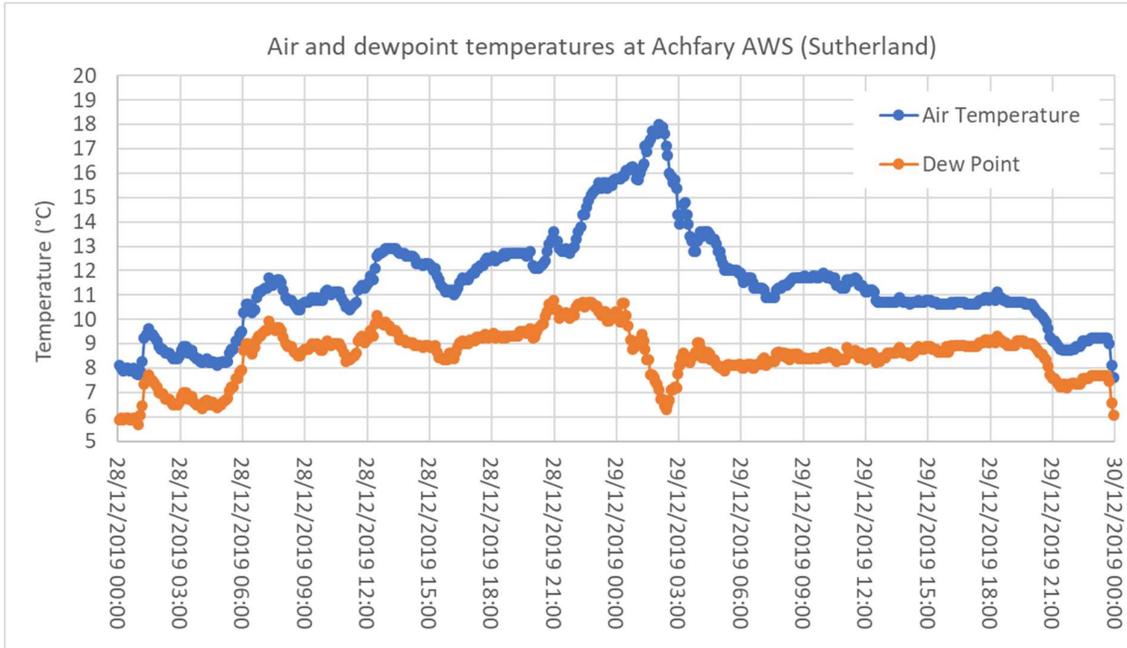
The rain-radar image at 02 UTC Sunday 29 December 2019 shows rain affecting much of the West Highlands.



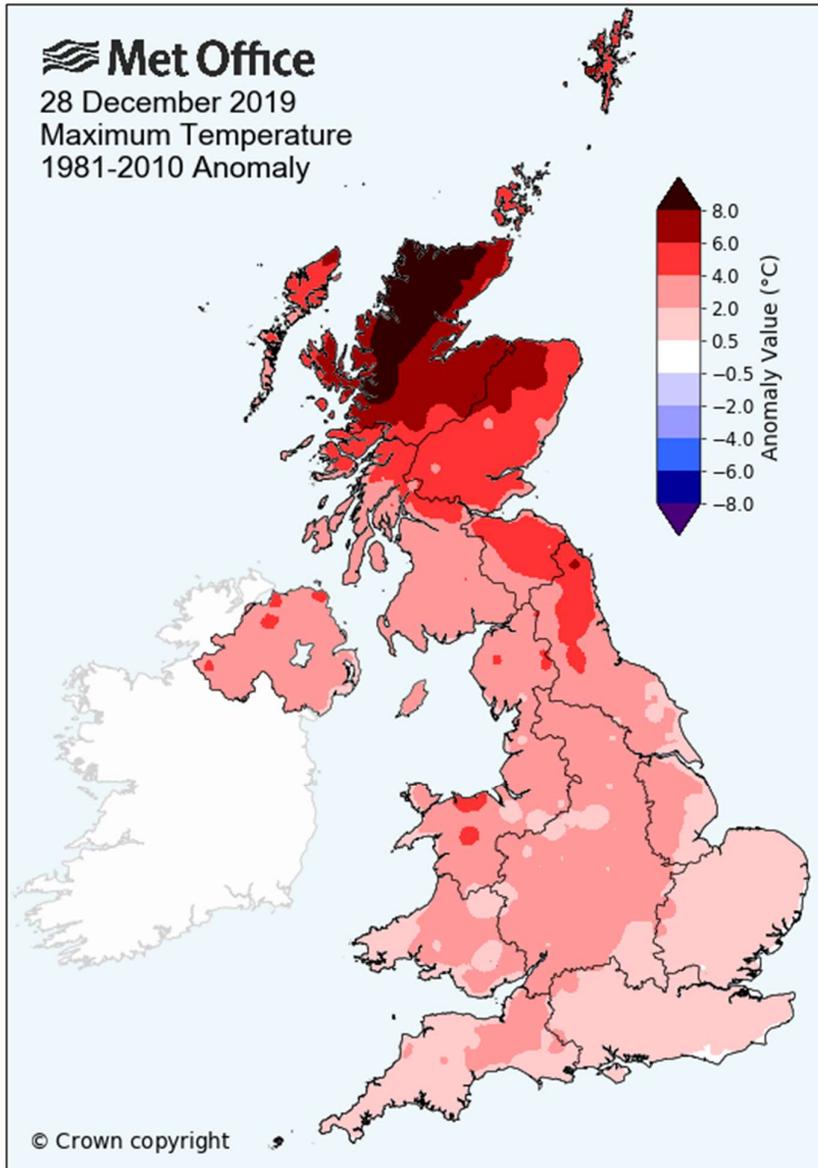
The map shows wind speed and direction at 00 UTC 29 December 2019 with a south-westerly airflow across the far north-west and this airstream passing over much of the West Highlands.



The exceptionally high temperatures across the far north-west of Scotland were due an 'isentropic drawdown' Foehn effect with pre-existing very warm air higher in the atmosphere mixing down to ground level. The time-series charts at Achfary AWS (an unofficial weather station located around 500 metres from the Achfary climate station) and at Easter Badbea both show the dry bulb air temperature peaking at around 02 UTC, with a corresponding drop in dew-point temperature at the same time. The maximum temperature at Achfary AWS was 18.0 °C. The Foehn effect has been responsible for a number of historical national temperature records, notably at Aber in North Wales, where daily maximum or minimum temperatures locally may be much higher than across the surrounding area.



The map below shows daily maximum temperature anomalies on 28 December 2019. Across much of the far north-west, maximum temperatures were at least 8 °C above the 1981-2010 average for the time of year, and locally 9 to 10 °C or higher, with 18.7 °C at Achfary 11.0 °C above the 1981-2010 average for the time of year.



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