



- Is it global warming or is it climate change?
- The answer is, Yes, it is both.
- Both of these are occurring and they mean different things.

*"They changed the name from 'global warming' to 'climate change' after the term global warming just wasn't working (it was too cold)!"*

Donald Trump tweet, 2013

<https://www.energyandcapital.com/articles/the-name-game-from-global-warming-to-climate-change/97908>

*"Before it was global warming, then it was climate change . . . The left keeps rolling out new terms but pushing the same agenda . . . That's what the left does when they don't win the argument they change the words."*

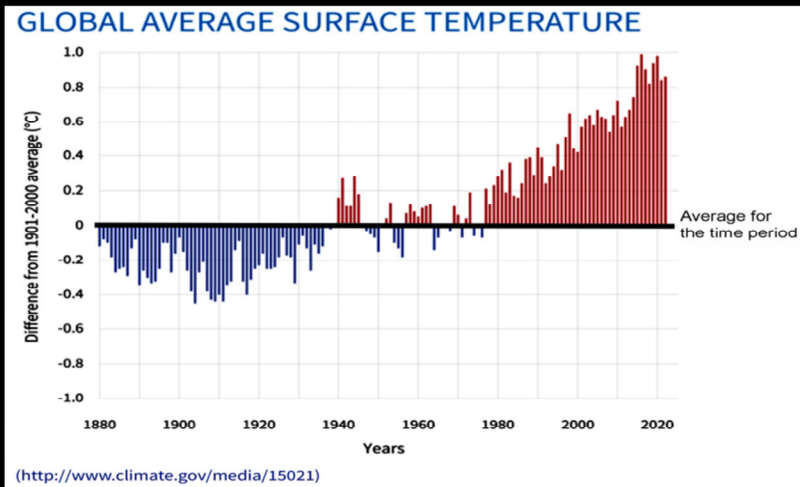
Fox News chief national correspondent Ed Henry, 2019

<https://www.mediaite.com/tv/fox-friends-ed-henry-why-did-the-left-switch-from-global-warming-to-climate-change/>

- Those who want to dismiss climate change and/or accuse the “Left” of just making use of it to pursue their ideology conflate the terms.
- These are some examples of the disinformation they produce by inferring that the terms mean the same thing.
- These people either haven't bothered to learn the distinction between the two terms or they are deliberately conflating them. But either way, the underlying driver these people have is to advance their political ideology by imputing nefarious motives to those whom they oppose. Or they are so immersed in their own political ideology that they assume nefarious motives to those they oppose and cannot imagine anything else.
- They are not seeking understanding, which this presentation hopes to advance.
- In fact, the two terms refer to two different things.

## Global Warming:

The observed increase in the average atmospheric temperature of Earth that has been recorded over the last 140 years



- Global Warming is the observed increase in the average atmospheric temperature of Earth that has been recorded over the last 140 years.
- This graphic shows that the average temperature of Earth's atmosphere has increased by over one degree Celsius since 1880.
- That's over 1.8 degrees Fahrenheit.
- This might seem small, but it means a significant increase in accumulated heat on the planet.
- This increase is undeniable, and just about everybody agrees that it has occurred.

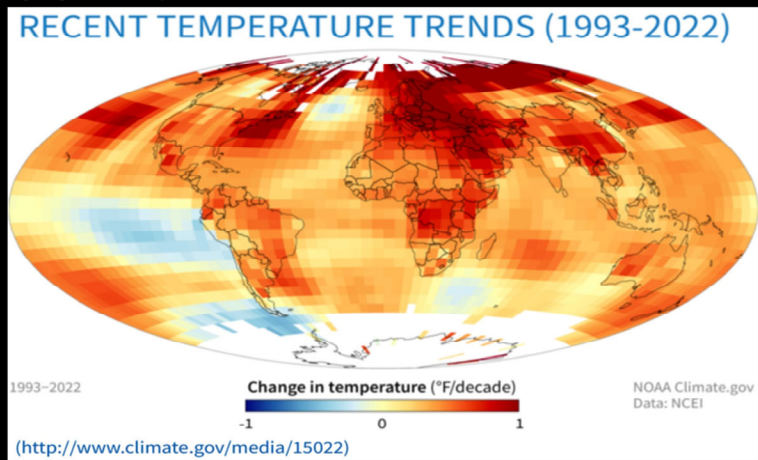
## Climate Change:

The results that occur because of “global warming,” and include things like weather extremes, changes in precipitation and water flows, changing intensity of weather events, etc.

- “Climate change,” on the other hand, entails the results that occur because of “global warming.”
- These results include things like weather extremes, changes in precipitation and water flows, changing intensity of weather events, etc.

## Climate Change:

The results that occur because of “global warming,” and include things like weather extremes, changes in precipitation and water flows, changing intensity of weather events, etc.



- It's important to note that atmospheric temperature is not increasing uniformly across Earth; atmospheric temperature is increasing more in the Arctic than in the mid-latitudes.
- Also, parts of the tropics are increasing more in temperature than are the mid-latitudes.
- Notice also, that there are some places where atmospheric temperature is actually decreasing.

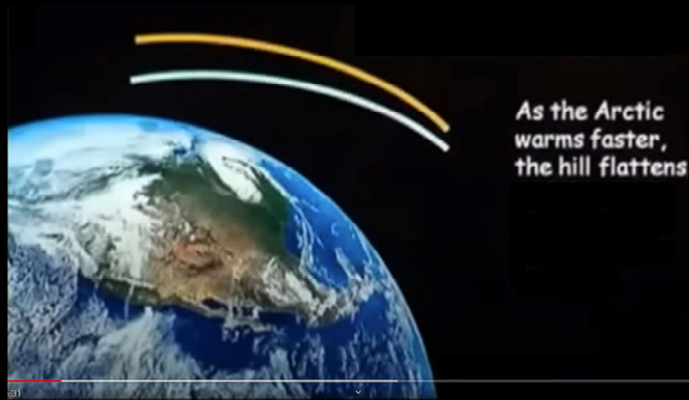
## Conditions prior to Global Warming:



<https://www.youtube.com/watch?v=-nzwlg4Ebzo>

- This is one example of the changes in climate that are resulting from Global Warming.
- In conditions prior to Global Warming, obviously, it was colder in the Arctic than at the mid-latitudes.
- Because warm air takes up more space than cold air, a sort-of "hill" forms so that air tends to flow "downhill" toward the Arctic.

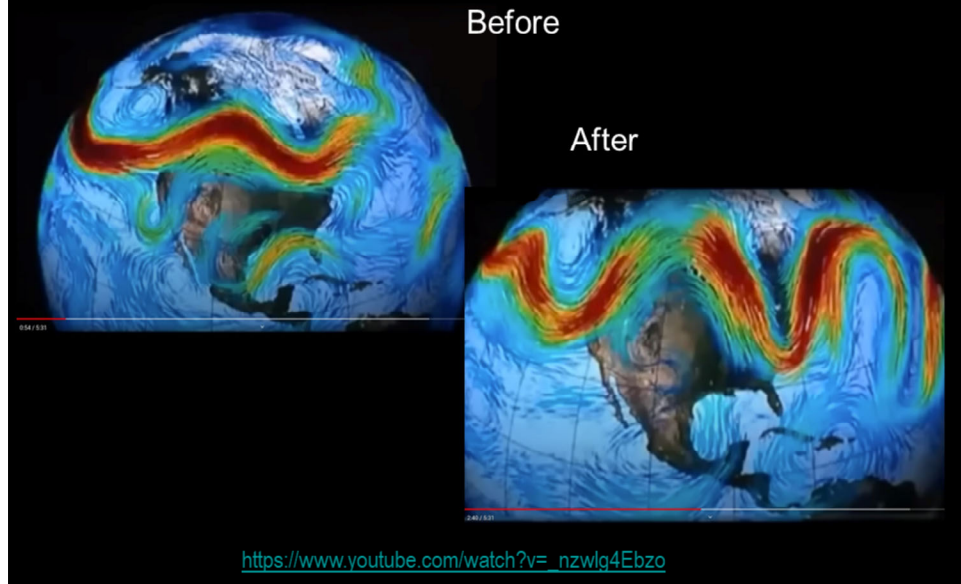
## Conditions because of Global Warming:



<https://www.youtube.com/watch?v=-nzwlg4Ebzo>

- Because of Global Warming that has produced greater warming in the Arctic than in the mid-latitudes, the “hill” is not as steep.
- That is, while it is still colder in the Arctic, the difference in temperature between the Arctic and the mid-latitudes is not as great.
- Consequently, the air doesn't flow as fast.

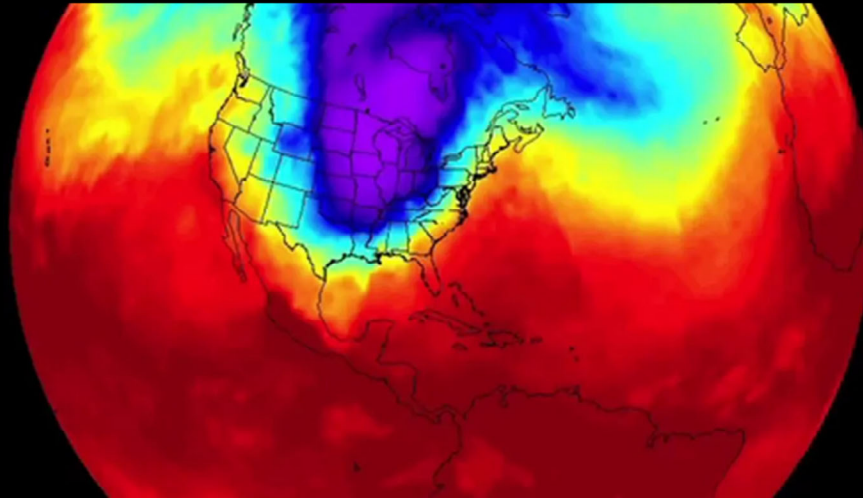
## Resulting Climate Change:



- The Climate Change that results is a change in the jet stream, and the weather that accompanies it.
- Notice how the waves in the jet stream become more meandering because of global warming. The waves are taller, and in addition, they are slower and so don't move as quickly from west to east.
- This allows the cold Arctic air to penetrate further south and to linger for a longer time.



## Resulting Climate Change – the Polar Vortex:



<https://nypost.com/2014/02/19/nasa-video-shows-path-of-polar-vortex>

- This image shows the Polar Vortex that can result.
- The cold air penetrates further south.

## Resulting Climate Change – the Texas Deep Freeze:



<https://www.mprnews.org/story/2021/03/18/extreme-weather-and-climate-change>



<https://cyprus-mail.com/2021/02/17/texas-deep-freeze-leaves-millions-without-power-21-dead/>



<https://www.farmfor.com.br/posts/deep-freeze-o-inferno-gelado-que-tomou-contr-a-do-texas/>



[https://www.msnbc.com/opinion/winter-storm-caused-texas-s-power-outage-climate-change-likely-n12580667?cid=msd\\_recirc](https://www.msnbc.com/opinion/winter-storm-caused-texas-s-power-outage-climate-change-likely-n12580667?cid=msd_recirc)

- “In February 2021, the state of Texas suffered a major power crisis, which came about during three severe winter storms sweeping across the United States on February 10–11, 13–17, and 15–20. The storms triggered the worst energy infrastructure failure in Texas state history, leading to shortages of water, food, and heat. More than 4.5 million homes and businesses were left without power, some for several days. At least 246 people were killed directly or indirectly.”  
[https://wikipedia.org/wiki/2021\\_Texas\\_power\\_crisis](https://wikipedia.org/wiki/2021_Texas_power_crisis)



- So global warming is occurring, and it is causing climate change.
- The changes in climate are having effects on peoples, places, and environments.
- The two terms have different meanings.
- So don't be fooled by the ideologues who want to persuade you of their ideology by conflating the terms.