

Climate 'warmest for millennium'

By Paul Rincon
BBC News science reporter

In the late 20th Century, the northern hemisphere experienced its most widespread warmth for 1,200 years, according to the journal Science.

The findings support evidence pointing to unprecedented recent warming of the climate linked to greenhouse emissions.

University of East Anglia researchers measured changes in fossil shells, tree rings, ice cores and other past temperature records or "proxies".

They also looked at people's diaries from the last 750 years.

Timothy Osborn and Keith Briffa of UEA analysed instrument measurements of temperature from 1856 onwards to establish the geographic extent of recent warming.

Then they compared this data with evidence dating back as far as AD 800.

The analysis confirmed periods of significant warmth in the Northern Hemisphere from AD 890 - 1170 (the so-called "Medieval Warm Period") and for much colder periods from 1580 - 1850 (the "Little Ice Age").

Natural records

The UEA team showed that the present warm period is the most widespread temperature anomaly of any kind since the ninth century.

"The last 100 years is more striking than either [the Medieval Warm Period or Little Ice Age]. It is a period of widespread warmth affecting nearly all the records that we analysed from the same time," co-author Timothy Osborn told the BBC.

Osborn and Briffa used 14 sets of temperature records from different locations across the Northern Hemisphere.

The records included long life evergreen trees growing in Scandinavia, Siberia and the Rockies which had been cored to reveal the patterns of wide and narrow tree rings over time. Wider rings related to warmer temperatures.

The chemical composition of ice from cores drilled in the Greenland ice sheets revealed which years were warmer than others.

Dear diary

The researchers used proxy data developed from the diaries of people living in the Netherlands

and Belgium during the past 750 years that revealed, for example, the years when the canals froze.

"These records extend over many centuries and even thousands of years. We simply counted how many of those records indicated that, in any one year, temperatures were warmer than average for the region they came from," said Dr Osborn.

Professor John Waterhouse, director of the Environmental Sciences Research Centre Anglia Ruskin University in Cambridge commented: "Although we're getting increasingly accurate measurements of present-day temperature, we've got nothing like that from the past to compare those with.

"There's much uncertainty in past reconstructions. You've got to look at the reconstructed data in the past in light of the likely errors that those data have."

But he added: "As we get more and more evidence in, it is looking as if the current period is the warmest for over 1,000 years."

In November, Science published a paper showing atmospheric levels of the greenhouse gases carbon dioxide and methane are higher now than at any time in the past 650,000 years.

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