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Global warming has reversed 2,000 years of cooling in the Arctic

The Arctic is at it warmest for 2,000 years despite the fact natural cycles mean the area should be cooling, according to research which scientists say proves climate change is man-made.

By Louise Gray, Environment Correspondent
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The wide ranging study used computer simulations to reconstruct summer temperatures across the Arctic over the last 2,000 years.

It found that the area has been warming in the last one hundred years and reached its hottest years in the last decade.

The Arctic is melting due to climate change, according to scientists Photo: REUTERS

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However, the Arctic should be in a cooling period caused by a "cyclical wobble" in Earth's orbit around the Sun, that means the Earth has been getting less sun on the North Pole in the summertime.

Scientist say the fact that temperatures are increasing despite a natural trend of cooling is the strongest evidence yet that man-made carbon emissions are causing the area to warm up at a dangerous rate.

The melting of the Arctic has been used by scientists to prove man-made climate change, especially as they fear it will cause the rest of the world to warm up faster because of the loss of ice that reflects the sun. However, some scientists have argued that the recent loss of sea ice is just part of a natural warming period.

David Schneider, from the National Center for Atmospheric Research in Colorado, who carried out the research, said the Arctic should now be in a natural cooling phase but temperatures were not dropping.

"This result is particularly important because the Arctic, perhaps more than any other region on Earth, is facing dramatic impacts from climate change," he said.

"This study provides us with a long-term record that reveals how greenhouse gases from human activities are overwhelming the Arctic's natural climate system.

"Greenhouse gases are overtaking a natural cycle."

Over the last 7,000 years the timing of Earth's closest pass by the Sun has shifted from September to January. This has gradually reduced the intensity of sunlight reaching the Arctic in summertime and meant that average summer temperatures cooled at an average rate of about 0.36 degrees F (0.2 degrees Celsius) per thousand years.

However, the orbital cycle that produced the cooling was overwhelmed in the 20th century by human-induced warming.

The result was summer temperatures in the Arctic by the year 2000 were about 2.5 degrees F (1.4 degrees C) higher than would have been expected from the continued cyclical cooling alone.

Gifford Miller, from the University of Colorado, said the warming period is set to continue with catastrophic consequences.

"Because we know that the processes responsible for past Arctic amplification are still operating, we can anticipate that it will continue into the next century," he said.

"Consequently, Arctic warming will continue to exceed temperature increases in the rest of the Northern Hemisphere, resulting in accelerated loss of land ice and an increased rate of sea level rise, with global consequences."

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