

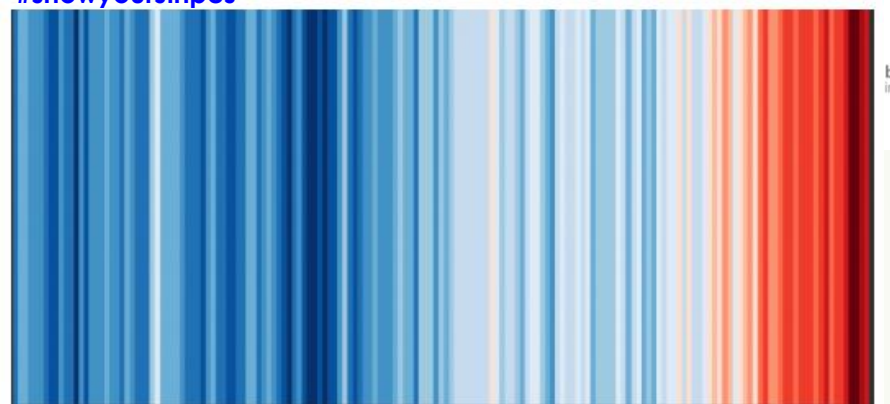
GSM – Grand Solar Minimum. The real “Climate Change” existential threat is right around the corner. Do the Research!

In the CAGW alarmist community, you will see this image used often, the Ed Hawkins temperature stripe chart (below), or some variation thereof, to promote the ‘Climate Change’ fear agenda. What better place to start the temperature chart than the last significant cold period of the Little Ice Age (LIA, the Dalton Minimum)? One could almost think the starting point was intentionally cherry-picked? Has the temperature increased since 1850? Yes, but the temperature rise has been a meagre/beneficial (my adjectives) 1.07 °C (according to the IPCC) based on homogenized (i.e.: manipulated) surface temperatures. And not all that 1.07 °C can be attributed to human emissions since 86%+ of human emissions have occurred post-1950.

Probably just a coincidence that the LIA correlates with the lowest solar activity levels in the last 7,000 years and the Modern Warm Period correlates to the highest solar activity in the last 7,000 years? History did not begin in 1850. The chart at the bottom puts the 1.07 °C rise over the last 170+ years in perspective (neither unprecedented nor unusual). Temperatures have cycled up and down for the last 10,000 years with no help/influence from CO₂ and will continue to do so. The next cycle is down (GSM/AMO)!

#showyourstripes

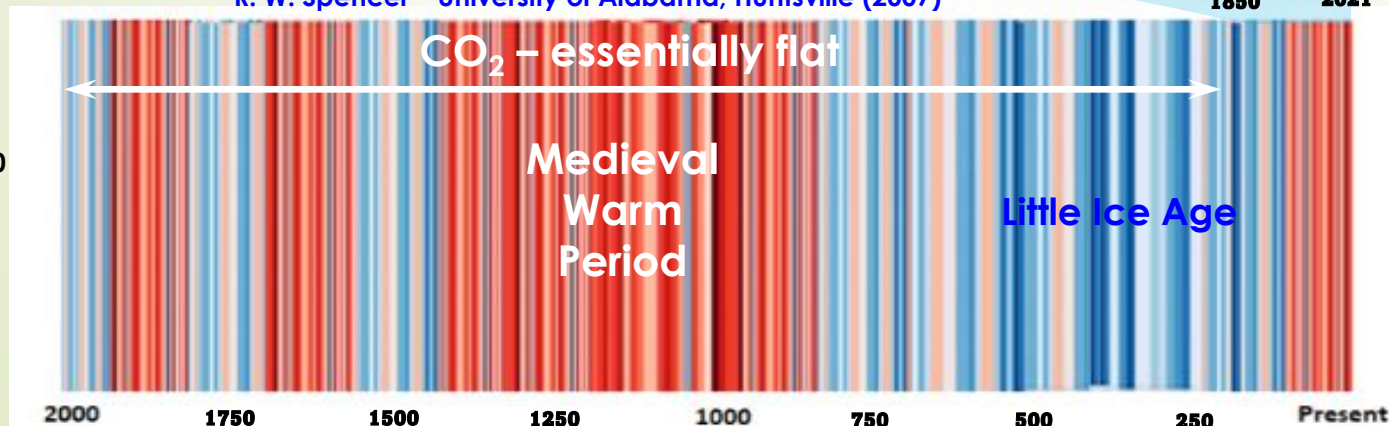
The last low of the LIA



Ed Hawkins - National Centre for Atmospheric Science, University of Reading (2018)

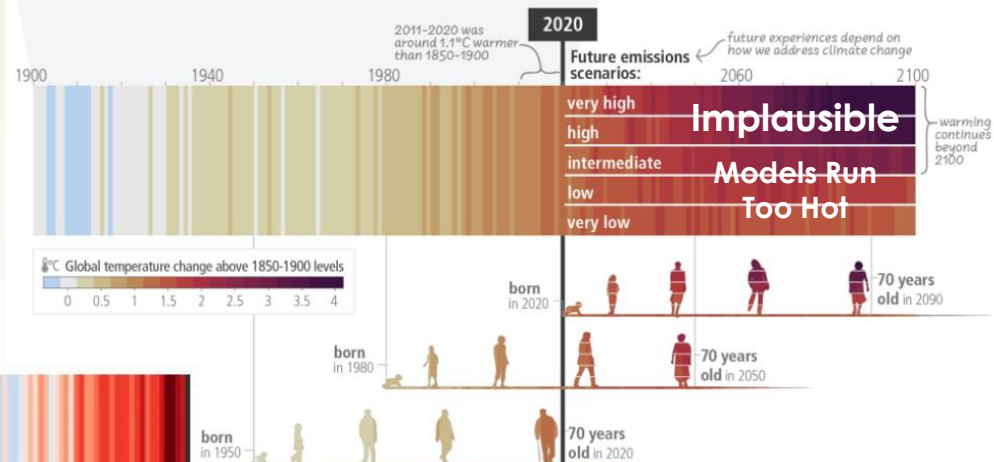
[U Of Reading's Stripe Chart Is Propaganda ... But 2000-Year Chart Make Today's Warming Look Tame \(notrickszone.com\)](http://notrickszone.com)

R. W. Spencer – University of Alabama, Huntsville (2007)



A similar plot over the Holocene (the last 10,000 years) would be more dramatic (shifting 1850+ to blue).

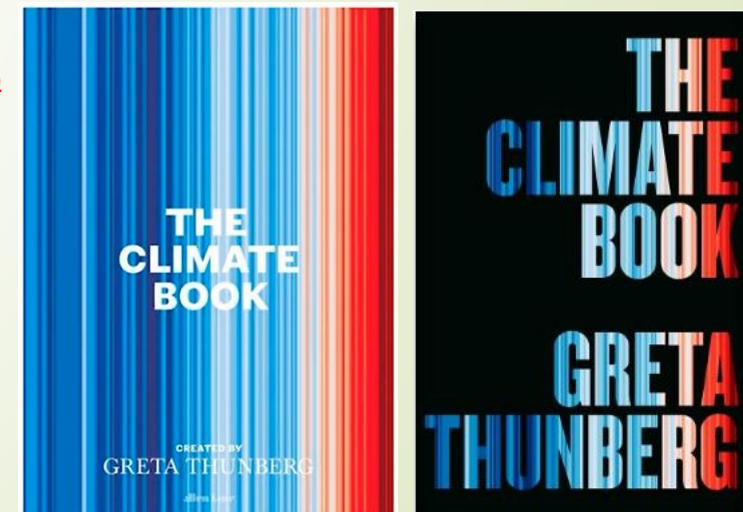
c) The extent to which current and future generations will experience a hotter and different world depends on choices now and in the near-term



The chart above is a variation from the IPCC's recent 2023 AR6 Synthesis report. They have added in their model projections (those models they admit run too hot and use emission scenarios they consider implausible). Fear Propaganda on steroids! You will find more discussion on these topics in my [CSS-30 – CMIP6 Climate Models](#) and [OPS-55 – The State of Climate Science](#) posts.

Early Temperature Stripe Chart

The natural forcings active over the last 10,000 years have not shutdown over the last 170 years just because the IPCC climate scientists have decreed it so. They were still active over the last 170 years and will continue to be active in the future.



A couple of covers you might find on Greta's Climate Propaganda Book

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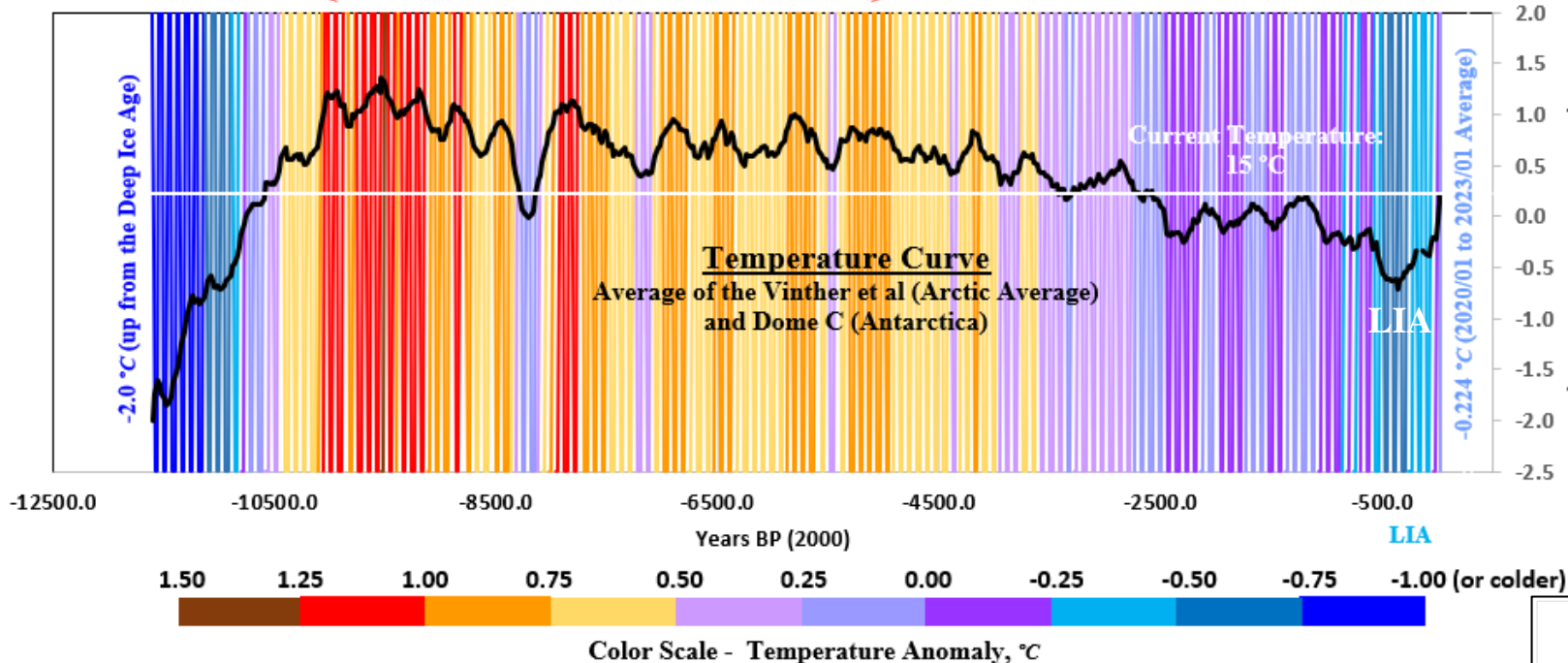
I wonder why they call it a Climate Optimum?

Holocene Climate Optimum

Holocene Temperature Distribution

CSS-30 – CMP6 Climate Models

Little Ice Age (LIA)



CSS-38b

More detail? climatechangeandmusic.com

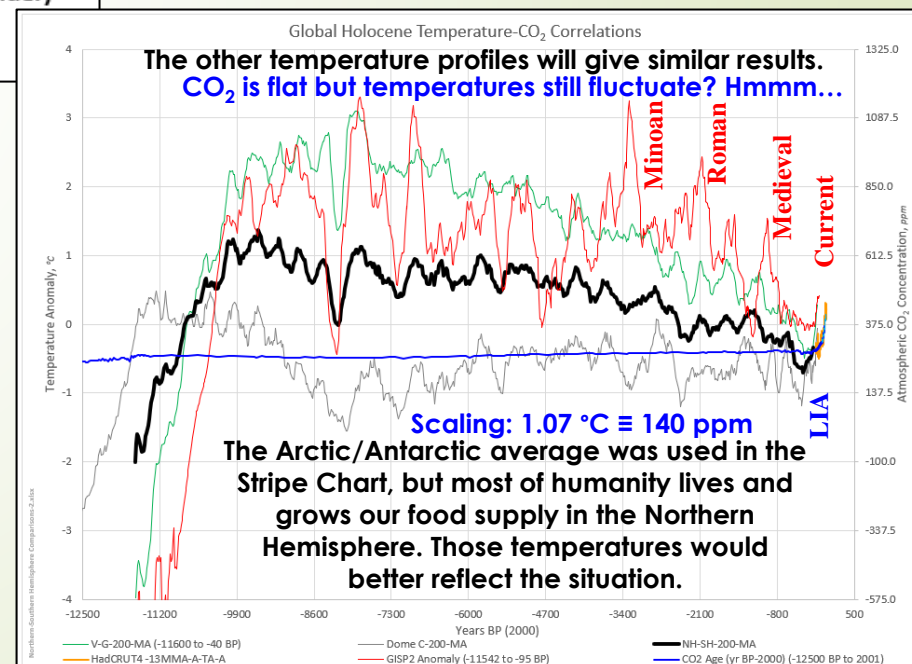
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Holocene Temperature Stripe Chart

This variation of the Temperature Stripe Chart extends the exercise over the Holocene Interglacial Warm Period and puts the 170 year 1.07 °C temperature rise out of the LIA in perspective. Modern humanity developed from hunter gatherers and small agricultural societies to the modern society that we live in today. That development would not have been possible without the warmth of the Holocene Climate Optimum and the other significant warm periods (Minoan, Roman, Medieval and Current). Most civilization advances occurred during the warm periods and were compromised during the cold periods (the LIA, Dark Ages, Greek Dark Ages, etc.). Cold is the enemy!

Holocene Temperature Stripe Chart

Society thrived through the Holocene Climate Optimum (a welcome break from the vagaries of the deep ice ages). Modern Society would also survive and thrive at those temperatures (assuming we can ever get there). The natural forcings that the CAGW alarmist community loves to ignore (i.e.: the Holocene temperatures fluctuate despite a virtually flat CO₂ profile) were active over the last 170 years and will continue to be active in the future. The near term natural forcings (AMO, GSM, weakening magnetic field, etc.) are pushing us towards another Little Ice Age over the next few decades. The longer term natural forcings (primarily the Milankovitch Cycles) will take us down into a deep ice age over the next few centuries to millennia. Any warmth CO₂ might provide will be gratefully appreciated. As an example a temperature drop of 1.0 °C over the next few decades is better than a 1.5 °C drop and any delay to the next Ice Age will be appreciated by our descendants. The only place that temperatures reach Holocene Climate Optimum temperatures is in the self acknowledged, running too hot IPCC computer models. I choose the average of the Arctic Vinther et al and Antarctic Dome C temperature profiles. That choice mutes the effects shown in the Stripe Chart. Using the other curves would provide even more contrast. Warming is not dangerous!



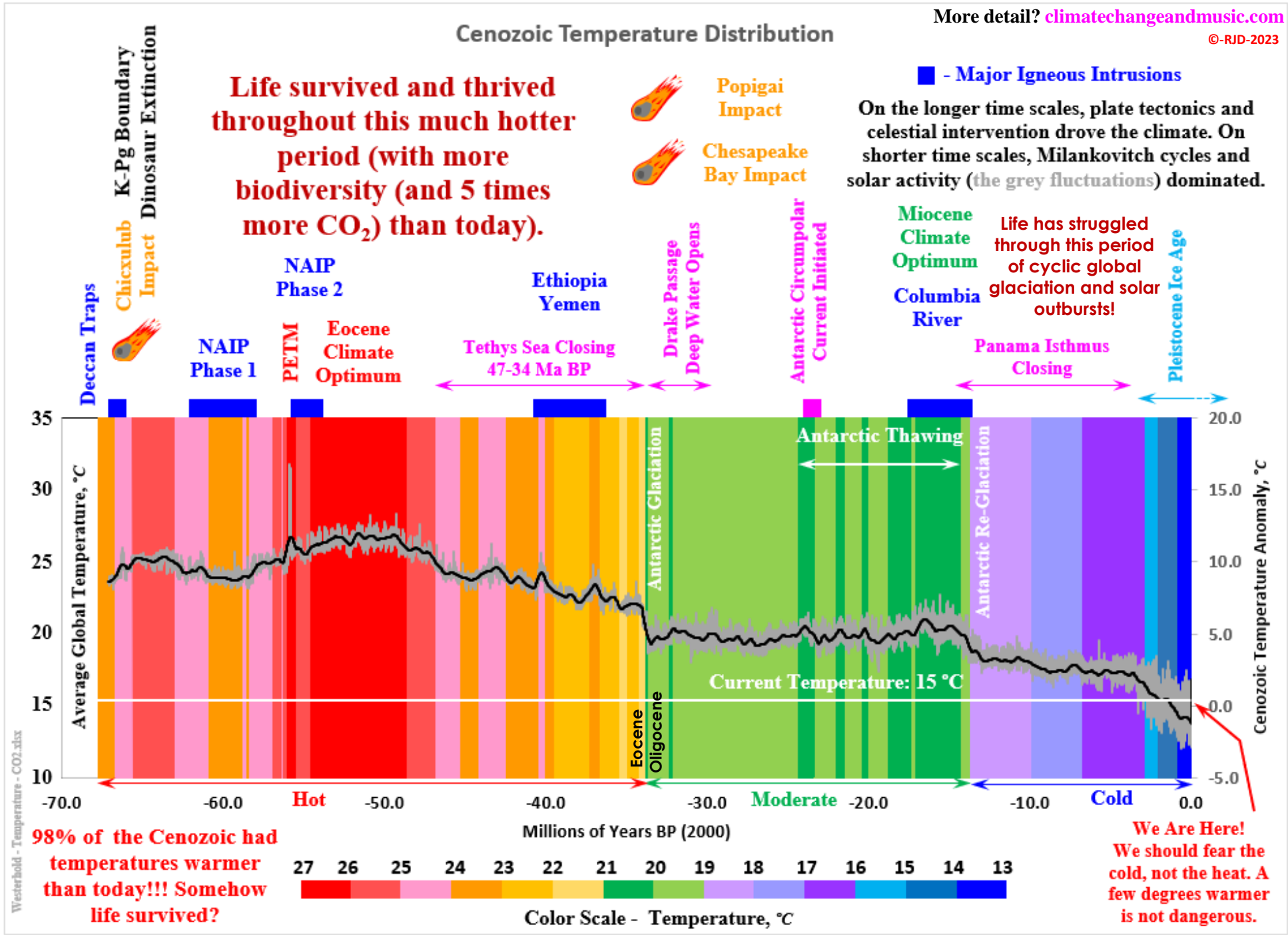
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Cenozoic Temperature Stripe Chart

The hysteria around the 1.07 °C temperature rise out of the Little Ice Age (LIA) is hard to rationalize for anyone with a scientific mind. Temperatures over the Cenozoic were warmer than today 98% of the time (and significantly warmer most of that 98%). 1.07 °C does not even show up in the noise (the natural fluctuations). Life was more abundant and vibrant during the Eocene Climate Optimum than today. I am pretty sure that we could find a way to survive the global tropical temperatures life experienced over that period. CO₂ levels were in the 2,000 ppm range, acting as fertilizer for the lush plant growth and abundant sea life of the period. We are living through the Pleistocene Ice Age (luckily in one of the relatively brief interglacial warm periods). 1.07 °C should be welcomed and celebrated. But, we are headed colder, not warmer (AMO/GSM).

Cenozoic Temperature Stripe Chart

We are living through the Pleistocene Ice Age (luckily in one of the relatively brief interglacial warm periods). 1.07 °C should be welcomed and celebrated. But, we are headed colder, not warmer (AMO/GSM).



Cenozoic Temperature Data Chart

The idea that we are living through a period of dangerous heat and headed for an inevitable heat induced extinction are ludicrous. We are literally living through the Pleistocene Ice Age (luckily still in the modest warmth of the Holocene interglacial). The Cenozoic covers the last 66 million years of our planet's existence. Over that period, temperatures were significantly higher approximately 98% of the time yet somehow life survived and thrived. Even humanity (despite our apparent lack of critical thinking ability) would have no problem surviving the higher

temperatures. In fact, we would thrive as we have done through every

other warming period. Our bigger risks are the near term cooling as the natural cycles (AMO/GSM) drive the global temperatures down and on a longer term basis, the Milankovitch cycles naturally drop us into the next deep ice age. More detail in my CSS-10 - A Ride Through the Cenozoic and CSS-24 - Is the Holocene an Epoch? posts.

Cenozoic Temperature Data Chart

North Atlantic Igneous Province (NAIP)

Cenozoic Temperature History

More detail? climatechangeandmusic.com



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CSS-38e

Cenozoic Temperature and CO₂ Chart

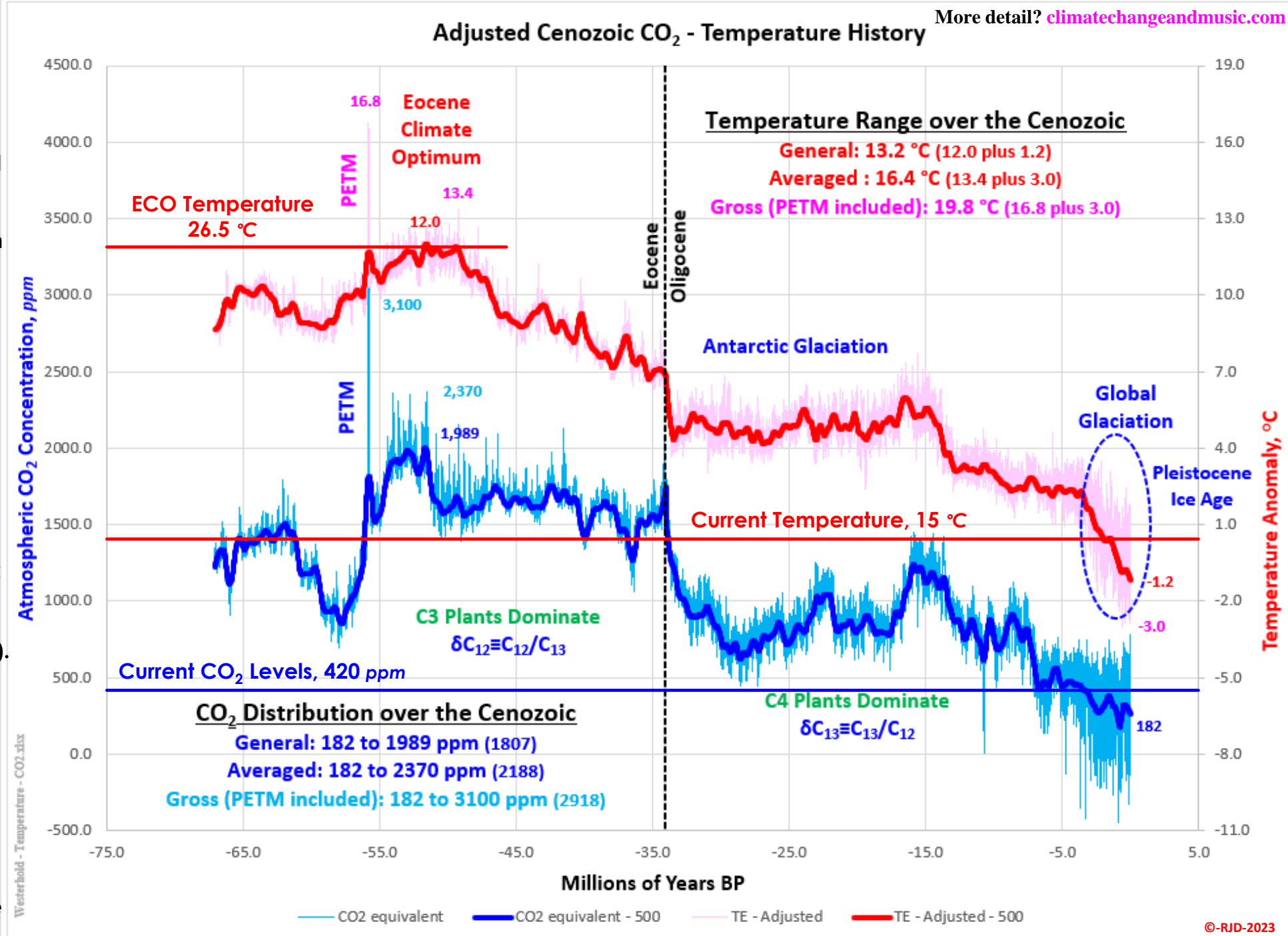
Just some additional perspective. Our current global temperature is roughly 15 °C. A relatively warm temperature given that we are living through the Pleistocene Ice Age. Temperatures over the last several million years have been significantly lower roughly 90% of the time. Throughout this period the planet has had large polar ice caps. In stark contrast, the planet was essentially ice free throughout the much warmer Eocene period with global temperatures averaging around 26.5 °C (roughly 11.5 °C warmer than current temperatures).

Life survived and thrived through the Eocene Climate Optimum.

Cenozoic Temperature & CO₂ Chart

Can we and the planet survive a temperature rise of 2 or 3 °C (and/or higher CO₂ concentrations)? Yes, easily! Apart from the deep ice ages, a few celestial impacts and some intimidating wildlife, we would have been just fine. We will be fine!

More detail? climatechangeandmusic.com



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CSS-38f

Cenozoic CO₂ Climate Sensitivity

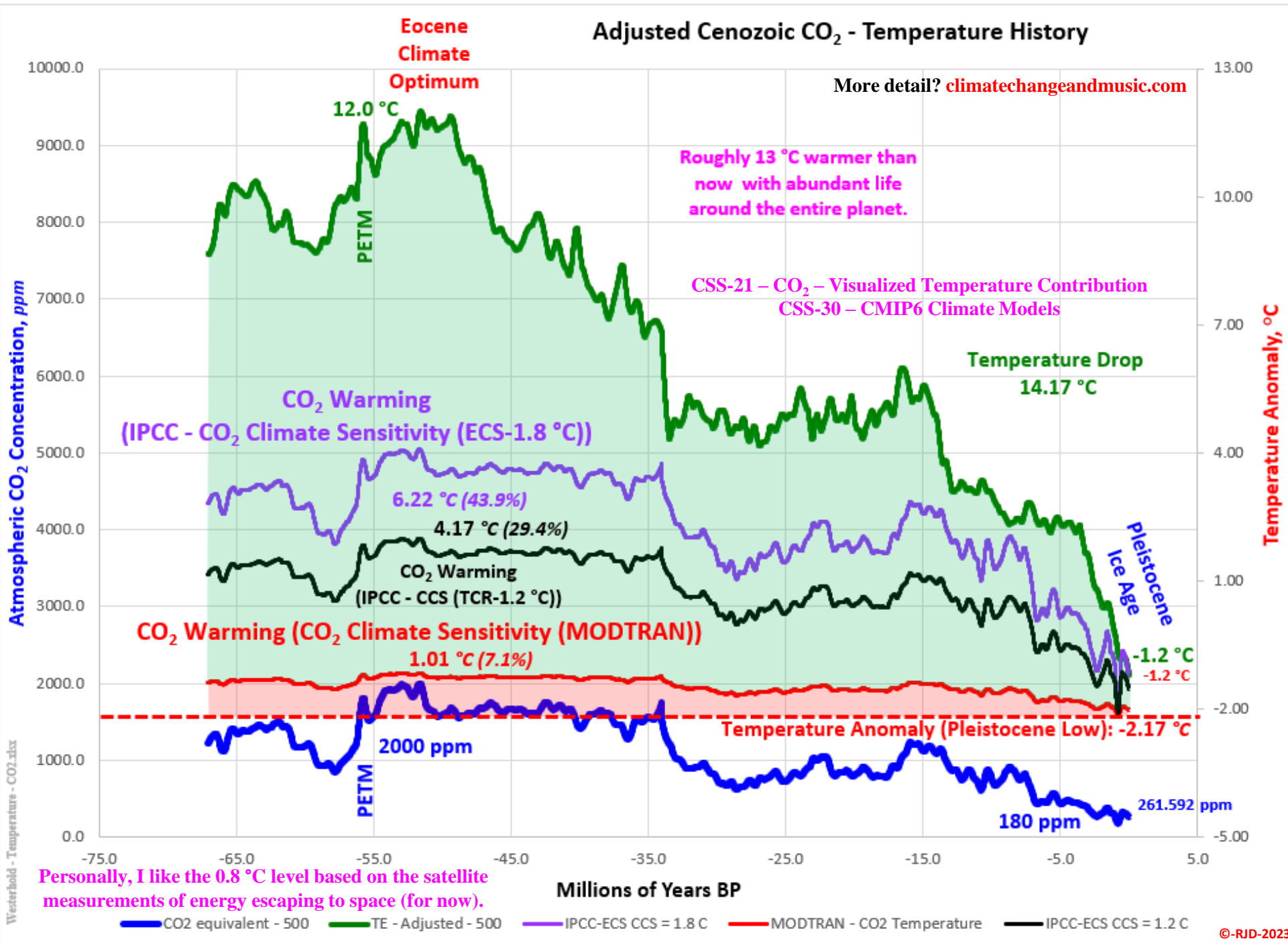
This chart is included to remind everyone that one of the most important parameters in the CAGW alarmist narrative (CO₂'s Climate Sensitivity) is nowhere near settled. The IPCC is using a range of 1.8 to 5.6 °C in the CMIP6 climate models (the ones that self admittedly run too hot). Only their 1.8 °C models come close to matching the observed Lower Troposphere temperatures.

Their base CO₂ sensitivity is around 1.2 °C (prior to introducing their unsubstantiated positive water vapor feedbacks). A more reasonable level that does not ignore the sun would be around 1.0 °C with corrections for Urban Heat Island Effects (UHIE)

Cenozoic CO₂ Climate Sensitivity

mentioned here has been calibrated to satellite measurements of energy released to space and backs out a 0.8 °C CO₂ sensitivity. These sensitivities are not dangerous and the reality may be closer to zero based on Henry's Law (0.03 °C, as outlined in the recent paper by [Kauppinen and Malmi \(April 2023\)](#). So what is CO₂'s climate sensitivity?

moving that down to the 0.8 °C range. The MODTRAN model,



Personally, I like the 0.8 °C level based on the satellite measurements of energy escaping to space (for now).