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Days of extreme heat on rise, research shows

Frequency affects farming, humans and wildlife

By Tom Spears, Postmedia News February 26, 2014 6:55 AM

Weather observers have relaxed at an apparent slowdown of global warming, but new Environment Canada evidence says the warming that matters most hasn't slowed down at all.

The world's average temperatures haven't jumped much in the past decade after big increases during the 1990s. Observers are calling it a "pause" in the warming trend.

Many who argue that climate change is not happening, such as the U.S. Cato Institute, claim this apparent levelling offof the world's average temperatures is proof they are right.

Now, research says the number of days with extreme heat keeps growing even when the average doesn't. Wednesday's report in the journal Nature Climate Change says these extremes - not the average day-today temperatures - are what matter most to farming, wildlife and humans. Evidence shows that "not only is there no pause in the evolution of the warmest daily extremes over land, but that they have continued unabated over the observational record," the analysis says.

"Furthermore, the available evidence suggests that the most 'extreme' extremes show the greatest change. This is particularly relevant for climate change impacts, as changes in the warmest temperature extremes over land are of the most relevance to human health, agriculture, ecosystems and infrastructure."

The report comes from the Institute for Atmospheric and Climate Science in Zurich, the University of New South Wales in Australia, and Environment Canada's climate research division in Toronto.

The scientists add that "the term pause, as applied to the recent evolution of global annual mean temperatures, is ill-chosen and even misleading in the context of climate change."

"Despite the slowed rate of increase in annual global mean temperature during the so-called hiatus period, the frequency of the most extreme warm days has continued to increase across the globe."

The results show that it would be wrong to interpret the slowdown of the global annual mean temperature increase as a slowdown of climate change, the report says.

"Indeed, similar to what is observed for other elements of the climate system (for example, the melting of Arctic sea ice, sea levels rising and ocean heat content), increases in the occurrence of the warmest daytime (and nighttime) temperature extremes are found to display a continued amplification over the recent decade."