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Warming slow-down not the end of climate change, study shows

A slow-down in global warming is not a sign that climate change is ending, but a natural blip in an otherwise long-term upwards trend, research shows.

In a detailed study of more than 200 years' worth of temperature data, results backed previous findings that short-term pauses in climate change are simply the result of natural variation.

The findings support the likelihood that a current hiatus in the world's year-on-year temperature increases – which have stalled since 1998 – is temporary.

Scientists from the University of Edinburgh analysed real-world historic climate records from 1782 to 2000, comparing them with computerised climate models for the same timescale.

They were able to separate the influence on climate trends of man-made warming – such as from greenhouse gas emissions – and of natural influences in temperature – such as periods of intense sunlight or volcanic activity.

This showed that random variations can cause short term interruptions to climate patterns in the form of a pause or surge in warming, in both the real data and in the models, typically lasting up to a decade. Extreme natural forces, such as strong volcanic eruptions, were shown to disrupt climate trends for decades.

The research highlights the impact of volcanic eruptions on climate, when particles produced can reflect sunlight from Earth, causing long-lasting cooling. The eruption of Mount Tambora in Indonesia in 1815 was among the biggest in recent times, causing a so-called year without summer. Scientists estimate that, if it occurred today, it would cause a 20-year climate hiatus.

Their study, published in *Geophysical Research Letters*, was supported by the European Commission.

Dr Andrew Schurer, of the University of Edinburgh's School of GeoSciences, who led the research, said: "Human activity is causing the world to warm, and natural variability can cause this trend to slow down or speed up. Our study backs scientific understanding that climate change can experience periods of hiatus, but the overall trend is towards a warmer planet."

For more information please contact:

Catrina Kelly, Press and PR Office, tel 0131 651 4401; email Catrina.Kelly@ed.ac.uk

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