

The Top Dozen (or so) Graphics Global Warming Alarmist Ideas

1. [US Record Maximum Temperature by State and Year](#)
2. [US Forest Fire Data](#)
3. [Severity of Hurricanes and Tropical Storms](#)
4. [Number of Strong to Violent Tornadoes](#)
5. [Climate-related Deaths](#)
6. [Deaths from heat and cold](#)
7. [Geologic History of Temperature and CO2](#)
8. [Temperature and CO2 from Vostok Ice Cores](#)
9. [Temperature and CO2 from GISP2 Ice Cores](#)
10. [2,000-year Northern Hemisphere Temperature series](#)
11. [13,000-year Alps Temperature series](#)
12. [CO2 Hotspot: Truth and Fiction](#)
13. [Arctic Sea Ice Volume since 2004](#)
14. [NM temperature and CO2 data since 1910](#)
15. [Summary](#)

Bob Endlich and Edward Burlbaw

bendlich@msn.com

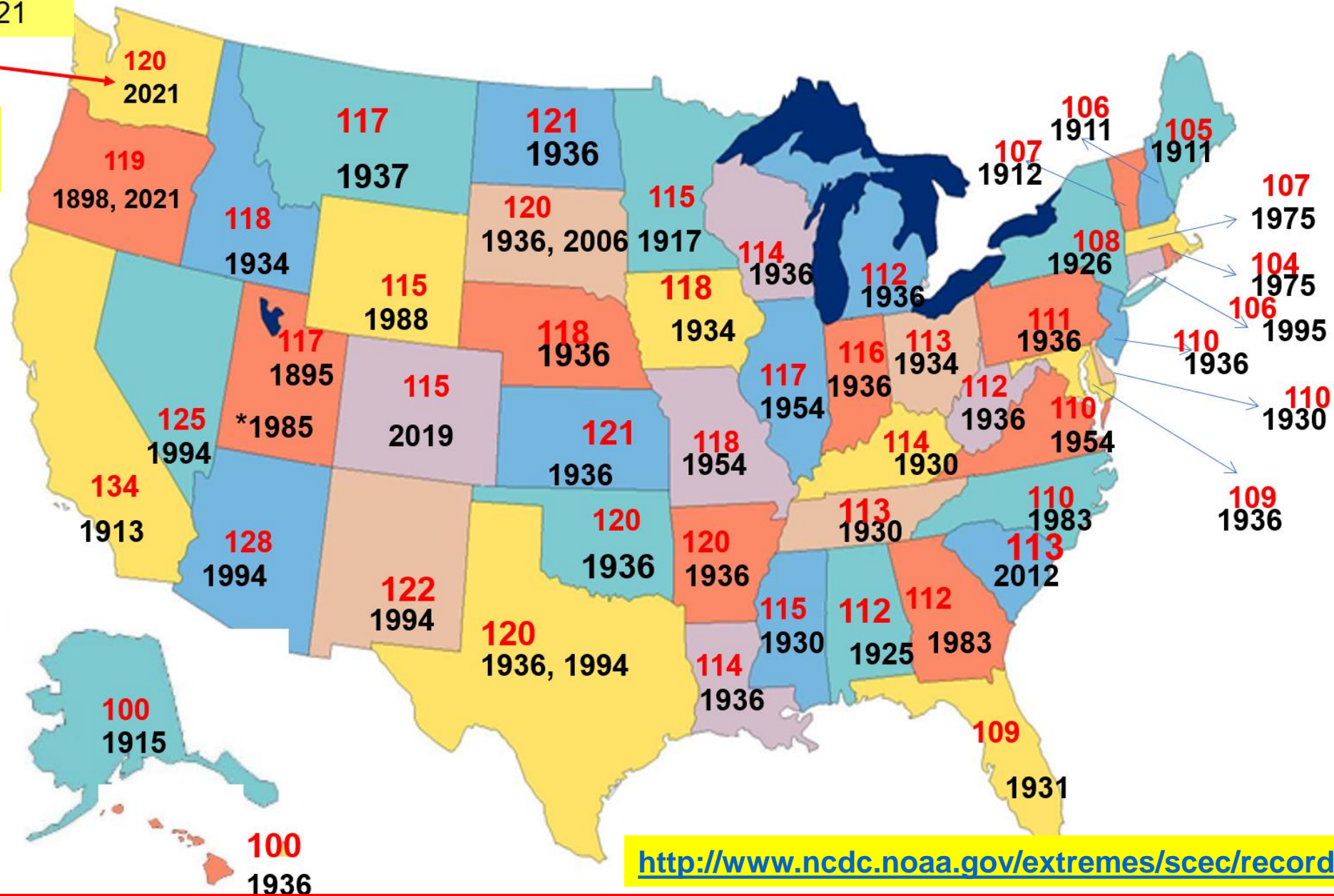
Cruces Atmospheric Sciences Forum

11 Oct 2023, 19 Feb 2024

US. Record Maximum **Temperature F** by State and Year

New Record 2021

OR Record of
1898, tied



<http://www.ncdc.noaa.gov/extremes/scec/records>

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Salient Points:

This graphic, based on NOAA's own [temperature extremes data base](#), directly confounds and contradicts the notion that increasing <CO2> is leading to increasingly warmer temperatures.

NB, the peak in the number of the 50 states when the extreme maximum temperature is in the 1930s, when <CO2> was ~307 Parts per Million, PPM. Today <CO2> is about 417 PPM.

A lot fewer states reached their extreme maximum temperatures in the 2000s

Additional Graphics, bar chart of record state temperatures by decade, and Heat Wave Index from the EPA, and a discussion of this index .

The bar chart of US Records of Maximum and Minimum monthly record temperatures by decade also directly confounds and contradicts the notion that increasing <CO2> is leading to increasing extremes in temperatures. NB, the peak in the 1930s.

The EPA's methodology for using recorded temperatures in calculating their heat wave index has evidently changed over time, as shown in the three graphics following the bar chart of Maximum and Minimum Temperatures, next.

U.S. State Maximum and Minimum Monthly Records by Decade

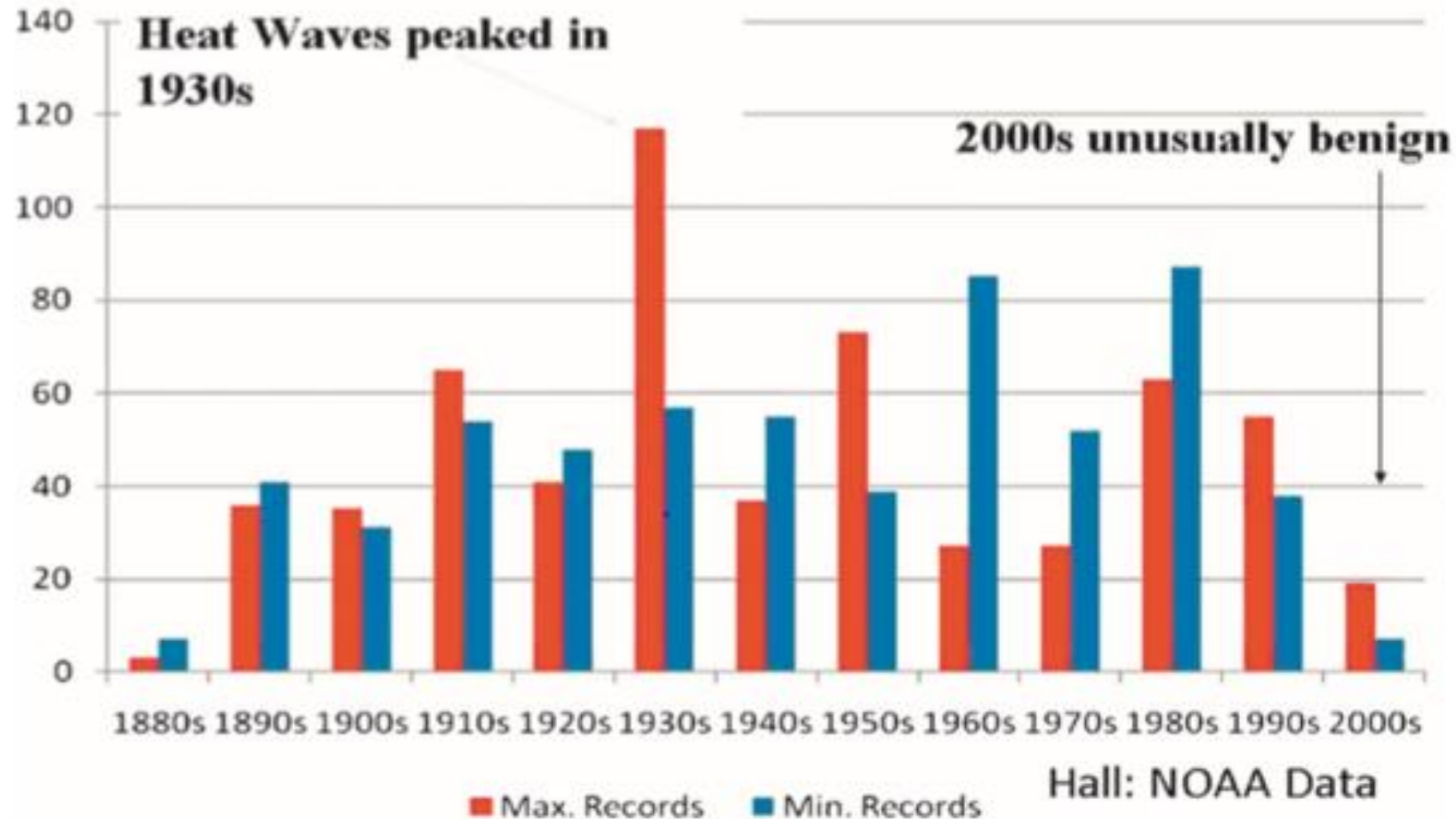


FIGURE 19 United States all-time monthly record lows and highs by decade. Compiled by Hall from NOAA NCDC data.

This is from the EPA Heat Wave Index page

To the right is the Figure 1 screen capture, done 7 Oct 2023.

The fact is, reliable US temperature data has been collected since the 1890s.

Figure 1's data show only for the period beginning in the 1960s, which seems peculiar.

My sense is that the EPA is deliberately ignoring valid temperature data, specifically those the large number of record high temperature in the 1930s shown in the US state temperature map above.

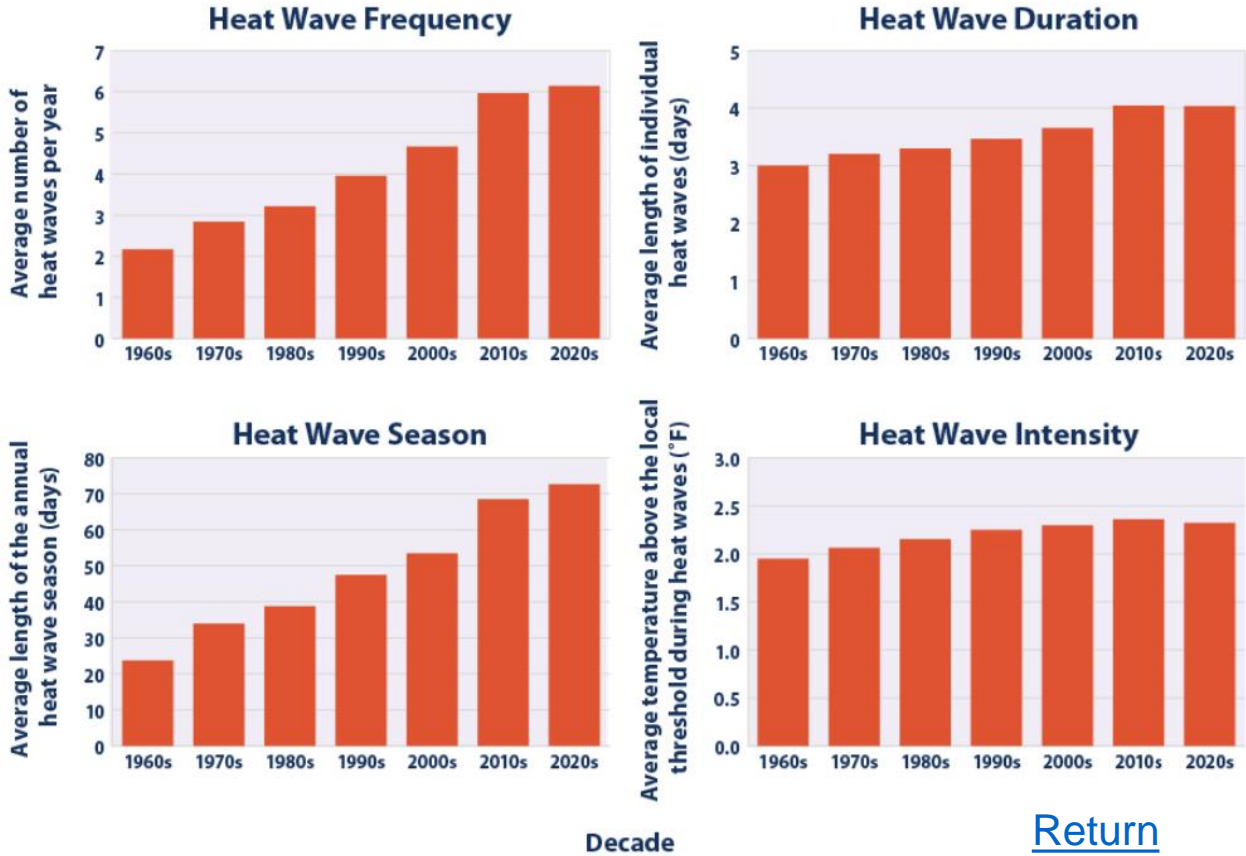
from <http://www.ncdc.noaa.gov/extremes/scec/records>

Climate Change Indicators: Heat Waves

This indicator describes trends in multi-day extreme heat events across the United States.



Figure 1. Heat Wave Characteristics in the United States by Decade, 1961–2021



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<https://www.epa.gov/climate-indicators/climate-change-indicators-heat-waves>

Again, the EPA Heat Wave Index page, but Figure 3.

Figure 3 to the right seems to confirm that the EPA is being tendentious, even deliberately deceptive.

Figure 3 seems to show why Figure 1's data plots start in the 1960s.

The EPA seemingly wants us to ignore the hot temperatures of the 1930s when CO2 concentrations were less than 310 PPM.

Thinking critically, how could the hottest temperatures so common in the 1930s and the EPA's own Heat Wave Index values, have peaked in the 1930s if carbon dioxide controls temperatures?

My answer: CO2 does NOT control temperatures, and the EPA cheats by ignoring their own 1930s Heat Wave Index data, plainly shown in Figure 3, right.

Climate Change Indicators: Heat Waves

This indicator describes trends in multi-day extreme heat events across the United States.

 **Figure 1.** Heat Wave Characteristics by Decade

 **Figure 2.** Heat Wave Characteristics in Cities


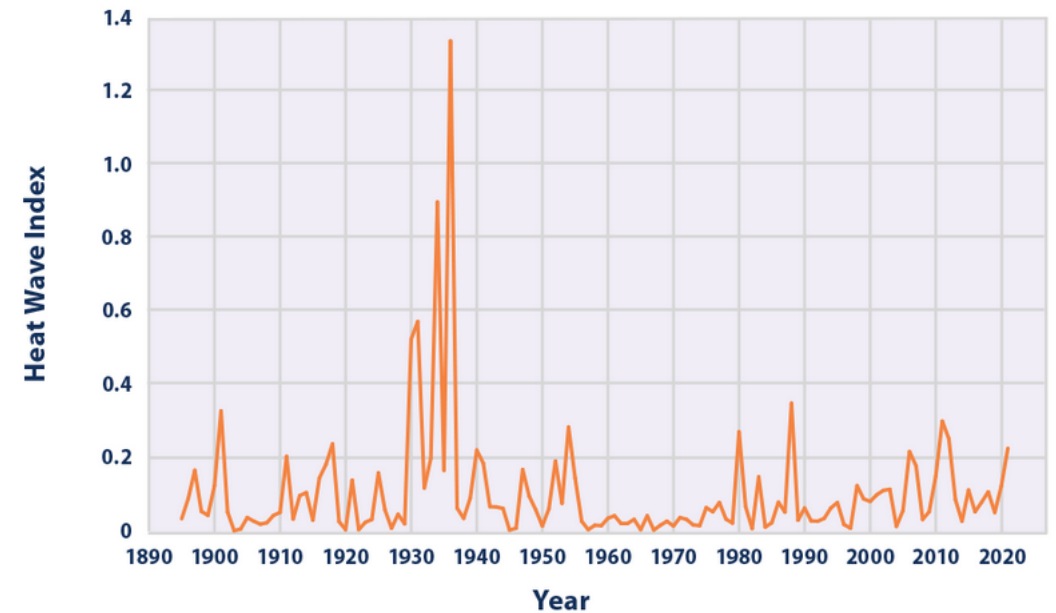
 **Figure 3.** Heat Wave Index

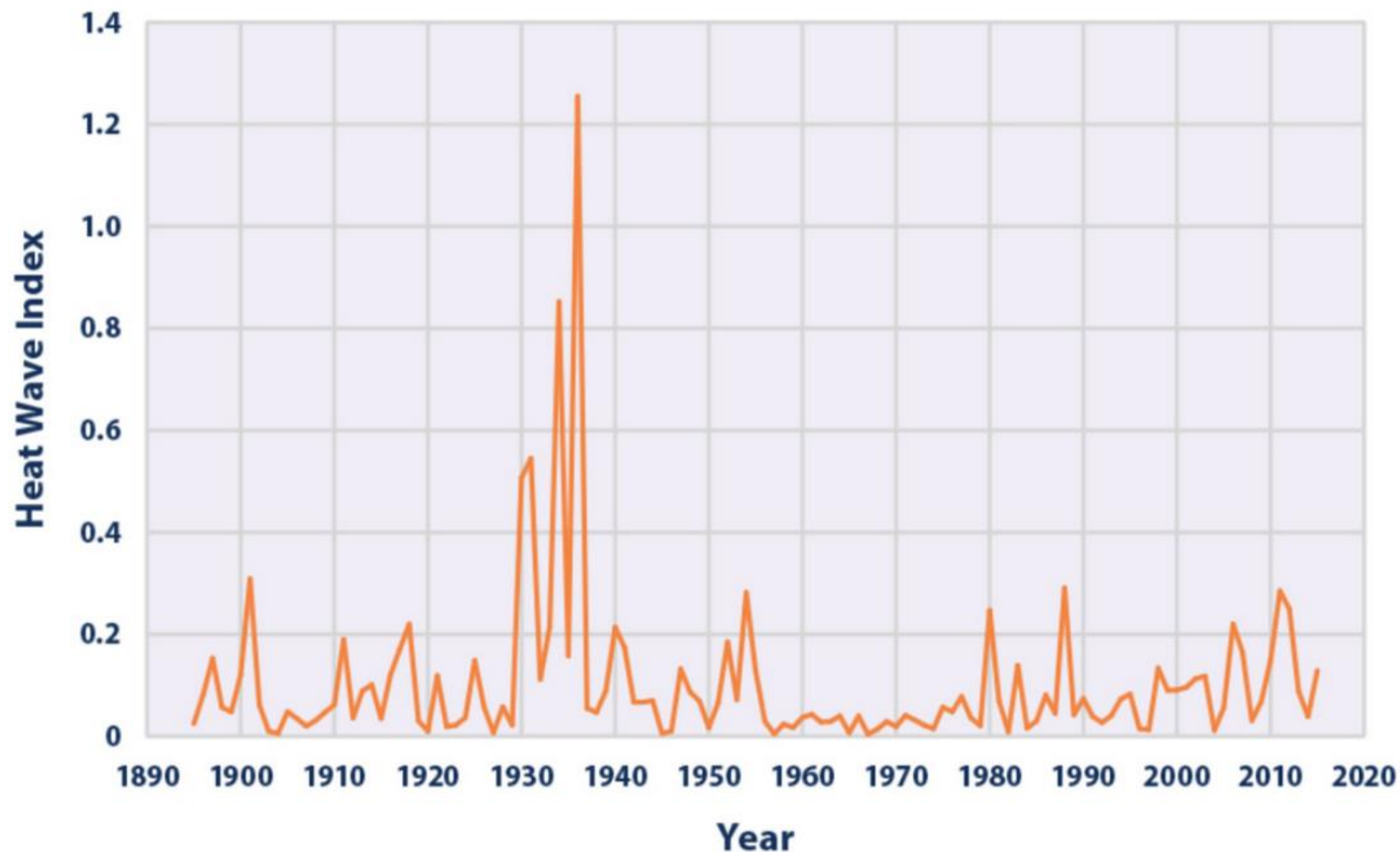
Figure 3. U.S. Annual Heat Wave Index, 1895–2021



This figure shows the annual values of the U.S. Heat Wave Index from 1895 to 2021. These data cover the contiguous 48 states. An index value of 0.2 (for example) could mean that 20 percent of the country experienced one heat wave, 10 percent of the country experienced two heat waves, or some other combination of frequency and area resulted in this value.

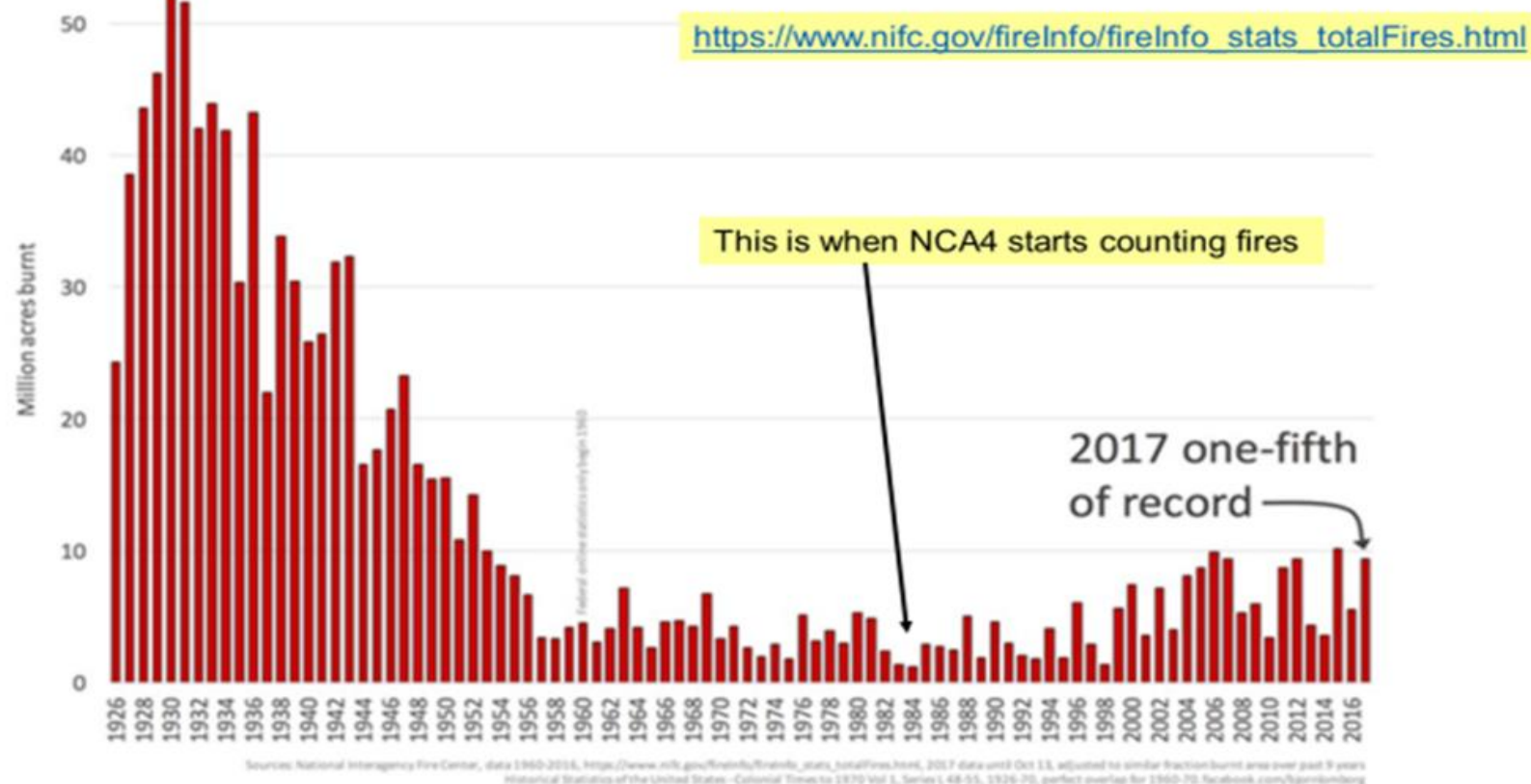
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Here is a clearer view of the EPA's Heat Wave Index showing the temperatures collected back to the 1890s.



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US Forest Area Burned 1926-2017



This is a plot Bob Endlich captured around 2017 from the National Interagency Fire Center which lists, in bar chart format, the number of reported acres burned on an annual basis, from 1926-2017. Sierra Club's characterization of 2021's forest fire losses as a little over 7 million acres lost as "horrific," given the burn acreage around 50 million acres in the years around 1930, shows a stunning lack of critical thinking and scholarship.

Salient Points:

Recently the climate alarmists have stated that US Forest Fires have been exacerbated by Human-Caused, CO2-Fueled global warming..

In 2021 the Sierra Club said, “2021: Another horrific fire season in the West,” The National Interagency Fire Center, NIFC, listed the 2021 burned acreage as 7,125,643 acres burned.

The chart shows that 2021’s ~7 million acres burned is about 23% of the acreage which burned around 1930.

NIFC also reported at <https://www.nifc.gov/fire-information/statistics/wildfires> “Prior to 1983, the federal wildland fire agencies did not track official wildfire data using current reporting processes. As a result, there is no official data prior to 1983 posted on this site.”

This is either obfuscation or a lie, depending on how you view it. In the 20th Century the US Federal Government had a good wildfire reporting system, good enough for the New York Times to report, on 9 October 1938, Forest Fires <in 1937> burned “one every three minutes.”

THE NEW YORK TIMES, SUNDAY, OCTOBER 9, 1938.

Forest Fires, One Every 3 Minutes in 1937, Burned 21,980,500 Acres at \$20,668,880 Loss

Special to THE NEW YORK TIMES.

WASHINGTON, Oct. 8.—Every three minutes on the average, during 1937, a forest fire started in the United States, but the year's total of losses was considerably under that of 1936.

The Forest Service of the Department of Agriculture reported today that 185,209 forest fires last year burned 21,980,500 acres of timber and caused damage estimated at \$20,668,880.

The number of fires in 1937 was 18 per cent less than in the previous year while the burned acreage was only slightly more than half the acreage burned in 1936.

The Service attributed the reduction to more favorable weather, improved fire-fighting technique, better fire detection, more cooperation by private woodland owners, the work of the Civilian Conservation Corps and less carelessness on the part of forest workers and visitors.

Ninety-four per cent of all the

acreage burned consisted of unprotected forest areas and more than 11 per cent of all unprotected forested lands burned over. The 121,449 fires on lands not protected burned approximately 20,637,000 acres, causing damage of more than \$18,000,000.

The average number of fires annually on unprotected areas during 1937 was 138,776,000 acres of Federally owned annual loss was 33,129,000 acres valued at \$33,613,000.

Fire protection is now given to 130,776,000 acres of Federally owned forest land needing protection, but only three-fifths of the 423,070,000 acres of private and State forest areas needing protection is protected by organized fire control systems.

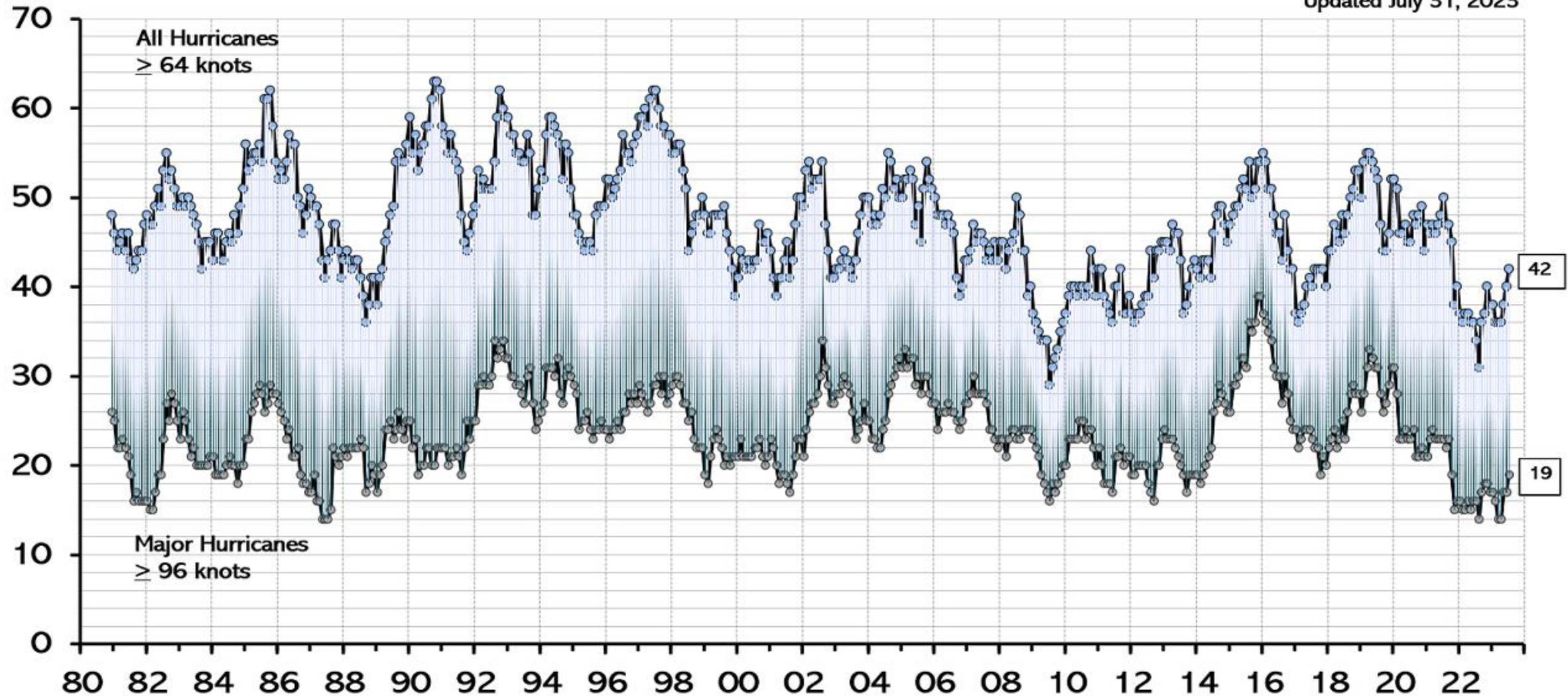
Fires on Federal land in 1937 were restricted to an average area of 9.5 acres, as compared with the 1933-37 average of 43.3 acres. Fires on private lands showed a reduction from 48.6 acres to 23.1 acres.

The Center for Climate and Energy Solutions: “Scientists...are certain the intensity and severity of hurricanes will continue to increase.”

Global Major Hurricane Frequency – 12 month running sums

@RyanMaue

Updated July 31, 2023



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Salient Points:

Ryan Maue has been keeping track of Hurricanes, Typhoons, and Tropical Storms. His methodology uses modern satellite detection and wind speed determinations of the number and strength of these systems since 1980.

Examination of Maue's charts shows an inter-decadal variability clearly at odds with the monotonic increase in <CO₂> ongoing since about 1800.

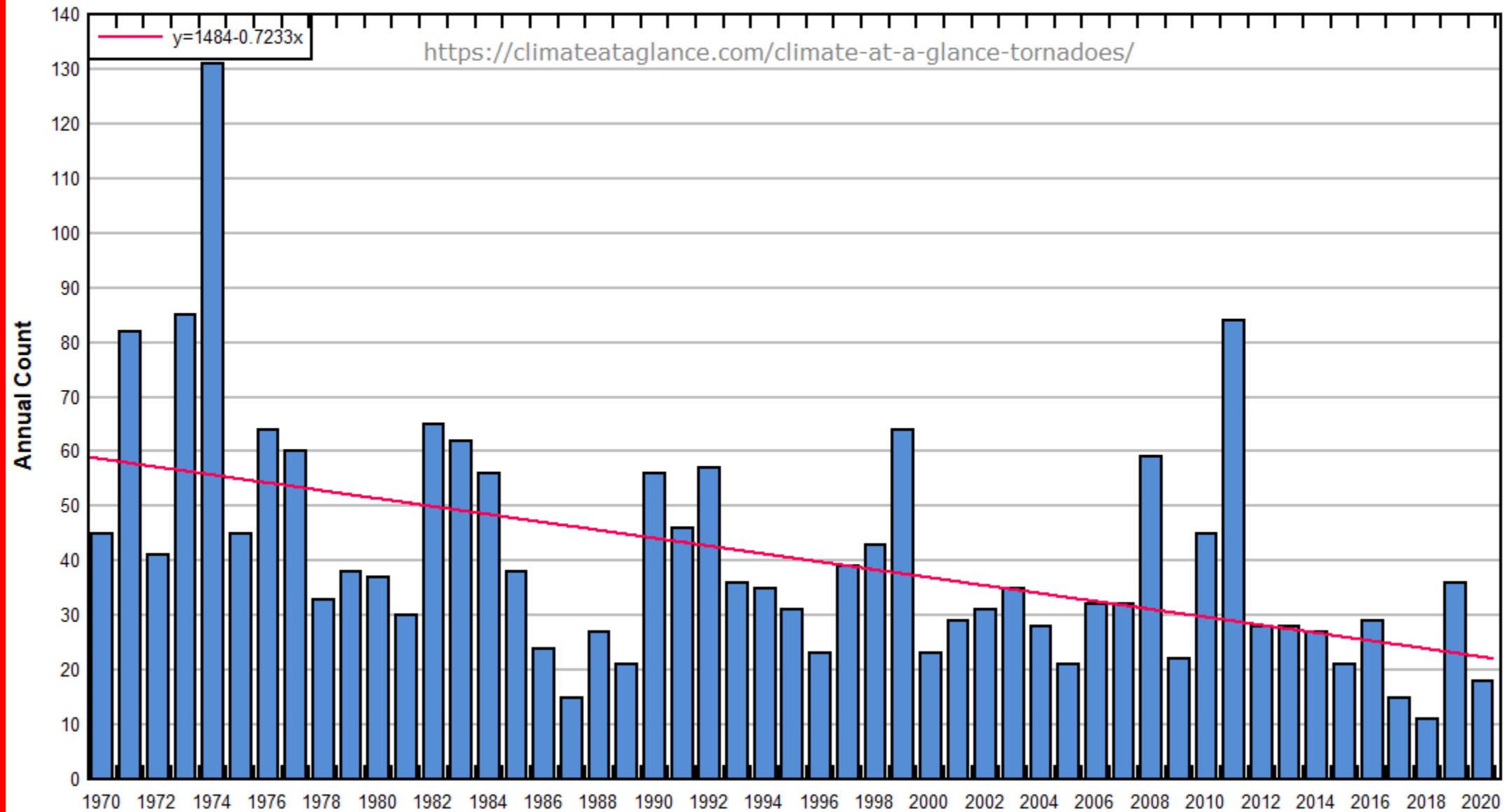
Alarmist claims that the intensity of severity of hurricanes is increasing is shown to be false.

Clearly, the alarmists have no idea what they are talking about.

Ryan Maue's data and time series charts clearly falsify the alarmist claims.

U.S. Annual Count of Strong to Violent Tornadoes (F3+) 1970-2020

Data Source: NOAA/NWS Storm Prediction Center



Salient Points:

The opening paragraphs from the [Executive Summary](#) from the Fourth National Climate Assessment contain these words, “The last few years have also seen record-breaking, climate-related weather extremes...”

Sensing technologies and increasing numbers of citizens now allow us to detect many weak rotating local storms that were not able to be sensed in the past.

The deployment in the USA of Doppler Weather Radar, combined with the increasing number of citizens able to sense and report rotating local storms and the damage they cause, has allowed us to know for sure that the number of strong to violent local storms and Tornadoes has significantly **decreased** over the USA.

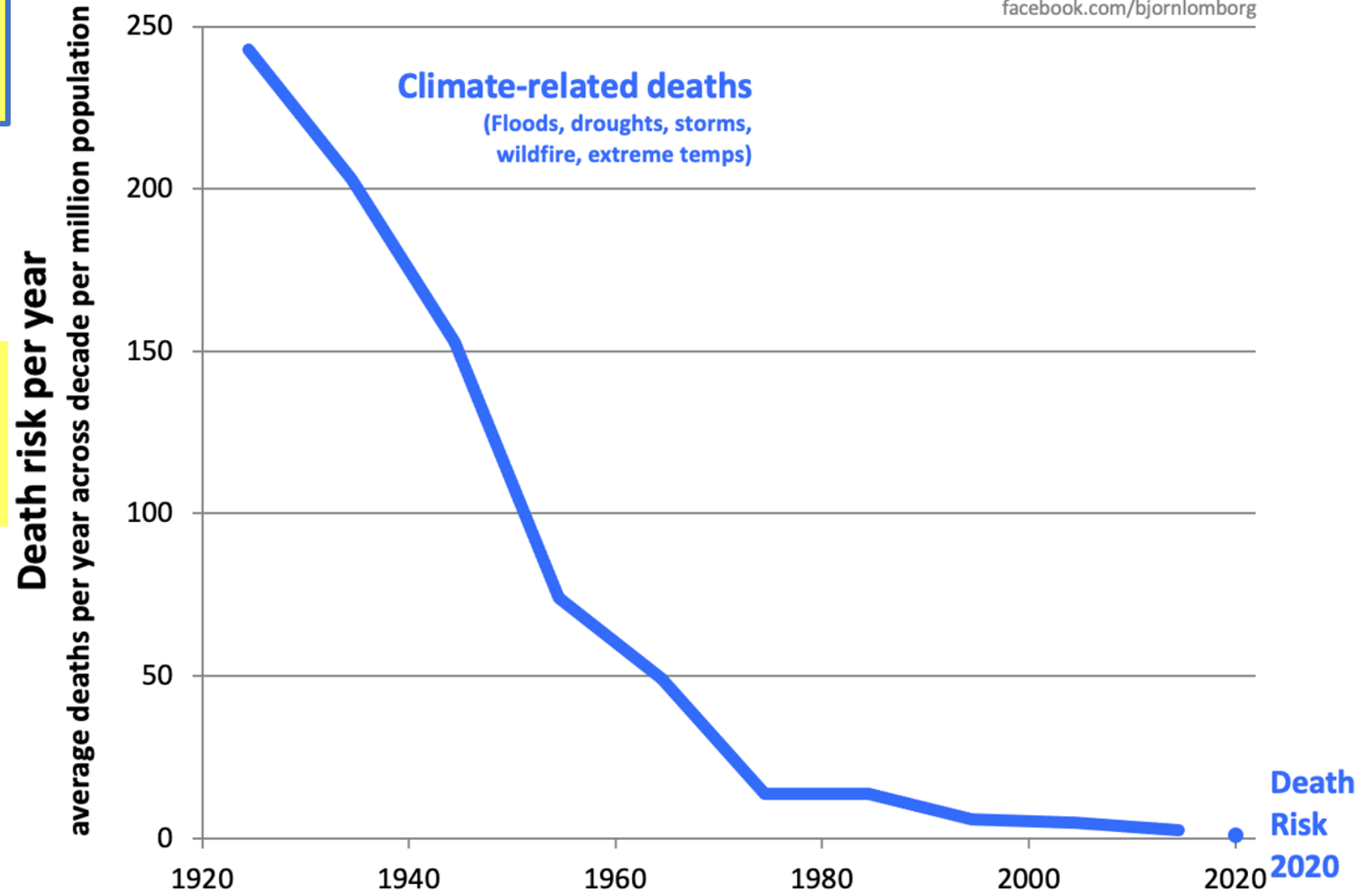
The alarmist claims are plainly wrong.

After 100 years of
climate change,
'climate related deaths'
approach zero

[https://climateréalism.com/
wp-content/uploads/2021/01/
climate-related-deaths-1920-
2020.png](https://climateréalism.com/wp-content/uploads/2021/01/climate-related-deaths-1920-2020.png)

Climate-related Death Risk 1920-2020

facebook.com/bjornlomborg



OFDA/CRED International Disaster Database, www.emdat.be, deaths averaged over decades 1920-29, 1930-1939, ... 2010-2019, with data from 2020, as start of next decade, accessed January 1, 2021

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Salient Points

The availability, abundance, and affordability of fossil fuels has allowed populations to avoid premature deaths from bad weather and extremes in climate.

Now it is possible to shelter ourselves from the elements, inexpensively heat our homes during cold weather, cool ourselves during hot conditions, find food and clothing at markets, and avoid the drudgery and toil of manual labor because we have fossil-fueled machines to do the heavy work.

The availability of health care, often using fossil-fuel-generated electricity for medical diagnosis and monitoring, emergency and routine transport to medical facilities and care facilities, many with 24-hour lighting, care, and monitoring, all help avoid premature deaths common in the past.

Because of these factors, the life span of humans [has doubled](#) in the last two centuries.

In 1900, many [thousands died](#) on Galveston Island when a hurricane struck.

Today, fossil-fueled rockets launch weather satellites which gaze upon the world's oceans and spot hurricanes while they are well out to sea. It is commonplace today for meteorologists and journalists to report on the arrival of hurricane feeder bands, eyewall passage and even from the eye of a hurricane itself, as these impact the country.

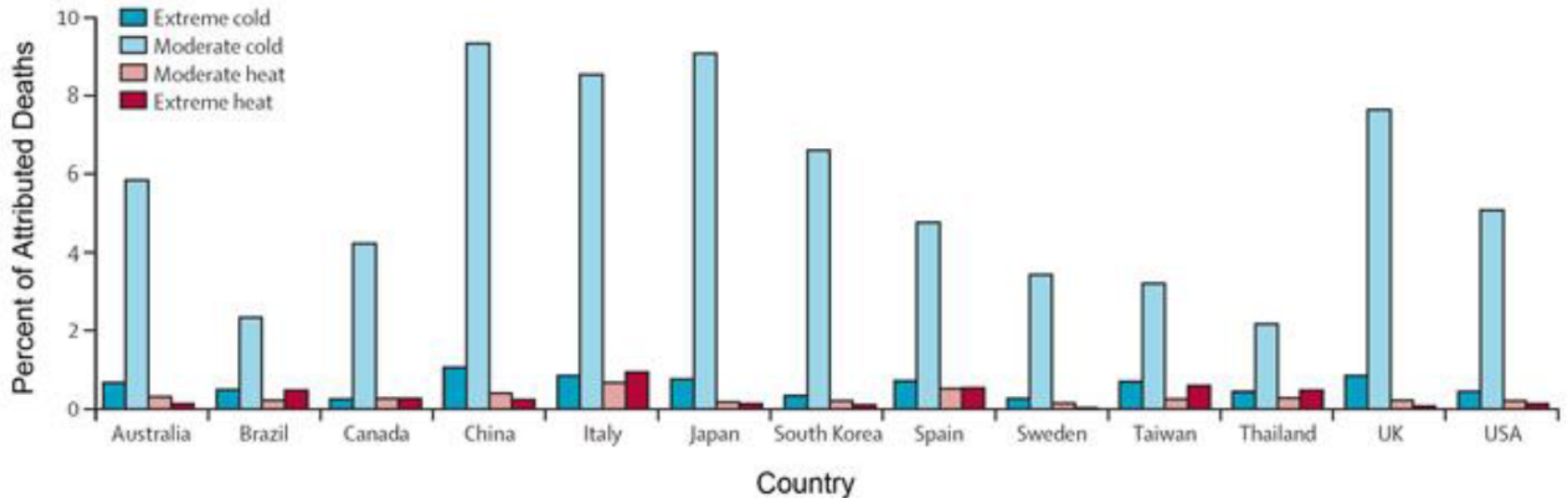
All of these lead to drastically reduced death rates from bad weather and adverse climate events.

Cold waves kill many more people than heat waves.

If the Alarmists were correct, there'd be a lot more deaths from heat than cold. The Climate Alarm makes no sense.

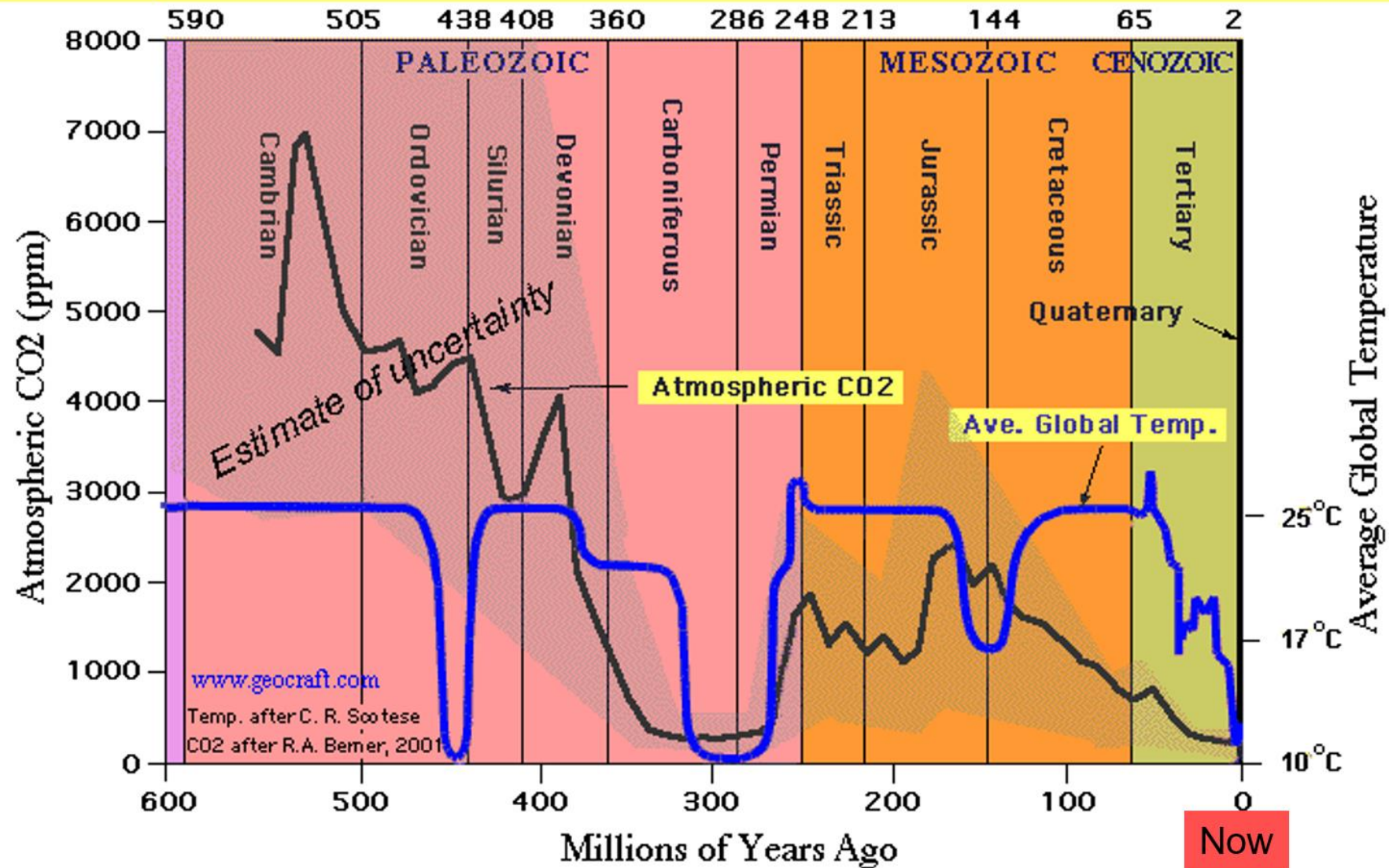
Percent of Deaths Due to Moderate and Extreme Episodes of Heat and Cold

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(14\)62114-0/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(14)62114-0/fulltext)



Fraction of all-cause mortality attributable to moderate and extreme hot and cold temperature by country. (Source: Gasparrini et al., 2015).

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X-Axis Time: Cambrian 600 Million Years ago, Left Present on Right
Y-Axis Blue Average Global Temperature, [Scotese Paleomap Project Climate Tab](#)
Y-Axis Black Atmospheric <CO₂> [Berner & Kothavala, Am J. Sci., 2001, p 182-204](#)

Salient Points:

This chart shows 600 million years of geologic history during which the fossil record of plants and animals is clear.

During most of these years, there was a lot more CO₂ in the air and it was a lot warmer than today.

Despite the cries from the climate alarmists and their computer models, there was no “tipping point” or runaway climate warming, despite the fact that, in the Cambrian, there was 17 times more CO₂ in the air than today.

The Cambrian explosion of Trilobites and Brachiopods and the spread of Fish during the Devonian happened during warm times with abundant CO₂ in the air.

The long reign of Dinosaurs from the late Permian to the top of the Cretaceous, ~205 million years, was during warm times with some 1800-2800 PPM CO₂.

With the approach of the end of the Holocene Interglacial, we wonder if our descendants will increasingly die from the next glacial, sure to follow.

Humans, animals, and plants are carbon-based life forms. Life loves warm temperatures and lots of CO₂ in the air.

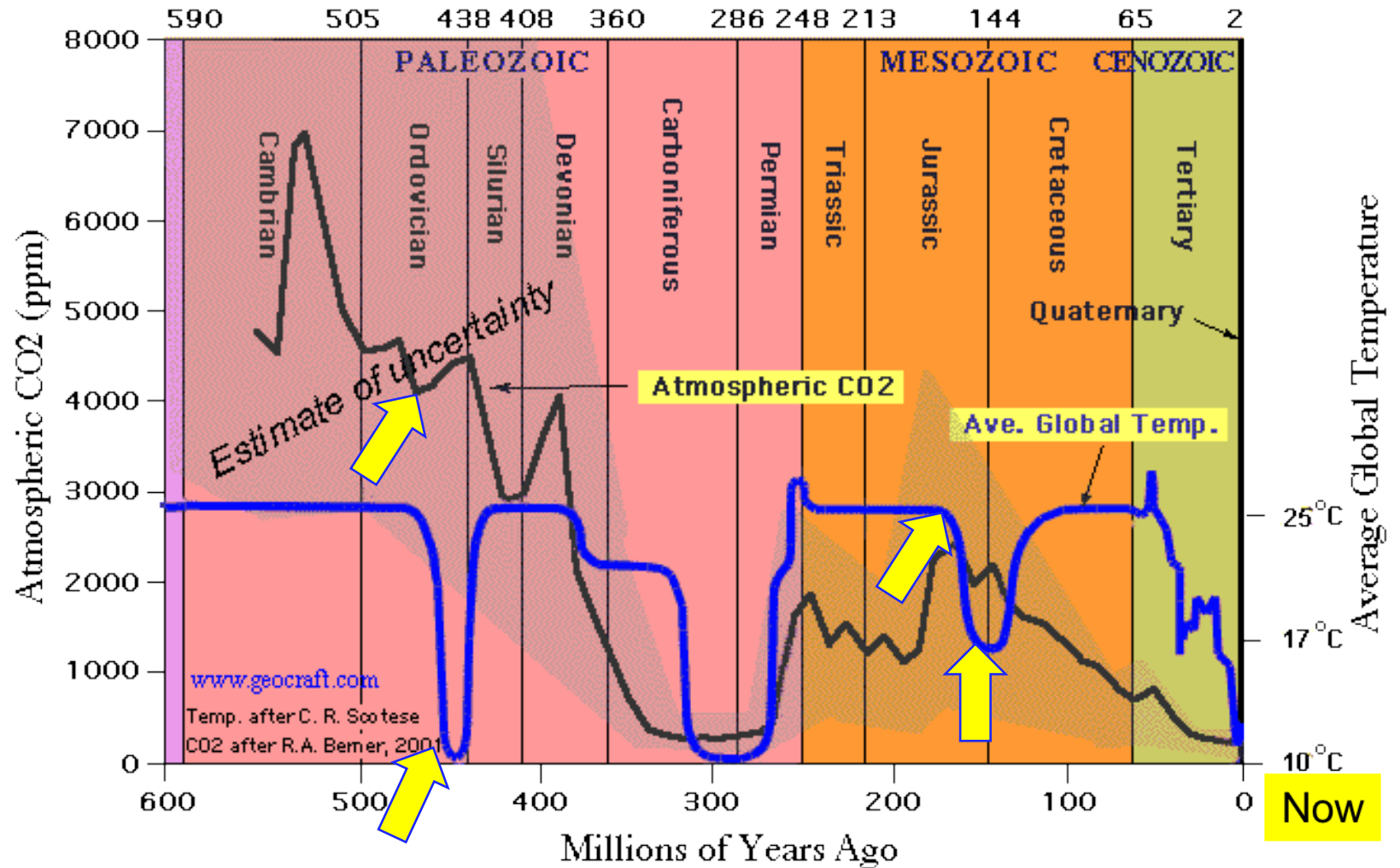
The next slide shows some examples of carbon-based life forms.

The next slide after that shows from the geologic record, spectacular examples of rising <CO₂> and dramatically falling temperatures, casting doubt on “CO₂-Theory”

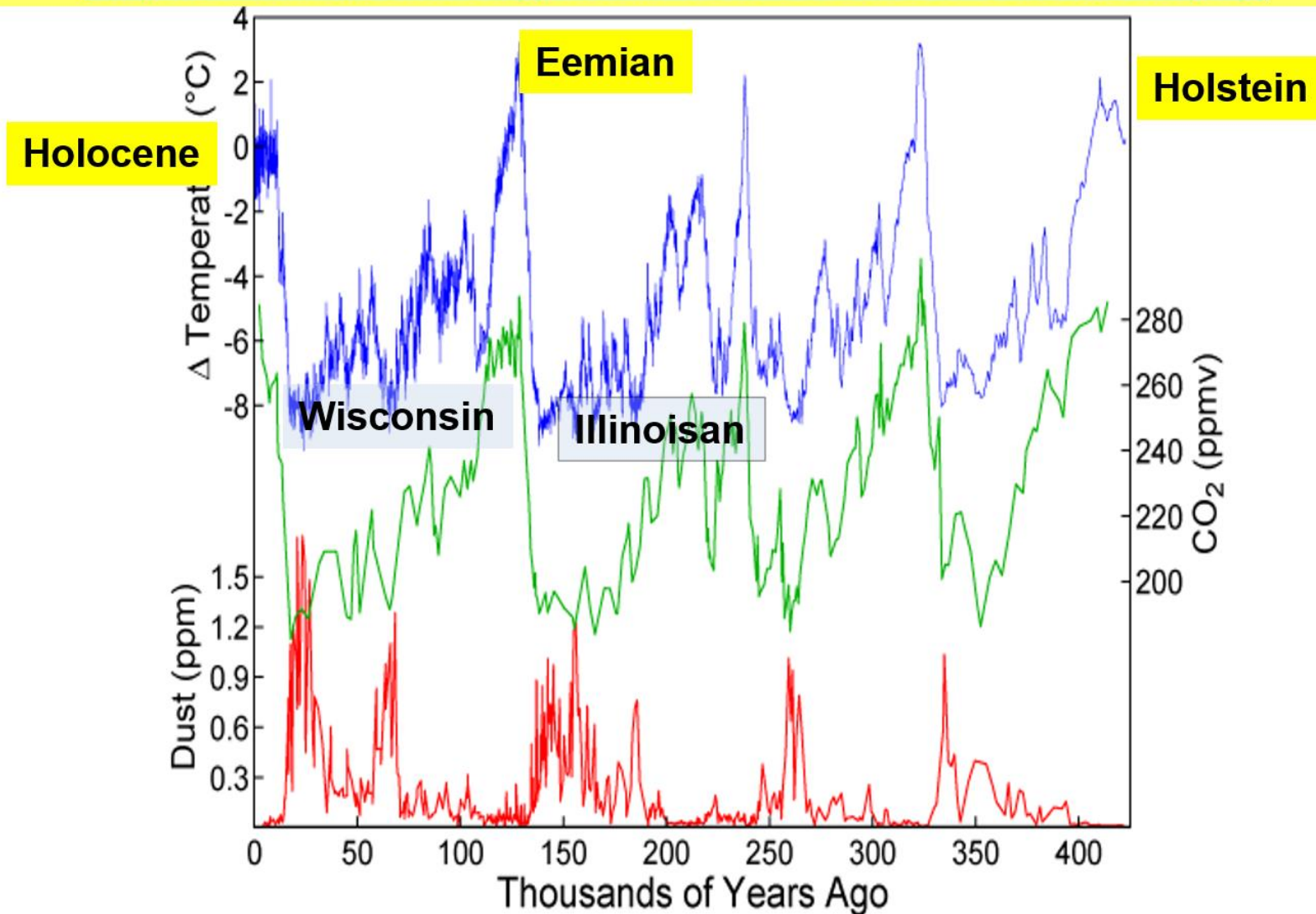
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Carbon-based life forms



SIDEBAR ON CO₂ AND TEMPERATURE: If atmospheric <CO₂> effect has such a great effect on temperature and the feedbacks are so strong, why, at the end of the Ordovician, 450M years BP, did temperatures fall so precipitously, when <CO₂> INCREASED from 4100 to 4500 PPM? Yellow Arrows. Similar effect at end of Jurassic. Yellow Arrows; <CO₂> increased but temperatures fell, a lot.



X-Axis Time Present Time, Left 450,000 years BP, Right
Y-Axis Blue Temperature difference “anomaly” from mean, last 10 K years
Y-Axis Green, Scale on Right atmospheric <CO₂>

Holocene, **Coldest** of the five interglacials.

0 = Current Temp

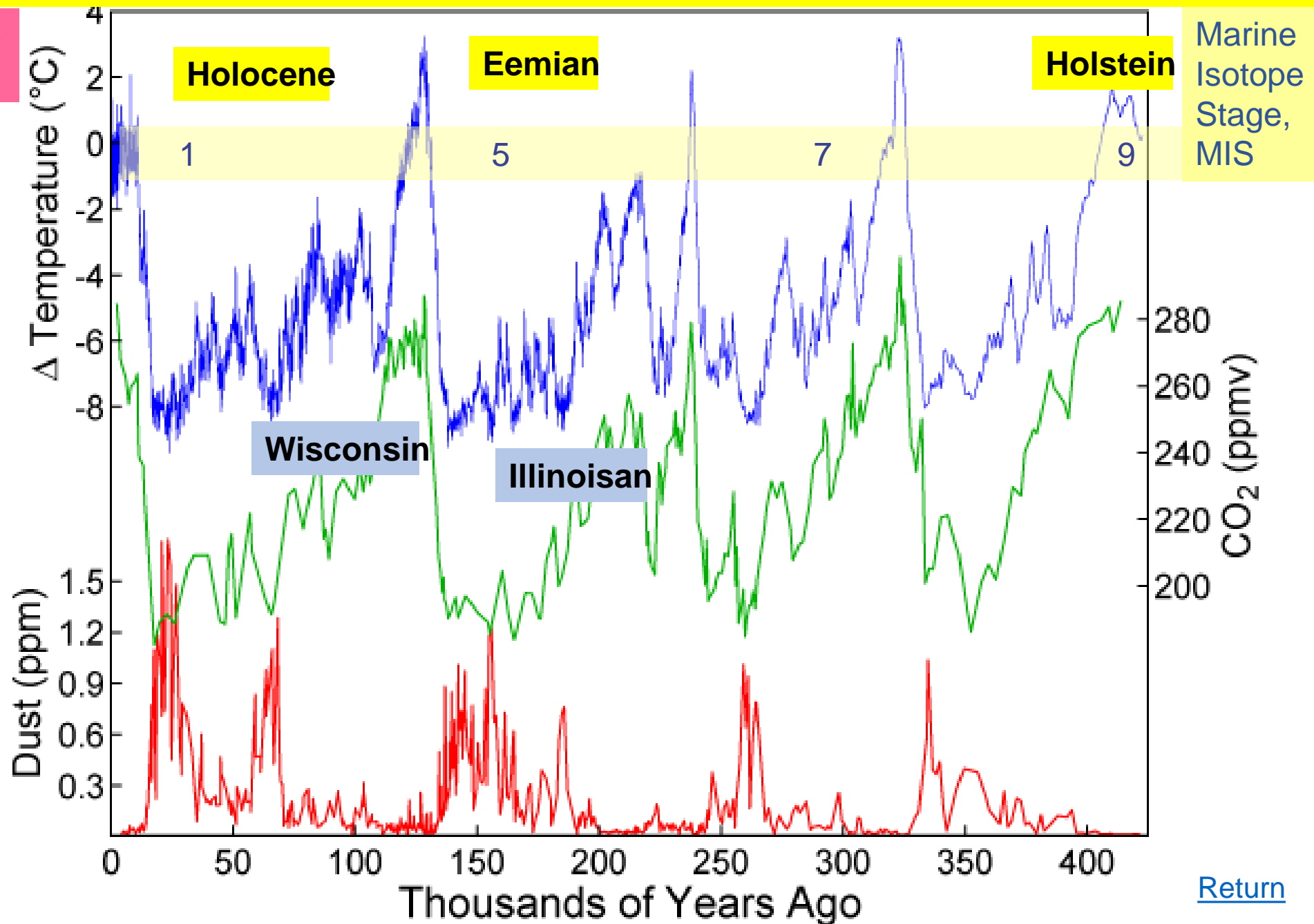
Blue = Temperature

Green = <CO₂>

Red = <Dust>

Notice <CO₂> never exceeded 280 PPM

Vostok Ice Core data
Al Gore uses in
“An Inconvenient Truth.”



Salient Points:

Look carefully at the chart, especially the blue trace, the temperature time series over the past 420,000 yrs.

Zero is the present temperature. Peaks in temperature are Interglacial Periods. Valleys in temperature are Glacial Periods, often simply 'glacials' and 'interglacials.'

The green trace is the CO_2 from air bubbles in the ice cores. Maximum CO_2 is 280 PPM CO_2 . Present CO_2 is about 417 PPM.

The Holocene is by far the coldest of the five interglacials. The data show CO_2 does not control temperatures. If CO_2 had a significant effect on temperature, this would be the warmest interglacial, but it is the coldest!

Some of the glacials have names, in blue. Some of the interglacials have names, in yellow.

The pale-yellow band numbers are from a 5.3-million-year stack of Marine Isotope Stages as [published by](#) Lisecki and Raymo, so MIS 1 is the Holocene, the present interglacial, and so forth.

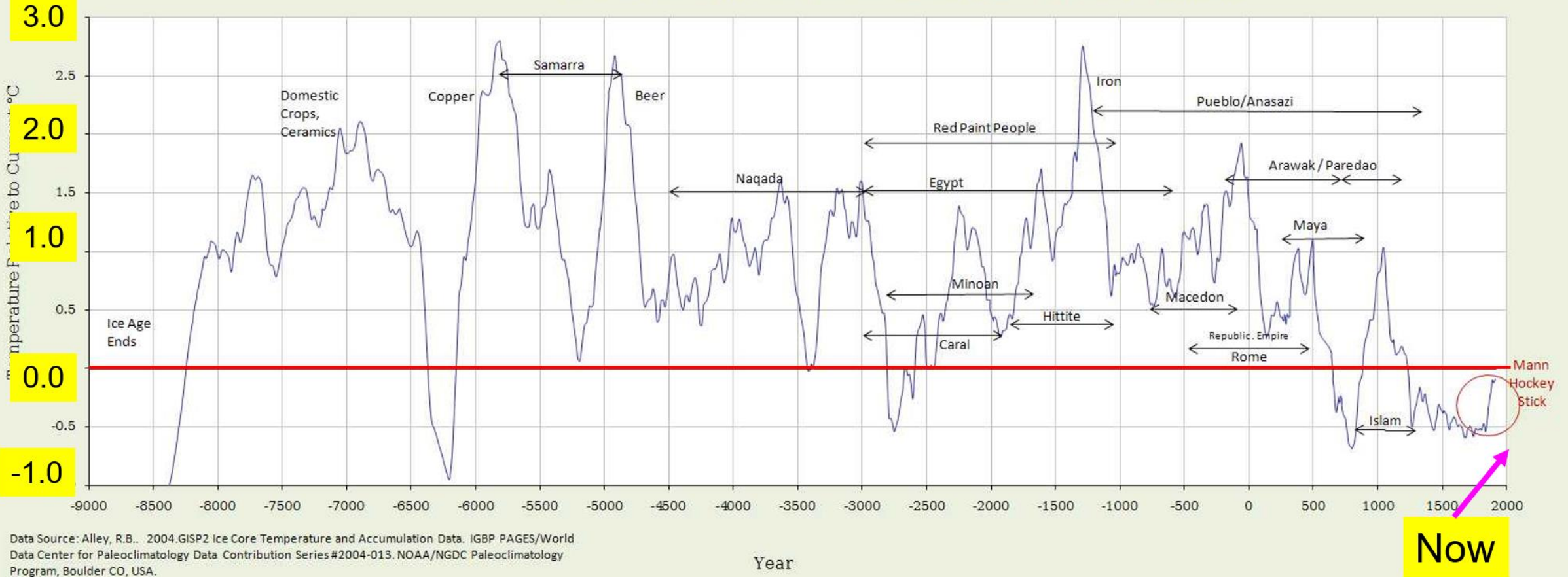
Look carefully at temperatures in the Holocene. Again, Zero is the present temperature. Note well that there are many $\pm 1\frac{1}{2}$ degrees C changes from the present, and some ± 2 C changes, none of which could be human caused.

Yet, the climate alarmists are sure THIS warming is human-caused. Nothing in the data shows human-causation.

Times in the recent past, temperature trace above the red line, show times in the past that were hotter than today.

Temp C

GISP 2 Greenland Ice Core Temperature - Current Interglacial



Now

If you understand this chart, you will see the ignorance of the climate Alarmists' cries of "Existential Threat"

Salient Points:

The GISP2 Ice Core data from Arctic Greenland share many attributes of the data from Antarctica.

For instance, the end of the previous glacial, the Wisconsin Ice Age, began about 23,000 years ago and we have been enjoying the wonderful warmth of this interglacial, the Holocene, for over 10,000 years.

Both the Vostok (Antarctica) and the Arctic's Greenland GISP2 Ice Cores show the peak of the Holocene about 8,000 years ago.

Neither the Vostok nor the GISP2 show temperatures "flat-lining." "Climate change" is **always** occurring.

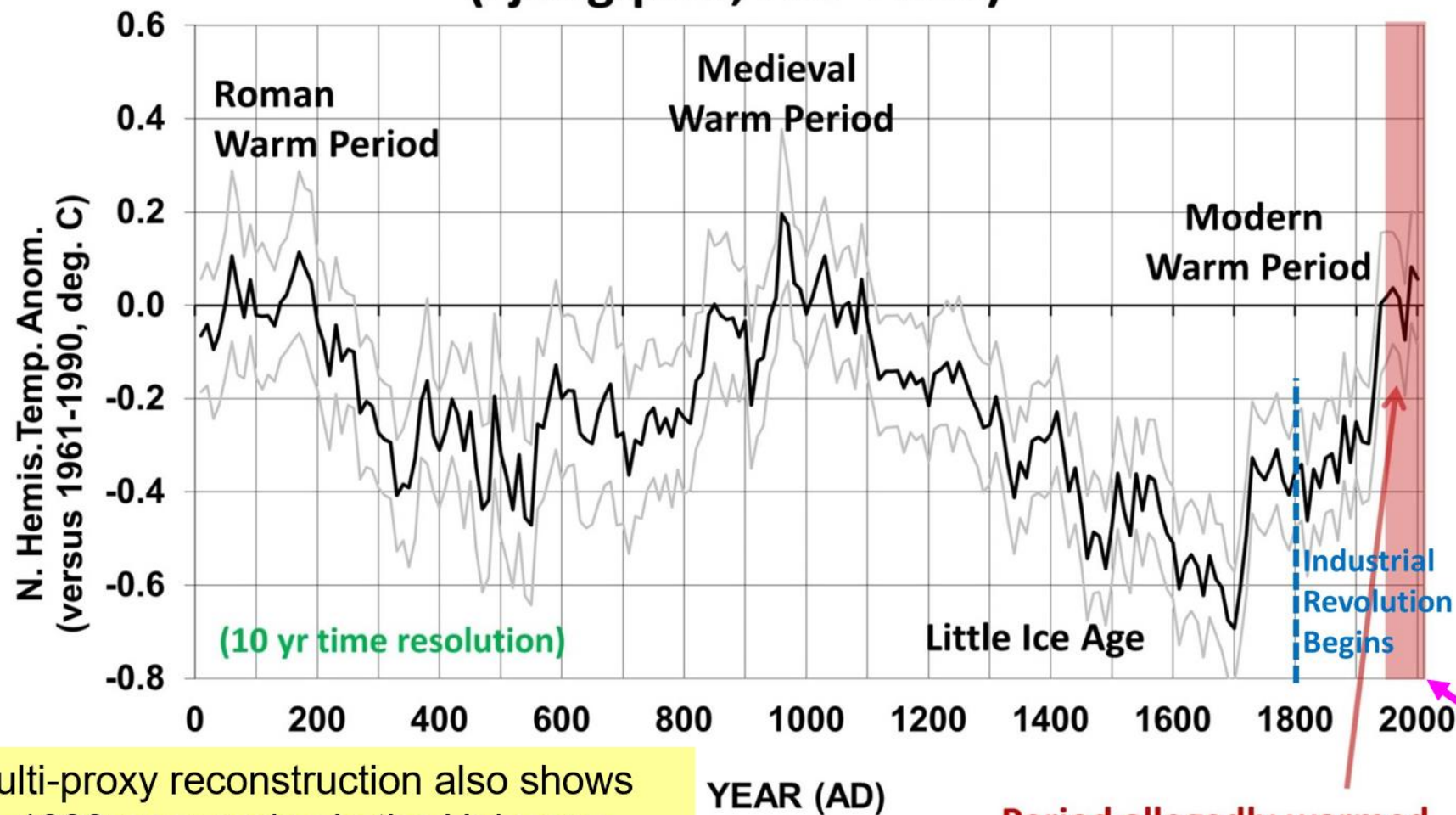
The GISP2 ice cores show the "thousand-year" cycles of temperature first discovered by Gerard Bond of Columbia University and [published in SCIENCE](#).

Historical periods are plotted in the time series. Warm times were times of progress, cold times, often of strife.

Most of the previous 10,000 years have been distinctly warmer than at present.

The cries of an "existential threat" to humanity if the present warming continues awhile are silly, but taken seriously by Academia, the Main-Stream Media, many in Government, pop culture, and, stunningly, Big Business.

N. Hemisphere Temperature proxies (Ljungqvist, F.C. 2010)



Multi-proxy reconstruction also shows
~1000-year cycles in the Holocene

Salient Points:

Ljungqvist finds the same “thousand-year” temperature cycles first found by Gerard Bond, of Columbia University, [who found them by](#) analyzing Ocean Mud Cores and published the results in 1997 in SCIENCE.

Ljungqvist finds warmer temperatures in his data set than the temperatures allegedly warmed by the “CO2 Effect” of today.

None of the three warm periods could have been caused by humans.

The strong warming after 1690, which heralded the end the Little Ice Age, could not have been human caused.

History reflects these data.

About 550 was the “Dark Ages,” the cold period when many crops failed, and many babies died.

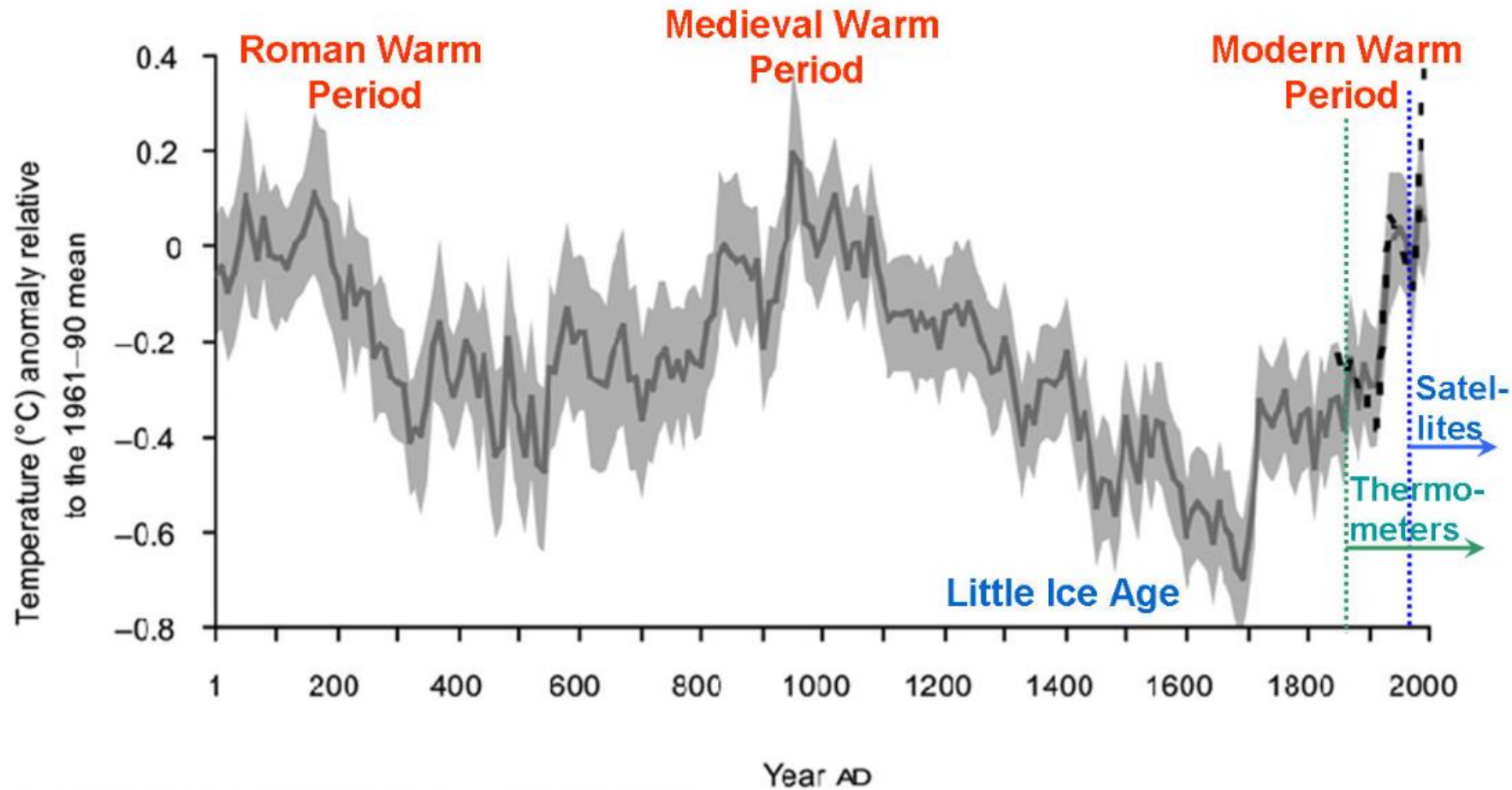
By 1000 temperatures warmed, crops became bountiful, populations thrived, and the faithful gave thanks for the abundance by building the great cathedrals of Europe.

From ~1300 to ~1850 was the Little Ice Age, coldest in ~10,000 years.

The following graphic from Dr Roy Spencer shows the Ljungqvist reference and when thermometers and satellites first were employed.

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Temperature Reconstruction* for N. Hemisphere, 1 - 2000 AD Shows Modern Warm Period Not Exceptional



*Ljungqvist, F.C. 2010. A new reconstruction of temperature variability in the extra-tropical Northern Hemisphere during the last two millennia. *Geografiska Annaler: Physical Geography*, Vol. 92 A(3), pp. 339-351, September 2010. DOI: 10.1111/j.1468-0459.2010.00399.x

Data from Austria's Professor Patzelt:

Top line shows May to September Summer Temperatures.

Patzelt's data were derived from analyzing the wood from trees buried in lateral moraines, glacial deposits on the sides of Austrian Alpine glaciers.

There are about 14 warm periods in the last 12,000 years.

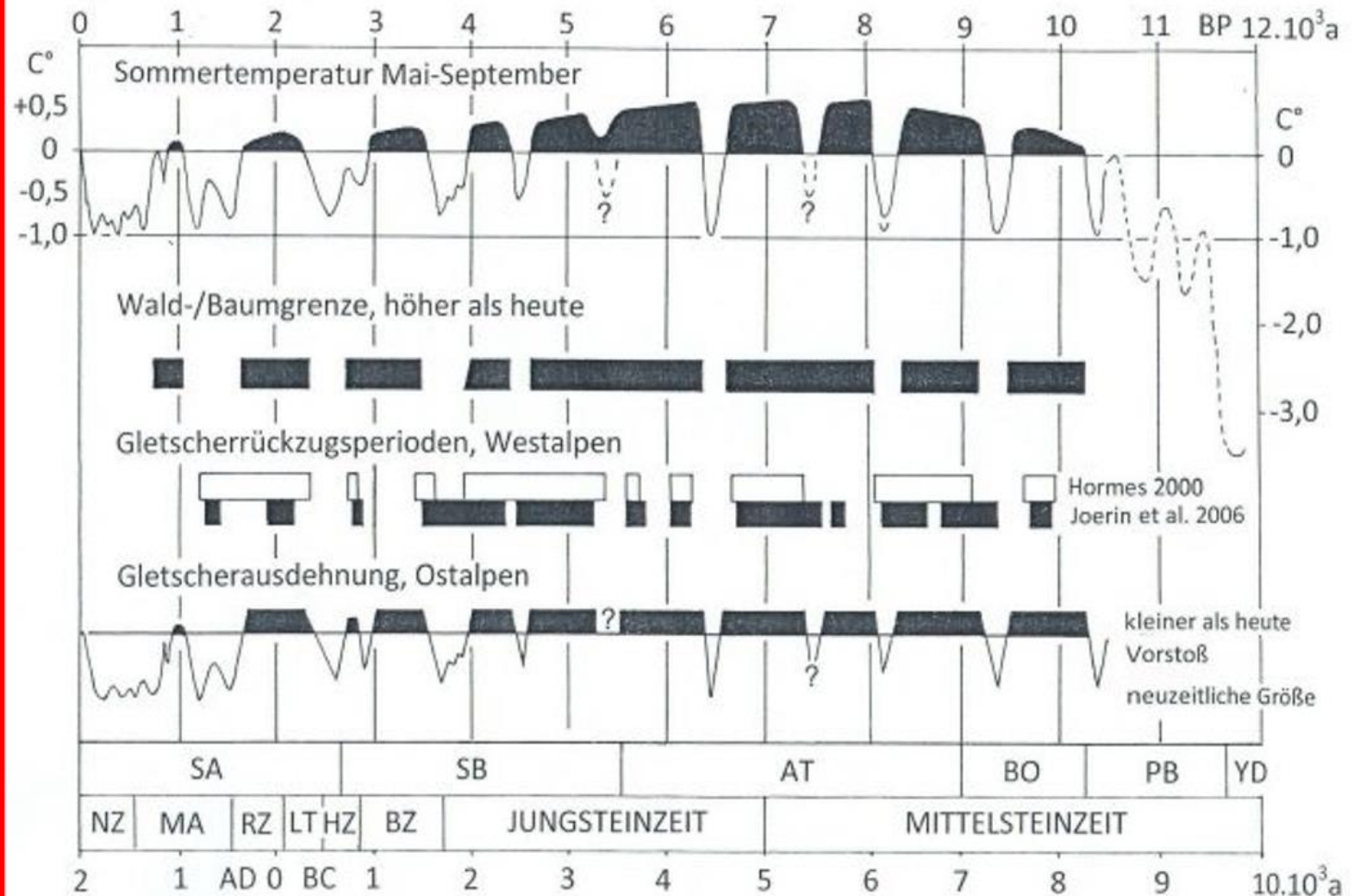
These show the “thousand year” cycles noted by Gerard Bond

Maximum summer temperatures were ~8000 years ago.

There is NO “CO2-warming” effect in these data.

<https://notrickszone.com/2020/01/25/world-leading-alps-glaciologist-shows-todays-climate-vegetation-and-glacier-situation-nothing-special/>

GLETSCHER-, WALDGRENZ- UND TEMPERATURENTWICKLUNG DER NACHEISZEIT



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Salient Points:

Professor Patzelt's analysis and data provide a time series of summer temperatures over the entirety of the warmest centuries of the Holocene Interglacial based on data from trees in lateral moraines in the Austrian Alps.

Patzelt's data show peak summer temperatures occurred about 8,000 years ago.

These "8,000 years ago" results closely match Antarctic Ice Core data from the Vostok Ice Cores.

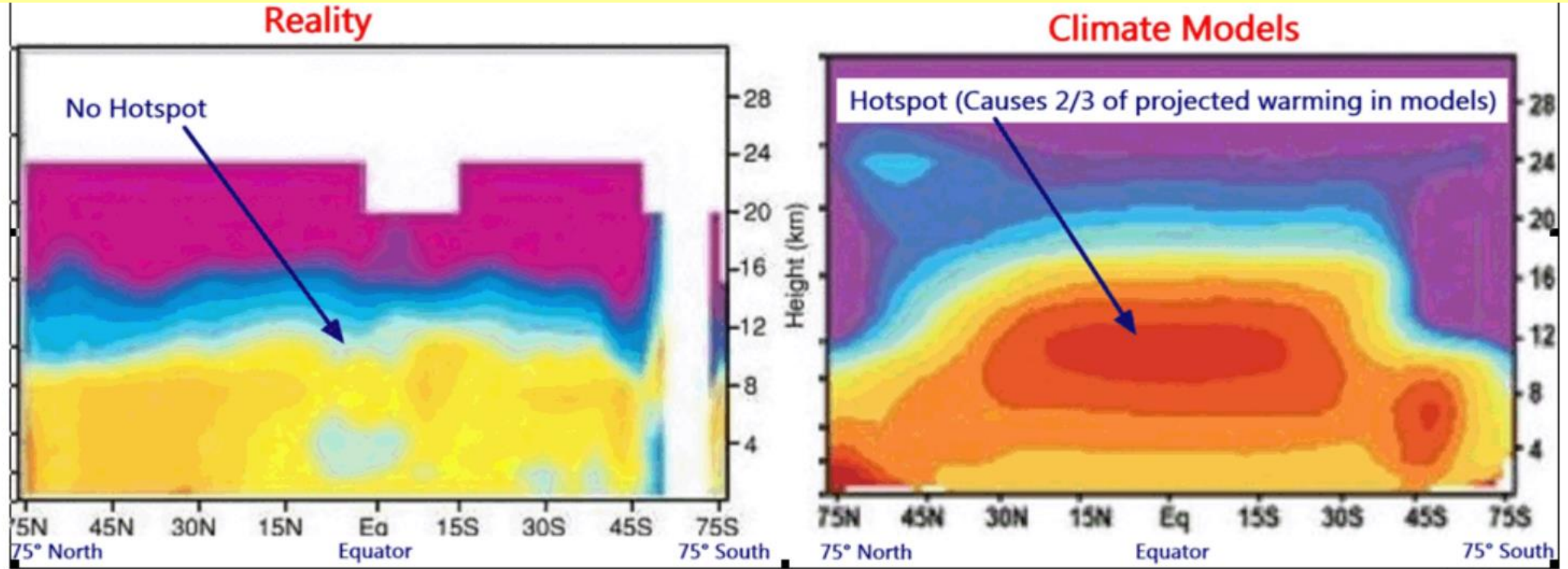
The "8,000 years ago" results also seem to match up with the Arctic ice cores from Greenland, the GISP2 data set.

Having very similar results from Antarctica and Greenland in the Arctic North lends credence to all the methods.

Neither the lateral moraine-derived time series from trees in the Austrian Alps nor any of the ice cores show the slightest influence of increasing atmospheric <CO₂>

Together the three methodologies all indicate there is no threat of Climate Armageddon from increasing <CO₂>.

Comparison between Models, Right and Observations, Left shows the models are seriously in error.



JoNova

It's obvious that Government claims of a theoretical and physical understanding of the climate in the 2009 EPA "Endangerment Finding" are fundamentally wrong.

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Salient Points:

Climate Modelers from the US Climate Science Program, NOAA's Global Fluid Dynamics Laboratory at Princeton, NJ, https://www.gfdl.noaa.gov/bibliography/related_files/vr0603.pdf and others claim that addition of CO₂ to the atmosphere will create a "Hot Spot" in the atmosphere above the tropics around the 30,000 ft level or about 300 millibars which extends north and south of the equator to about latitude of New Mexico and other states about that latitude. This is seen in the deep red and dark orange shades on the right side of the accompanying diagram.

When the model comparisons are compared with measured temperatures from radiosondes and satellites, however, there is no hot spot found in the measurements. The 15 December 2009 edition of the Federal Register, Volume 74, beginning page 55518, claims from physical, theoretical knowledge of climate, temperature records, and computer models, that addition of CO₂ into the atmosphere by humans represents a danger to humans.

Their claims are falsified by the non-existence of the hot spot claimed. The Endangerment Finding plainly is wrong.

Gore: Arctic Ice May Soon Vanish in Summer

DECEMBER 14, 2009 / 10:37 AM / CBS/AP



Al Gore has told the U.N. climate conference that new data suggests the Arctic polar ice cap may disappear in the summertime as soon as five to seven years from now.

Clicking through a slide show Monday in a packed side event, the former U.S. vice-president joined the foreign ministers of Norway and Denmark in presenting two new reports on melting Arctic ice.

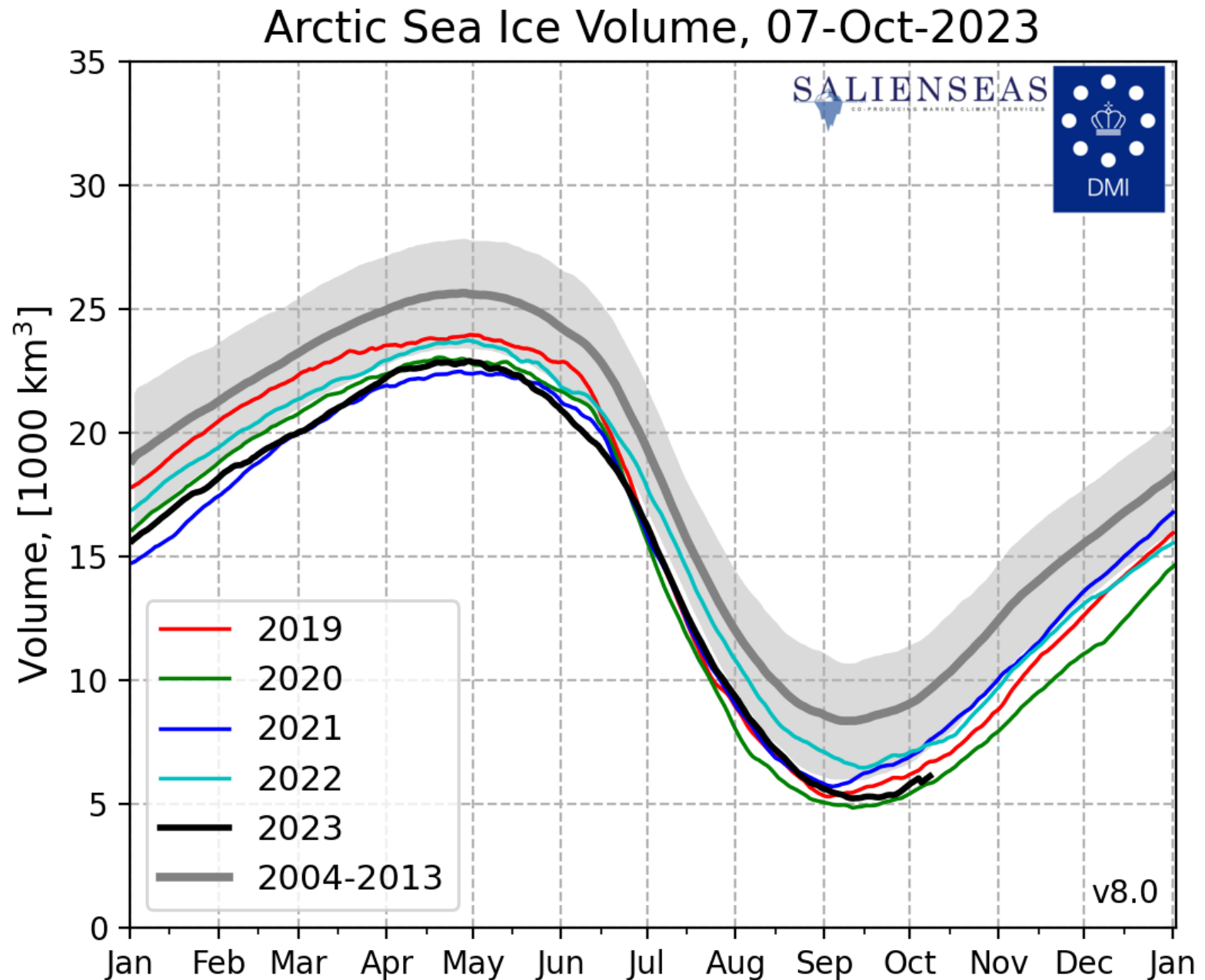
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http://polarportal.dk/fileadmin/polarportal/sea/CICE_curve_thick_LA_EN_20230907.png

This is the 7 Oct 2023 plot of the volume of Arctic Sea Ice from the Polar Portal of the Danish Meteorological Institute.

Polar Ice reaches a minimum about 8 September every year.

Al Gore's forecast, which he made in 2009, was off every year by at least 5,000 Cubic Kilometers of ice volume in all years since.



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Salient Points:

In 2009 former Vice-President and self-proclaimed climate expert Al Gore quoted the work of Naval Research Laboratory researcher Dr Wieslav Maslowski, saying that because of human-caused, CO₂-fueled Global Warming, summertime Arctic ice cover would disappear in as few as five to seven years, or by 2013, by some accounts.

Gore's statement was made during the COP 15 climate change conference in Copenhagen, Denmark. "These figures are fresh," Gore said, on Dec. 14, 2009.

Looking at the annual formation and melting curves calculated and published daily by the Danish Meteorological Institute, the annual minimum of ice is at the end of each year's melting season, and occurs about 8 September each year.

There does not appear to be a year-by-year change in Arctic Ice Volume comparable to the year-by-year increases in the amount of CO₂ in the atmosphere.

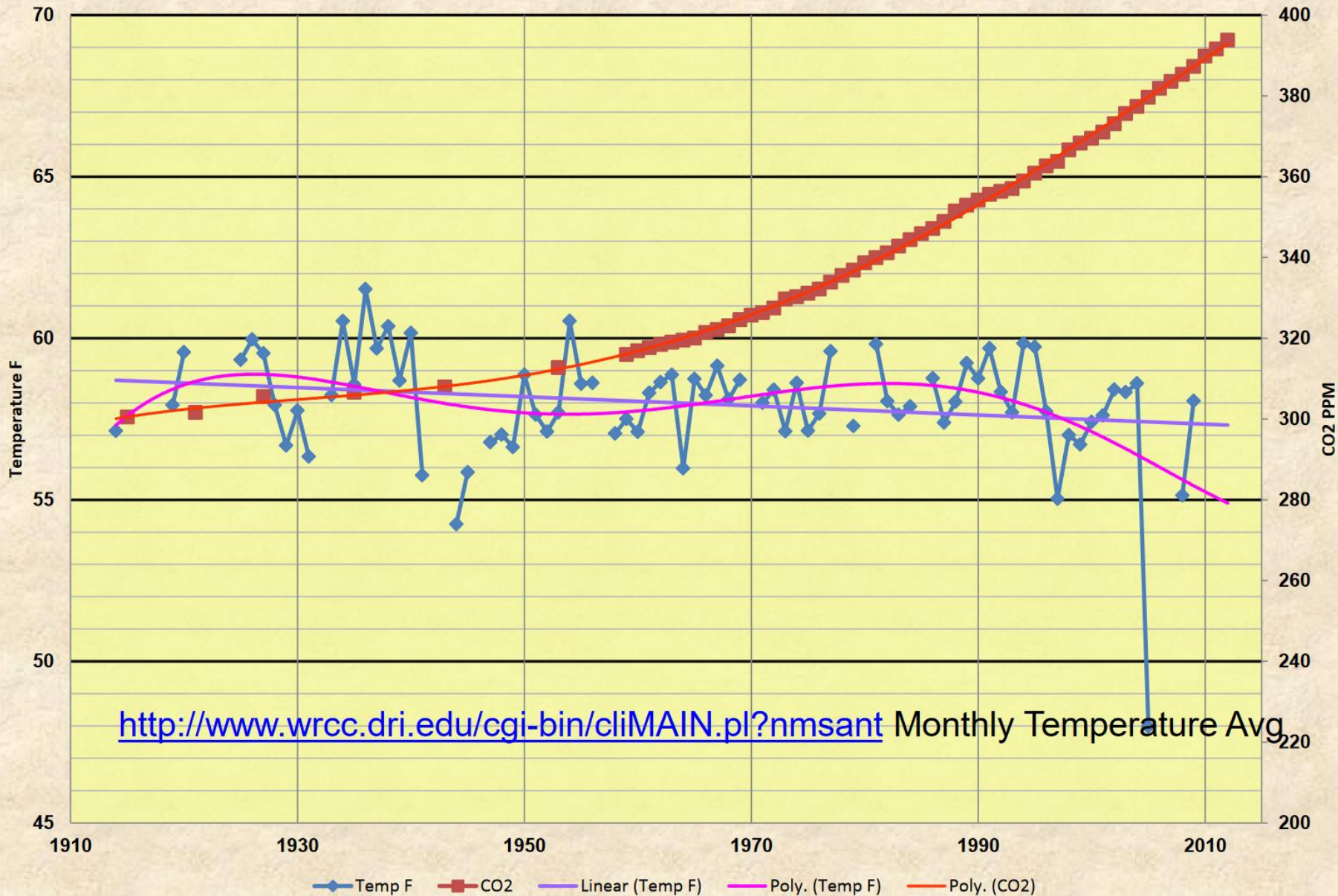
Al Gore's assertion that there was a human-caused and CO₂-fueled difference in subsequent years' melting curves of the Arctic Ice Sheet was stunningly wrong.

In fact, none of the alarmist predictions have come true. There is no human-caused CO₂-fueled global warming in any of the alarmist pronouncements.

Santa Rosa, NM Temperature and CO2

Average Temperature fell 1.6F in 98 years

Highest temperatures were in the Dust Bowl years



Salient Points:

The CASF web site contains an examination of [this hypothesis](#) : “With all the carbon dioxide in the air today, Surface Temperatures in New Mexico are hotter than ever before in the Instrumental Record.”

The data examined were from rural stations having a long period of record.

The stations examined were rural ones to avoid the [urban heat island](#) effect.

The stations examined had long periods of record to avoid aliasing the results because of possible effects from the [Atlantic Meridional Oscillation](#), a 60-year-long phenomenon.

The stations examined were Orogrande, Columbus, Cimmaron, Santa Rosa, and Tucumcari.

The data used were from the archives of the Western Regional Climate Center in Nevada.

The Hypothesis failed.

None of the stations examined had temperature histories that appeared to have any obvious connection to the increasing concentration of CO₂ in the air.

Summary

We have examined here a “baker’s dozen” of common claims of impending climate catastrophe caused by human consumption of fossil fuels and the subsequent increase in the concentration of carbon dioxide in the atmosphere.

Examination of the US Government’s own weather and climate data show no relationship between increasing <CO2> and observed temperature. These include:

- NOAA’s own [Temperature Extremes Data Base](#),
- [EPA’s Heat Wave Index](#) (which suddenly disappeared after Joe Biden became President)
- The [decreased number of forest fires](#), especially in the 20th Century, which NIFC has recently disavowed, because it pointed out the maximum of forest fires around 1930, its own “Inconvenient Truth.”
- Recently, the [decreasing number](#) of strong and extremely strong Tornadoes in the USA
- Extreme Surface Temperatures at New Mexico’s rural sites having a long period of record reached a maximum in the [Dust Bowl Years](#), not in recent years.

Although climate alarmists claim that hurricane and tropical storm intensity and severity are increasing, [the data](#), especially those collected and analyzed by Ryan Maue, show no such characteristic.

Although President Joe Biden and Secretary of Defense Lloyd Austin warn us that a little more warming will cause climate catastrophe, [plots of ice core temperature data](#) since the end of the Wisconsin Ice Age show that the warmest temperature occurred about 8000 years ago and that most of the last 10,000 years it was distinctly warmer than today.

NONE of the Alarmist claims is true, “if you look at the data.” The alarmist claims are bunk, insane.

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