



This is the print version of the [Skeptical Science](http://sks.to/mwp) article '[Medieval Warm Period was warmer](http://sks.to/mwp)', which can be found at <http://sks.to/mwp>.

## How does the Medieval Warm Period compare to current global temperatures?

### What The Science Says:

While the Medieval Warm Period saw unusually warm temperatures in some regions, globally the planet was cooler than current conditions.

### Climate Myth: Medieval Warm Period was warmer

The Medieval Warm Period was warmer than current conditions. This means recent warming is not unusual and hence must be natural, not man-made.

One of the most often cited arguments of those skeptical of global warming is that the Medieval Warm Period (800-1400 AD) was as warm as or warmer than today. Using this as proof to say that we cannot be causing current warming is a faulty notion based upon rhetoric rather than science. So what are the holes in this line of thinking?

**Firstly**, evidence suggests that the Medieval Warm Period may have been warmer than today in many parts of the globe such as in the North Atlantic. This warming thereby allowed Vikings to travel further north than had been previously possible because of reductions in sea ice and land ice in the Arctic. However, evidence also suggests that some places were very much cooler than today including the tropical Pacific. All in all, when the warm places are averaged out with the cool places, it becomes clear that the overall warmth was likely similar to early to mid 20<sup>th</sup> century warming.

Since that early century warming, temperatures have risen well-beyond those achieved during the Medieval Warm Period across most of the globe. The [National Academy of Sciences Report on Climate Reconstructions](#) in 2006 found it plausible that current temperatures are hotter than during the Medieval Warm Period. Further evidence obtained since 2006 suggests that even in the Northern Hemisphere where the Medieval Warm Period was the most visible, temperatures are now beyond those experienced during Medieval times (Figure 1). This was also [confirmed by a major paper](#) from 78 scientists representing 60 scientific institutions around the world in 2013.

**Secondly**, the Medieval Warm Period has **known** causes which explain both the scale of the warmth and the pattern. It has now become clear to scientists that the Medieval Warm Period occurred during a time which had higher than average solar radiation and less volcanic activity (both resulting in warming). New evidence is also suggesting that changes in ocean circulation patterns played a very important role in bringing warmer seawater into the North Atlantic. This explains much of the extraordinary warmth in that region. These causes of warming contrast significantly with today's warming, which we know cannot be caused by the same mechanisms.

Overall, our conclusions are:

- a) **Globally** temperatures are warmer than they have been during the last 2,000 years, and
- b) the causes of Medieval warming are not the same as those causing late 20<sup>th</sup> century warming.

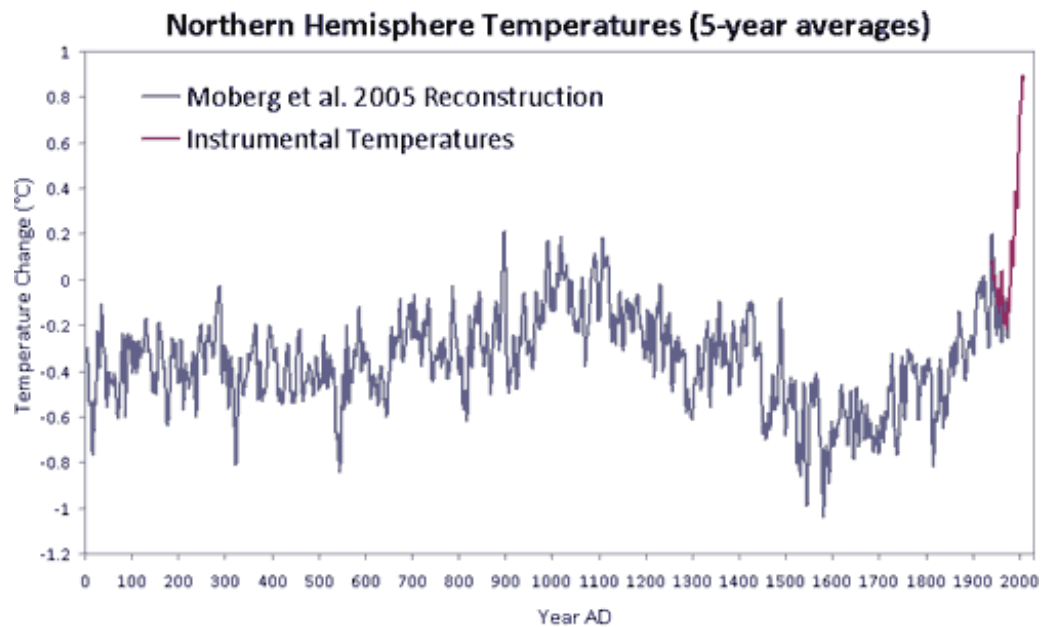


Figure 1: Northern Hemisphere Temperature Reconstruction by [Moberg et al. \(2005\)](#) shown in blue, Instrumental Temperatures from NASA shown in Red.

Basic rebuttal written by dana1981

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**Update July 2015:**

Here is a related lecture-video from [Denial101x - Making Sense of Climate Science Denial](#)



Skeptical Science explains the science of global warming and examines climate misinformation through the lens of peer-reviewed research. The website won the Australian Museum 2011 Eureka Prize for the Advancement of Climate Change Knowledge. Members of the Skeptical Science team have authored peer-reviewed papers, a [college textbook on climate change](#) and the book [Climate Change Denial: Heads in the Sand](#). Skeptical Science content has been used in university courses, textbooks, government reports on climate change, television documentaries and numerous books.



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