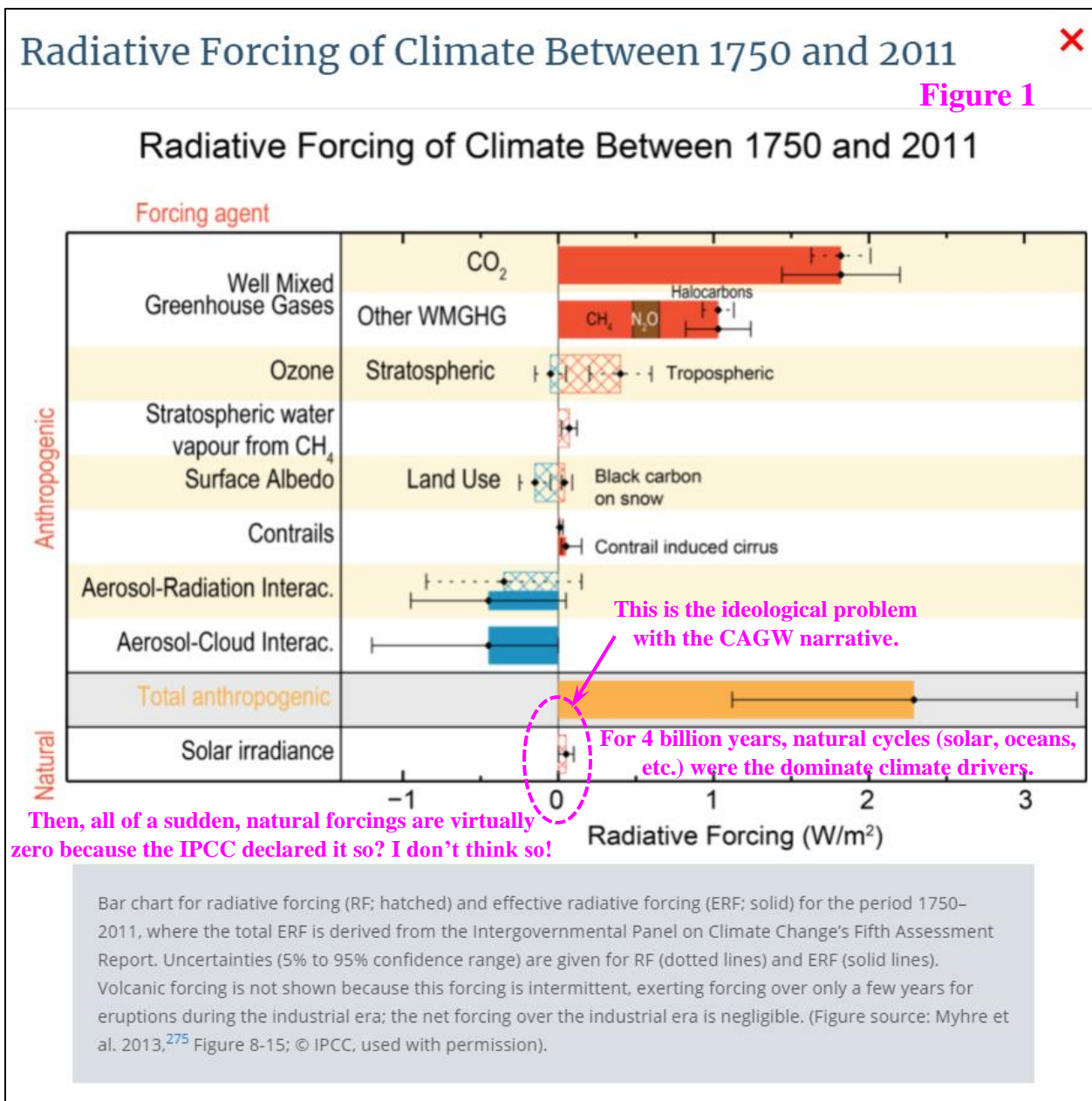


## Open Letter Addendum – August 2021

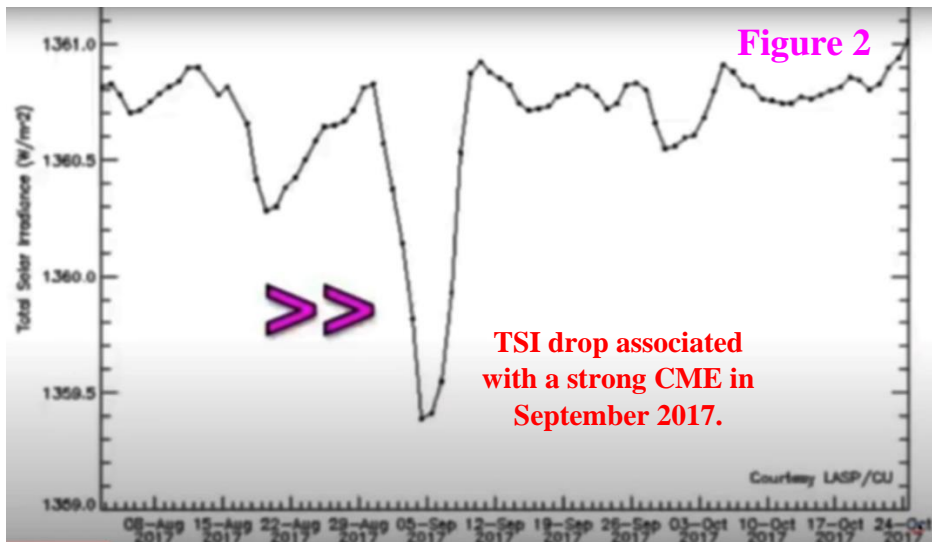
A typical Catastrophic Anthropogenic Global Warming (CAGW) alarmist narrative response often includes a carpet-bombing strategy (i.e.: throw as many links to papers, articles, opinion pieces, etc. as possible to overwhelm the reader). After reading one such NASA response, I decided to write another addendum to my Open Letter. The issues start with their basic approach (encapsulated in the NASA pop-up below (Figure 1) associated with one of the first links I accessed). This information comes from the [IPCC's AR5 – Fifth Assessment Synthesis Report](#). The problem lies in their arbitrary decision to limit the Natural Forcings to just the Solar Irradiance. Their approach begins by setting the solar forcing to the minor changes in Total Solar Irradiance (TSI) over whatever time period they are referencing. Then they throw in natural forcings such as volcanic eruptions (short lived) and the ocean cycles associated with the time period. The ocean cycles may or may not cancel out depending on the length of the time period and the start and finish point



of that cycle. Given that this period is associated with the temperature climb out of the Little Ice Age (the lowest solar activity levels in the last seven thousand years) to the Modern Solar Maximum (the highest solar activity levels in the last 7,000 years, peaking and levelling out around 1950, then very gradually declining to the present), one might expect some additional solar forcing. More discussion on that later. The focus here is on the alarmist mindset (i.e.: natural/solar forcings are essentially limited to the TSI). Now that they have arbitrarily established that natural forcings are virtually zero, they can make their best estimate of all the various anthropogenic forcings (i.e.: the mandate the IPCC was given (i.e.: focus on anthropogenic (not natural) forcings)). Once all the other forcings have been established, anything left over must be CO<sub>2</sub> forcing. Right?

A review of the historical data reveals that, SURPRISE, the climate is always changing. What the data also reveals is that there are no empirical CO<sub>2</sub>/Temperature data sets that show CO<sub>2</sub> driving the climate on any statistically significant historical time scale. CO<sub>2</sub> does affect the temperature, but the magnitude of that effect is small and almost completely dominated by the natural forcings (primarily solar (directly and indirectly)). So, for billions of years, the climate has been controlled by solar activity (through a variety of short and long-term cycles), but now solar activity is ineffective because the CAGW alarmist programmers at the IPCC have decreed it to be so? Sorry, but that is not how nature works in the real world. The natural forces are still active over the Modern Temperature Record (MTR) and will continue to be active in the future (both near and long term).

So, let us explore the concept that natural forcings are limited to just the TSI. For the 1750 – 2011 period quoted above, the TSI increased from roughly 1360.4 to 1361.1 W/m<sup>2</sup> (an increase of only 0.05%). A very small increase that NASA has equated to a forcing increase of 0.05 W/m<sup>2</sup>. Simple math says the TSI increase is 0.7 W/m<sup>2</sup>. Considering that the earth is only exposed to the sun on one side at a time and the energy levels vary from the equator to the poles, the TSI effect on the earth is roughly 25% of the solar output (i.e.: 0.17 W/m<sup>2</sup>). That is still small but over 3 times the value that NASA is using. But the story does not stop there. Recent small, short term examples of TSI changes (called Forbush Decrease) give us a window to examine real time solar influences. Millennia



Forbush Decreases are a sharp drop in cosmic ray intensity associated with an increase in solar activity due to an event like a Coronal Mass Ejection. (CME). The chart to the left (Figure 2) shows the TSI effect from the September 2017 CME (a drop of roughly 1.4 W/m<sup>2</sup>, twice the simple math rise from 1750 to 2011). That TSI drop would be

recognized by the computer models, but the 1,000 times increase in X-ray energy and the 10,000 times increase in high energy particles would be ignored. That is a significant issue that the alarmist community has chosen to ignore. Historically, the computer models were physically limited to just the TSI (CMIP5

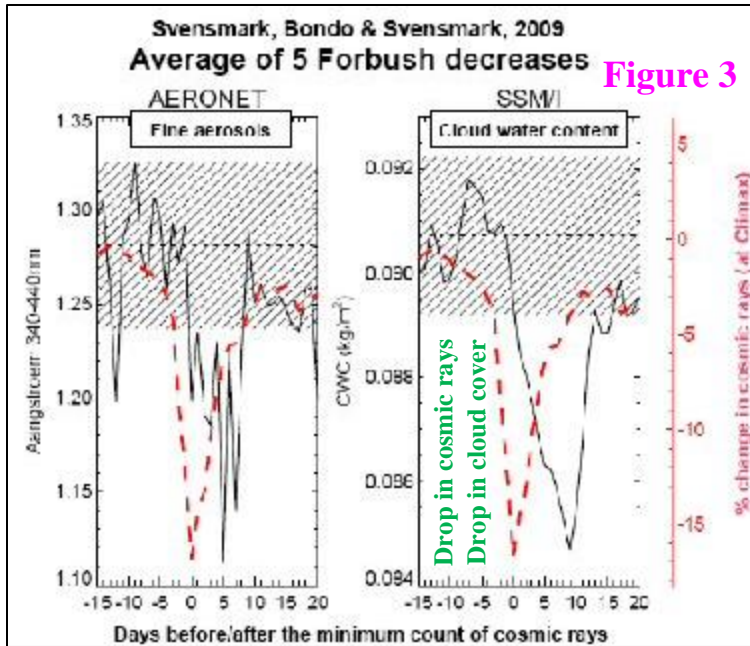


Figure 3

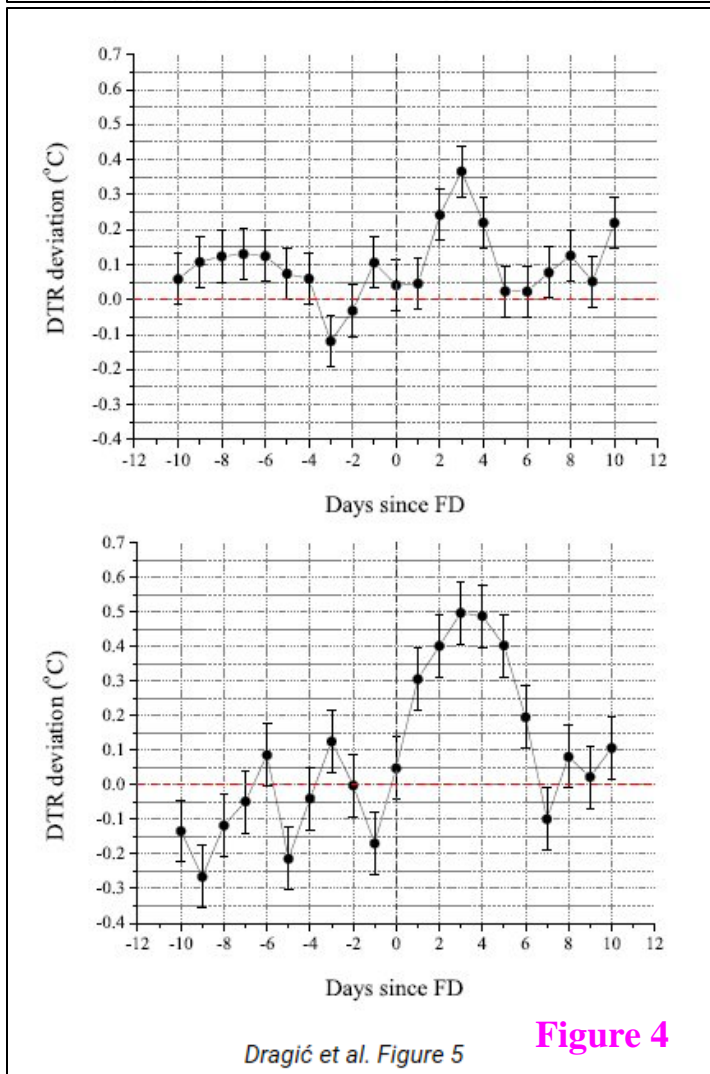


Figure 4

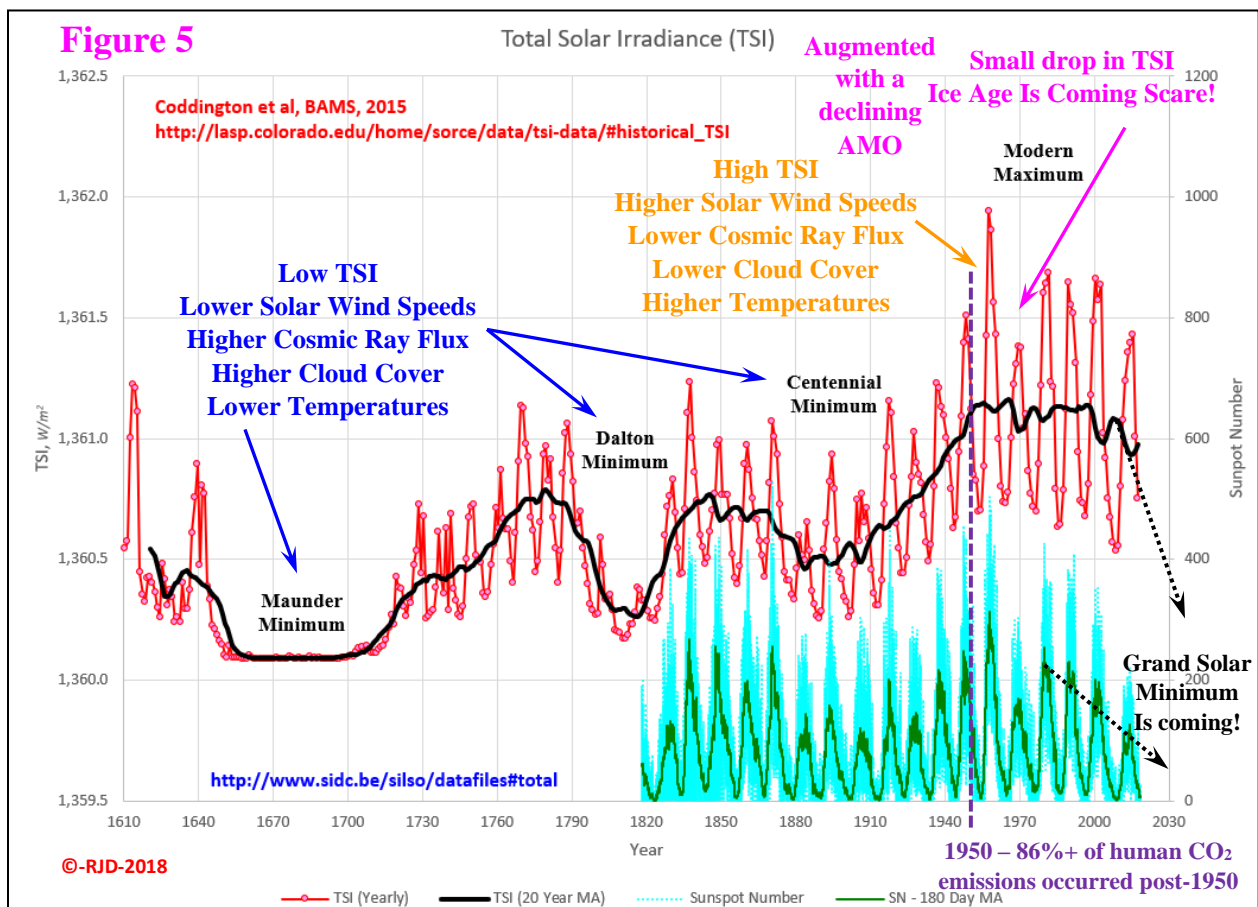
Dragić et al. Figure 5

Protocol). The computer protocol was recently upgraded to CMIP6, which added in the solar forcing associated with Cosmic Rays (to be discussed shortly) and high energy Particles. As an aside, the MTR was modelled accurately during beta testing without any CO<sub>2</sub> contribution (think about that for a minute). I will expand on that point once I am finished with the Forbush discussion. But all you alarmists can relax, the models are still capable of turning the new solar forcings down (or off). Not surprisingly, that is exactly what happened (i.e.: no sense messing with a good narrative).

Back to the Forbush discussion, specifically the cosmic ray response. As a CME approaches and strikes the earth, solar wind speeds increase and atmospheric cosmic ray penetrations are reduced. What happens when atmospheric cosmic ray penetrations decrease? Well, a lot of things, but the relevant changes to “Climate Change” are shown above and to the left (Figure 3, [Svensmark et al](#)). Aerosol levels and Cloud Water Content (CWC, i.e.: less cloud) both drop. Aerosols tend to cool the planet since they reflect the sun’s energy back to space (fewer aerosols, warmer temperatures). Aerosols are also required to seed cloud formation (less cloud, warmer temperatures). These processes, over longer time periods would lead to higher temperatures. However, even on these short time periods, there is a noticeable temperature reaction. A paper, put forward by [A. Dragić et al](#) looked at the change in Diurnal Temperature Range (DTR). “*The rationale for this is the following: if cloudiness is high in the daytime, more sunlight is reflected back to space and the daily temperature maximum is lowered; in the nighttime, less infrared radiation from the earth surface is emitted into outer space and the daily temperature minimum is increased. Therefore - more clouds means*

lower DTR.” Figure 4 to the left shows the average DTR response associated with their list of Forbush Decreases. The upper plot averages all 184 FD events. The lower plot focusses in on the 81 FD events that were greater than 5%. There is an obvious response showing the link between cloud cover and cosmic ray flux. You would think that the IPCC would investigate that link in their quest to understand “Climate Change”. Sadly, they prefer to take a simplistic and ideological approach that fits their UN given mandate (and not a principled scientific approach).

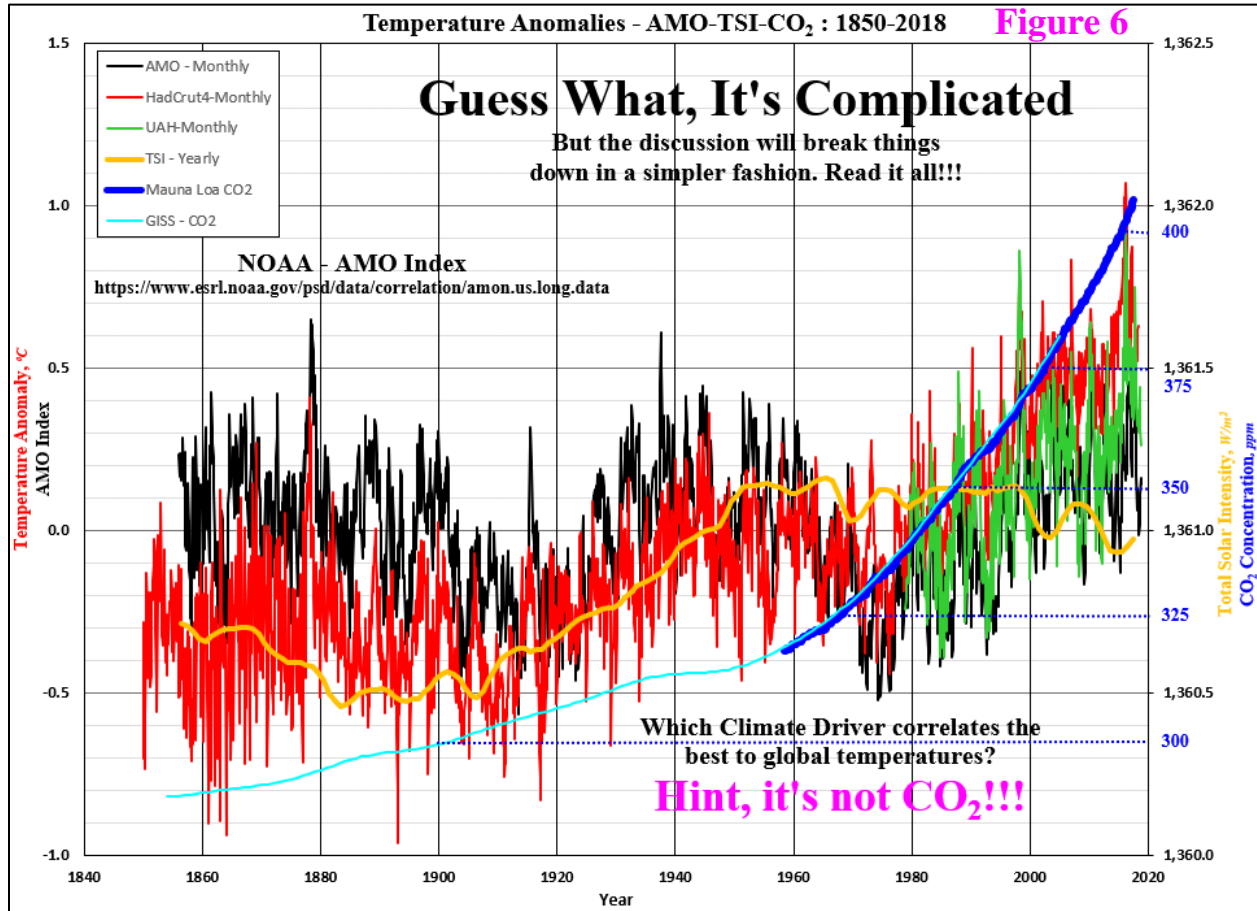
Good quality TSI data is available over the last several centuries. The plot below ((Figure 5) pulled from my [Open Letter on Climate Change](#)) shows both TSI and Sunspot Number (SN). Using the FD events discussed earlier and applying the same general concepts to this time period, the link between solar activity and global temperatures can be easily seen (the Central England Temperature and TSI are plotted together later in the discussion). When solar activity (TSI) is low, solar wind speeds are lower, cosmic ray flux is higher, cloud cover increases and temperatures decrease. High solar activity produces the opposite result.



Solar Minima are associated with historically cold periods (where humanity struggled through reduced crop yields, mass starvation and other examples of civil strife). The Little Ice Age (LIA) started around 1300 AD with the Wolf Minimum, continued with a double dip Spörer Minimum, became really ugly in the Maunder Minimum and had one last hurrah through the Dalton Minimum. Not surprisingly, most of the alarmist discussion begins after the Dalton Minimum. The temperature fluctuations pre-MTR simply do not play out well for the CAGW alarmist narrative. As will be shown later, the temperatures fluctuated significantly over the Holocene (pre-MTR) with virtually no CO<sub>2</sub> contribution.

Before I expand the time scales out again, I want to go back to the MTR and discuss the temperature and climate change driver correlations in a little more detail. The CAGW alarmist crowd has chosen to focus

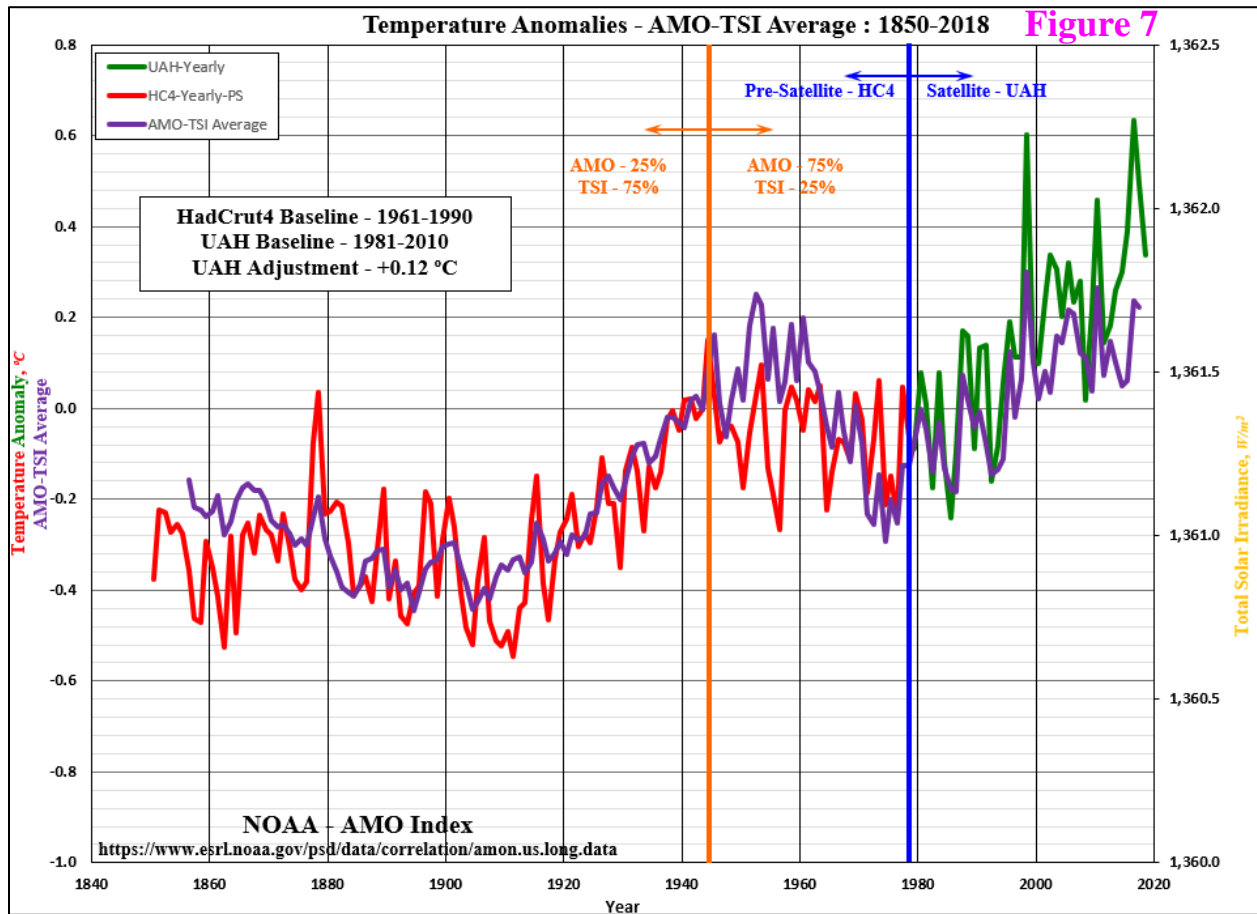
on CO<sub>2</sub>. A simplistic and unscientific approach that is not grounded in reality. In the real world “Climate Change” is COMPLICATED. There are hundreds of parameters that contribute to climate change, with CO<sub>2</sub> being a very small player. The plot below (Figure 6) puts together just four of those key parameters (Temperature, CO<sub>2</sub>, Solar Activity (TSI) and the Atlantic Multi-decadal Oscillation (AMO)).



The best single parameter fit is the AMO (which appears to have influence throughout the MTR. Solar Activity (the TSI, as a proxy) was more influential pre-1950, but does have some potential contribution during the 1970s “The Ice Age Is Coming Scare” and the early 21<sup>st</sup> Century Temperature “Pause”. Human CO<sub>2</sub> emissions to the MTR temperature increase are quite literally focussed on the post 1950 period since over 86% of human emissions occurred after 1950. Although CO<sub>2</sub> may be contributing to that post-1950 temperature increase, so is the AMO from 1975 to 2005 where the AMO levelled out and will soon be declining. How much of the temperature change is due to CO<sub>2</sub>, how much is due to the AMO and how much of the “Pause” is due to Solar Activity is a question I will not try to answer definitively here. I can say that it is definitely not all CO<sub>2</sub>. More detail is provided in my [Open Letter Addendum](#) and [OPS-8](#).

As a quick exercise, I put together a simple climate model (Figure 7, on the following page) that includes only TSI (as a proxy) and the AMO. Since TSI peaked around 1950, I weighted the TSI and AMO separately pre and post 1950. Pre-1950, I used a 75% TSI and 25% AMO weighting. Post-1950 the weighting was reversed (25% TSI and 75% AMO). I made one additional adjustment and used the UAH satellite Lower Troposphere Temperature data beginning in 1979. This takes some of the overly aggressive surface temperature homogenization out of the recent data. That homogenization still exists in the earlier data (i.e.: where did the Dirty Thirties Go?). Strange, how the correlation works out close with no CO<sub>2</sub> contribution.

A little bit of CO<sub>2</sub> would tighten the correlation up quite nicely over the satellite period. But throw in some of the other ocean cycles (PDO and ENSO for example), institute a variable weighting and you again may not need any CO<sub>2</sub>. Yes, it is complicated and CO<sub>2</sub> appears to be a minor player at best.

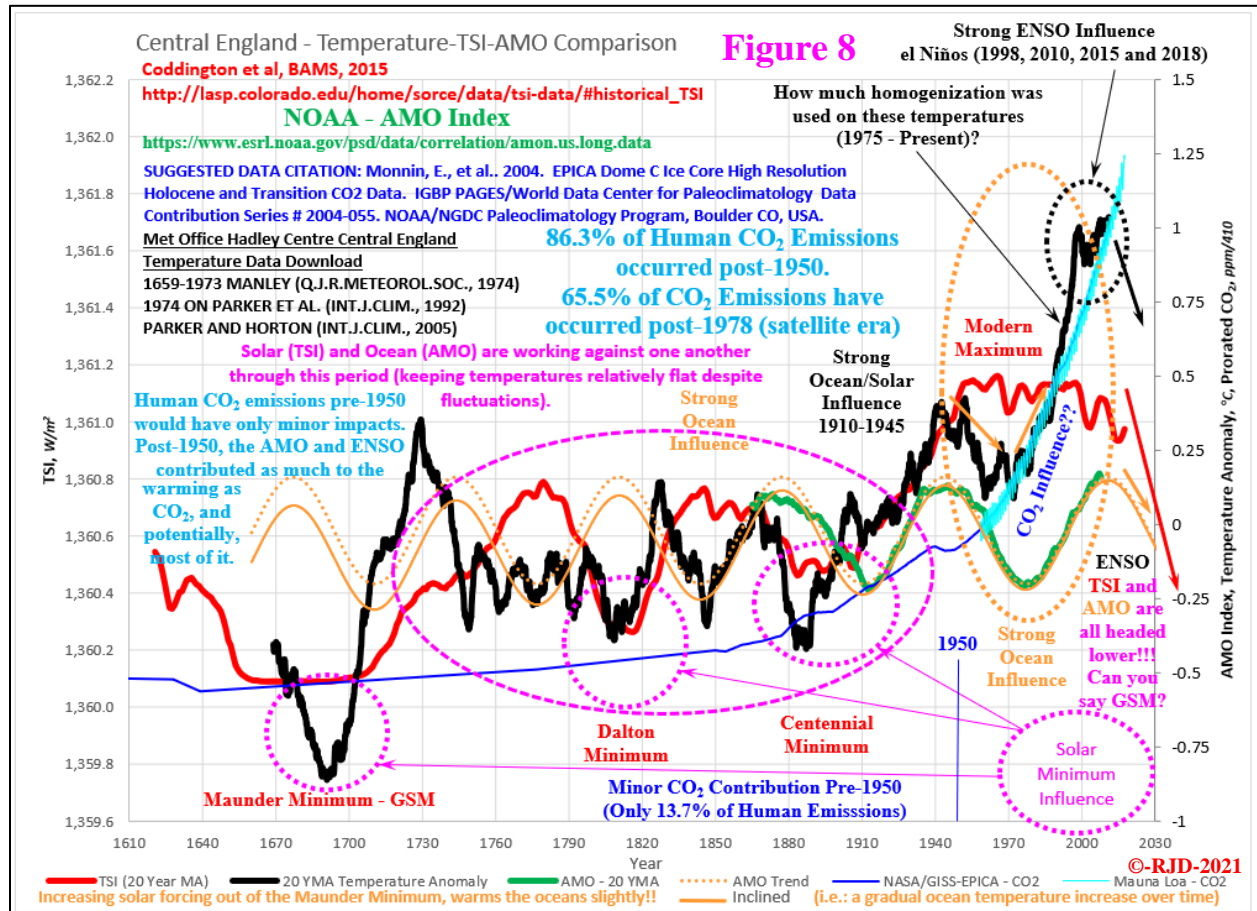


Now, as I mentioned earlier, I will expand the discussion out a little and include the Central England Temperature (CET, Figure 8 on the following page). Obviously, the CET is localized, but it does track the Global Temperature (HadCRUT4 above and in more detail in my post [OPS-38 - CET](#)) quite well given the strong influence the AMO exerts on the Global Temperature.

OPS-38 gets into a deeper discussion of the interaction between Temperature, CO<sub>2</sub>, Solar Activity, the AMO and a couple of significant volcanic events. But looking at the bigger picture, once again the impact of CO<sub>2</sub> is limited to a minor contribution post-1950. The ocean cycles and solar activity play off against one another pre-1950 (sometimes consolidating and sometimes cancelling each other's effect). Is CO<sub>2</sub> responsible for the Maunder (or Dalton) Minima? Absolutely not, CO<sub>2</sub> induced changes to temperature over those periods would have been too small to measure. The AMO was also working against the low temperatures of those solar minima (given that the AMO was in the warm phase for both Minima). The data suggests that solar activity (even on its own) is the major driver pre-1950. The AMO plays its role but ultimately it too is a solar related driver (since the energy required to maintain the ocean currents and cycles) comes directly from the sun (the source of 99%+ of the energy that drives our atmospheric and oceanic circulations).

The CAGW alarmist approach is a simplistic, unscientific and dangerous path to take. They are relying on computer models that are literally programmed to ignore the Grand Solar Minimum (GSM) that we have

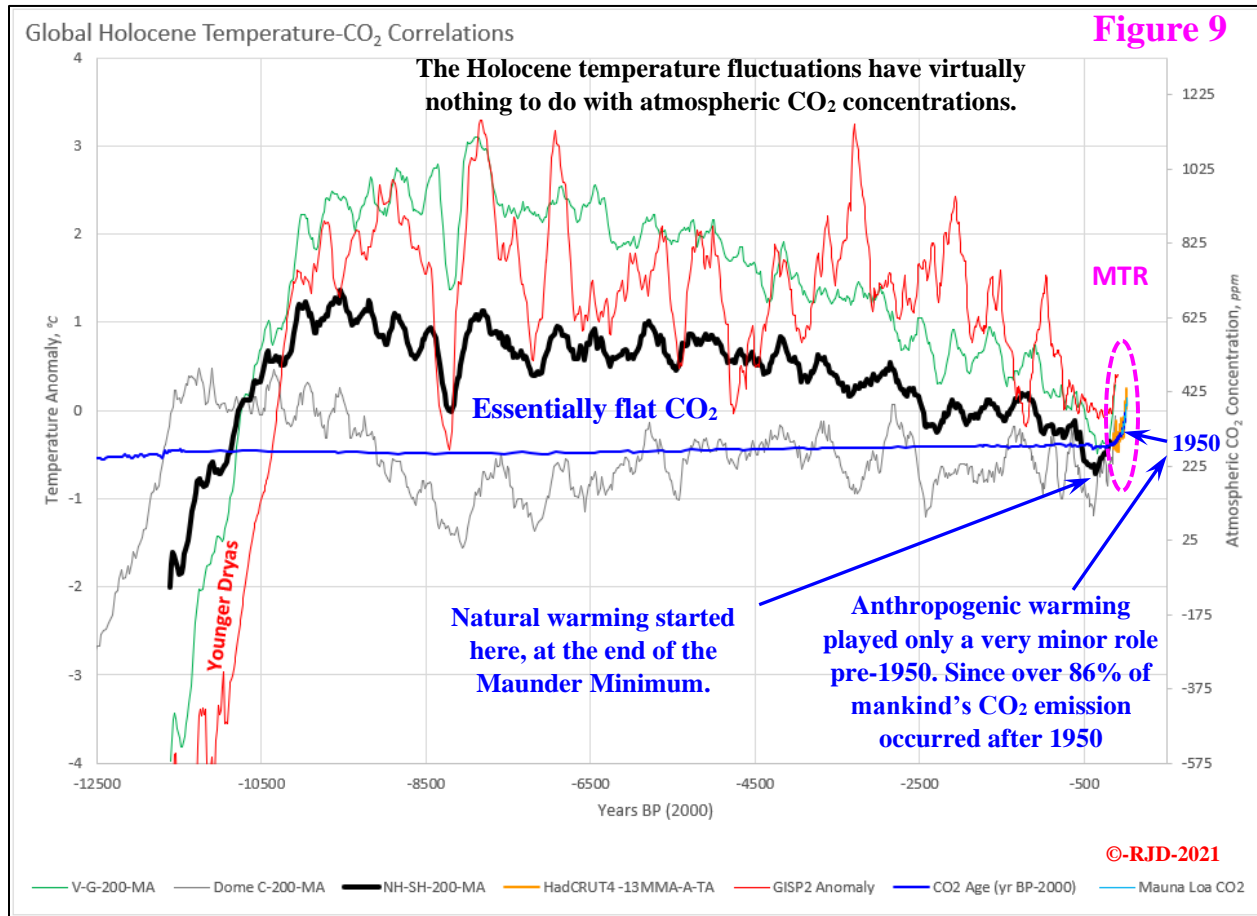
already entered. A GSM that has been forecasted by solar/astrophysicists from all over the world (including NASA).



The sad side of this story is the ideological movement that is pushing this hyper focus on CO<sub>2</sub> emissions to fix an unproven problem almost a century from now when the real existential “Climate Change” threat (global cooling as we move further into the Grand Solar Minimum) is already on our doorstep. And unfortunately, that same ideology is doubling done on a subject that the UN’s own polling has shown is at the bottom of the world’s biggest concerns. In my opinion, “Climate Change” should be on and near the top of the list of major concerns. Just not due to Anthropogenic Global Warming. The whole UN Green Agenda should be placed on the back burner (#delaythegreen) for a decade to address the real financial problems dealt to us through the COVID-19 fiasco. The temperature difference due to delayed green spending would not even be measurable at the end of the century (based on the IPCC’s own “science”). The additional financial burden of the UN Green Agenda will just lead to global economic suicide and not allow the world to prepare for the real problems we will face over the next couple of decades. This subject was explored in more detail in the following posts ([OPS-17 – Paris Accord 2015](#), [OPS-48 – What Does 80+ Trillion Dollars Get You](#), [OPPS-9 – Common Sense](#), [OPPS-14 – #delaythegreen](#)).

After that little tangent I will get back to the data and the relationships between the various climate drivers. The plot on the following page (Figure 9) really highlights the small role CO<sub>2</sub> plays in driving the climate. The data posted here covers the entire Holocene, the 10,000-year interglacial warm period that humanity has been fortunate enough to live through, thrive (with some temperature related ups and downs) and develop the technology and high standard of life we currently enjoy. The vertical scales were chosen deliberately to correlate MTR temperatures and the sharp rise in atmospheric CO<sub>2</sub>. The correlation

assumes (as per the CAGW alarmist crowd) that all the MTR warming is due to rising CO<sub>2</sub> levels. If any of that warming is due to natural forcings (and a majority of the warming is natural), the CO<sub>2</sub> curve would be compressed even further. That so called alarming rise in CO<sub>2</sub> is not all that scary when the temperature and CO<sub>2</sub> rise are put into their proper perspective.

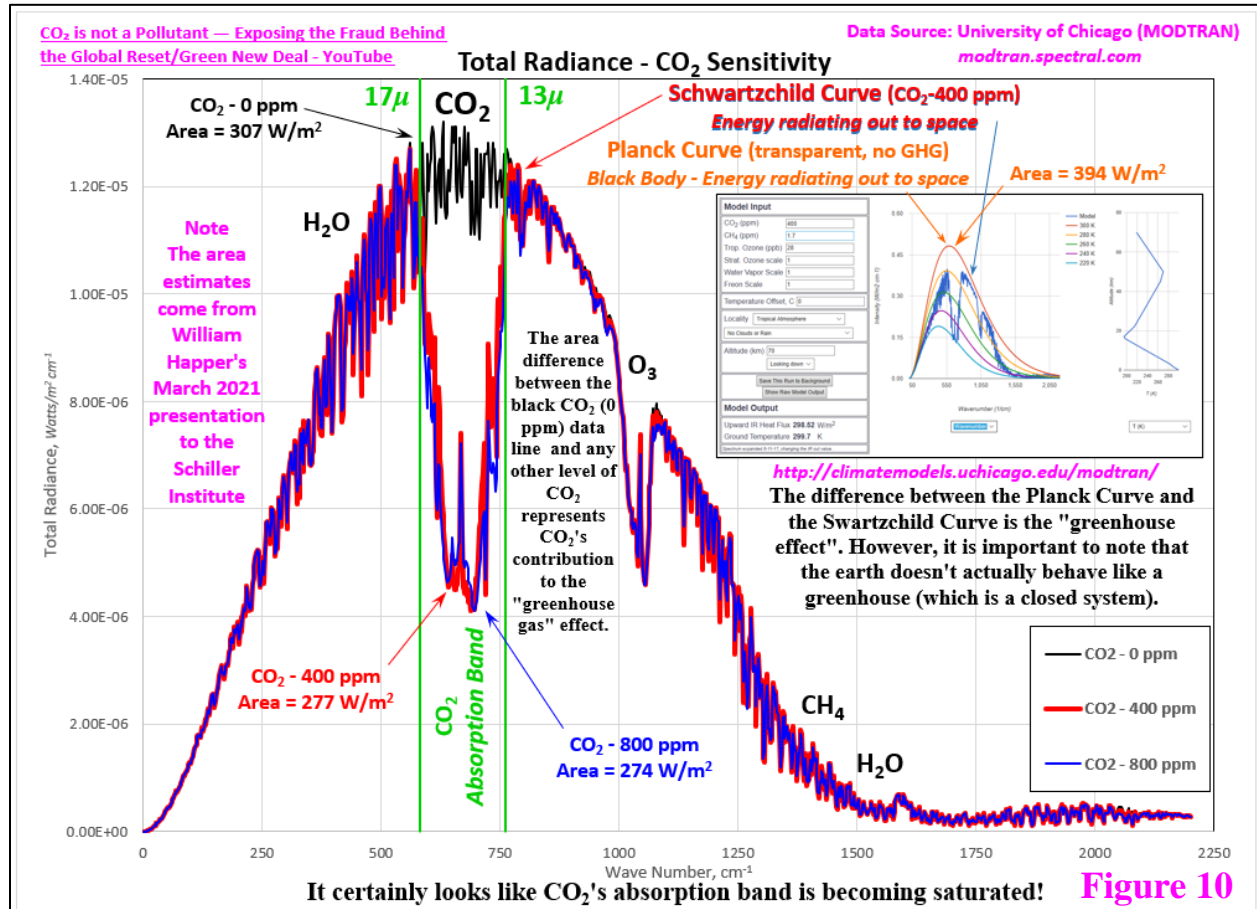


The other major takeaway from this plot is the large temperature fluctuations that characterize the pre-MTR Holocene. An inquiring CAGW alarmist mind might find it strange that the temperature can fluctuate when CO<sub>2</sub> remained virtually flat throughout the entire pre-MTR period. After all, as per the IPCC radiative forcing charts, the global temperatures are controlled almost exclusively through atmospheric CO<sub>2</sub> increases. For those CAGW alarmists that insist the cold solar minimums were just a northern hemisphere phenomenon, I have shown a variety of temperature curves that represent a more global view (Vinther et al (an Arctic Average), GISP2 (Greenland's ice core estimates), Dome C (a representative Antarctic ice core estimate) and an average of Vinther and Dome C. All the temperature data sets have temperature fluctuations that are of the same order of magnitude as the MTR. Note, the MTR temperature data (the very small gold curve on the plot above) has been attached to the Vinther/Dome C Average Curve. This plot was developed over several posts (i.e.: my Holocene Logic series, [CSS-1](#), [CSS-2](#), [CSS-4](#), [OPS-26](#), [OPS-27](#), [OPS-36](#), [OPS-44](#)). I would recommend that those posts be reviewed to show how the rationale for this plot was developed. The various steps are presented in much more detail.

No discussion about CAGW alarmism is complete without addressing CO<sub>2</sub> Climate Sensitivity (CCS). The CCS is the temperature increase that would occur if atmospheric CO<sub>2</sub> levels are doubled. This is a very important "Climate Change" subject that is nowhere near to being "settled". The historical answer is



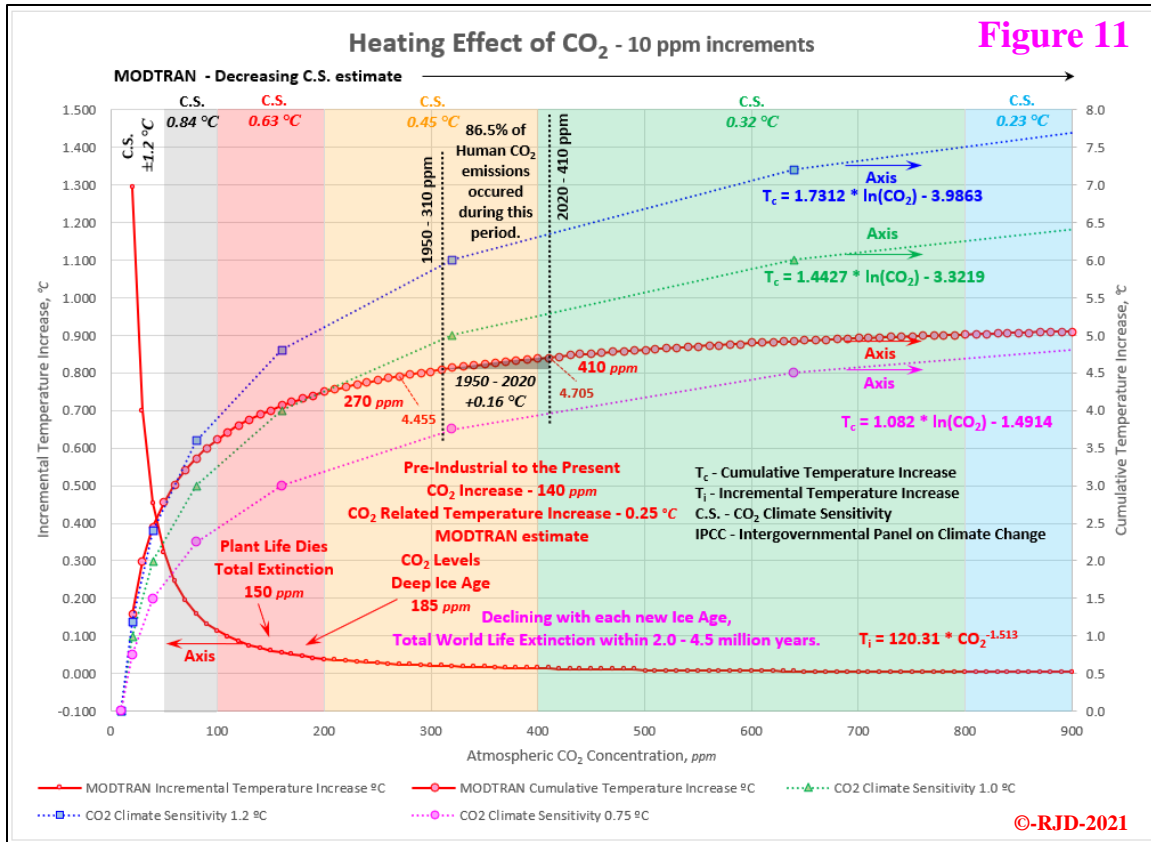
somewhere around 1 °C but the range being used going forward ranges from near zero (assuming that CO<sub>2</sub>'s absorption band is becoming saturated) to levels of up to 4.5 °C (in the IPCC computer models based on an unvalidated positive water vapour feedback). Work done by Judith Curry has estimated that the CCS over the MTR is approximately 1.35 °C (assuming that all the MTR warming is due to CO<sub>2</sub>). Given that not all the warming is due to CO<sub>2</sub>, the CCS is obviously less than 1.35 °C (a point that Curry is well aware of). Even the IPCC uses a CCS of just 1.2 °C. They inflate the CCS by a factor of up to 3 times using their unsubstantiated positive water vapour feedbacks to get their catastrophic temperature increases.



The other end of the spectrum is encapsulated by the plot shown above (Figure 10) and the related plot shown on the following page (Figure 11). Both these plots were pulled from my recent [CSS-7 – CO<sub>2</sub> – The FECKLESS GreenHouse Gas](#) post. The plots were generated using the [University of Chicago's MODTRAN model](#). The model is calibrated to the direct satellite measurements of energy being radiated out to space. And as pointed out by William Happer (a very qualified atmospheric physicist/climate scientist from Princeton), the very narrow CO<sub>2</sub> absorption band is indeed becoming saturated.

The plot on the following page (Figure 11) just shows what the temperature increases would be at different levels of atmospheric CO<sub>2</sub> using historic CCS values of 1.0 °C (a reasonable estimate) and 1.2 °C (the IPCC's unadjusted estimate). The additional red curve shows the transient CCS that is associated with the University of Chicago's MODTRAN output. Under this scenario, additional CO<sub>2</sub> increases will increase temperatures but at minor (and definitely not dangerous) levels. Even using the higher levels of 1.2 °C (the IPCC estimate) or Curry's 1.35 °C, will not lead to dangerous temperature levels. Additional discussion showing these concepts is laid out in my [CSS-3 – CO<sub>2</sub> Sensitivity post](#).

Given that 86%+ of human emissions occurred post-1950, and most of the temperature increase post-1950 appears to be manmade homogenized temperature increases, the hypothesis that the CO<sub>2</sub> absorption band



is becoming saturated certainly appears to have more credibility than the unvalidated positive water feedbacks used by the IPCC modellers.

This is a good opportunity to expand the computer model discussion.

1. The first point that needs to be made is summed up by the **IPCC itself** (bold highlights are mine).

*“The climate system is a coupled non-linear chaotic system, and therefore **the long-term prediction of future climate states is not possible.**”*

That should be the starting point for every discussion on “Climate Change”. The whole premise of CAGW is based on those long-term predictions. How can there be a scientific consensus, how can science be settled, how can government policy be generated using computer simulations that have no possibility of estimating our future climate states? You do not have to be a scientist to answer any of those questions. The consensus means nothing, the science is not settled and the models are useless.

2. So, modelling the whole climate system is not possible. Which is not surprising, since no one even understands how to evaluate just the cloud component on its own.

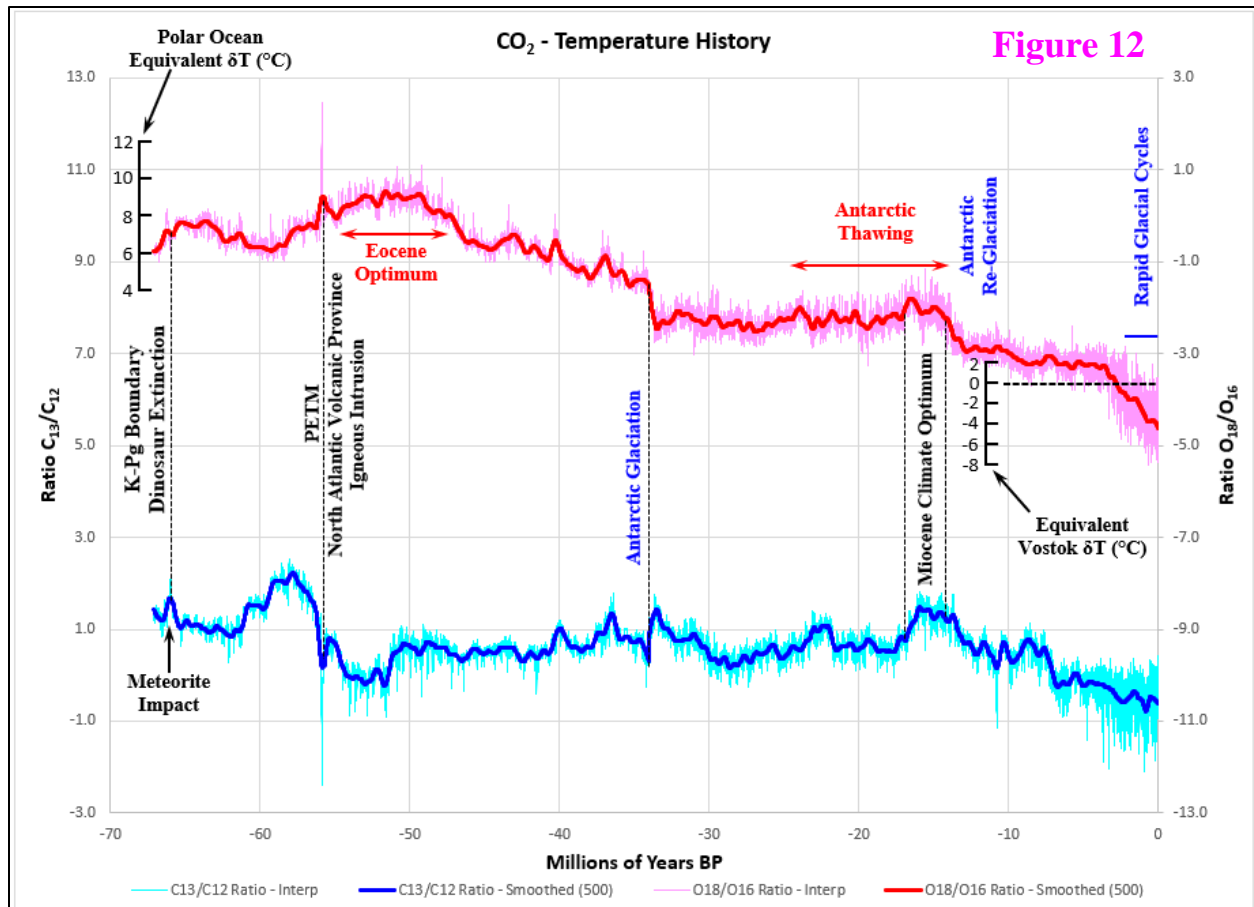
Svensmark et al were mentioned earlier and have presented interesting material on cloud formation that the CAGW alarmists have chosen to ignore. Like the alarmist position on solar activity (i.e.: ignore any information that does not fit with the narrative and/or the IPCC mandate). Interestingly, the Russian model (INM-CM4) was the only IPCC computer projection that came close to accurately predicting the current Lower Troposphere Temperature. What made that model stand out? To start with they used a low CO<sub>2</sub> Climate Sensitivity, but they also used a negative cloud forcing as well. Strange how that works. Those

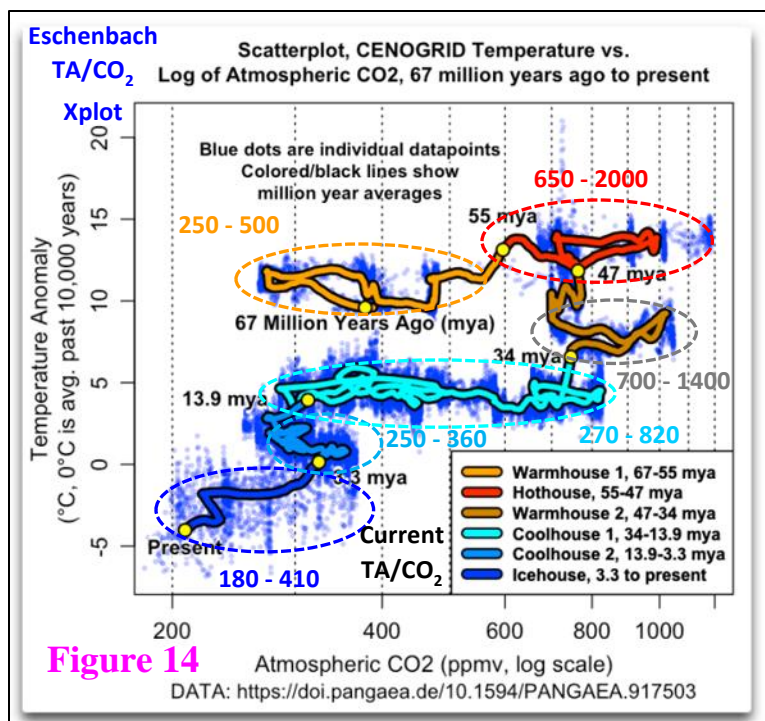
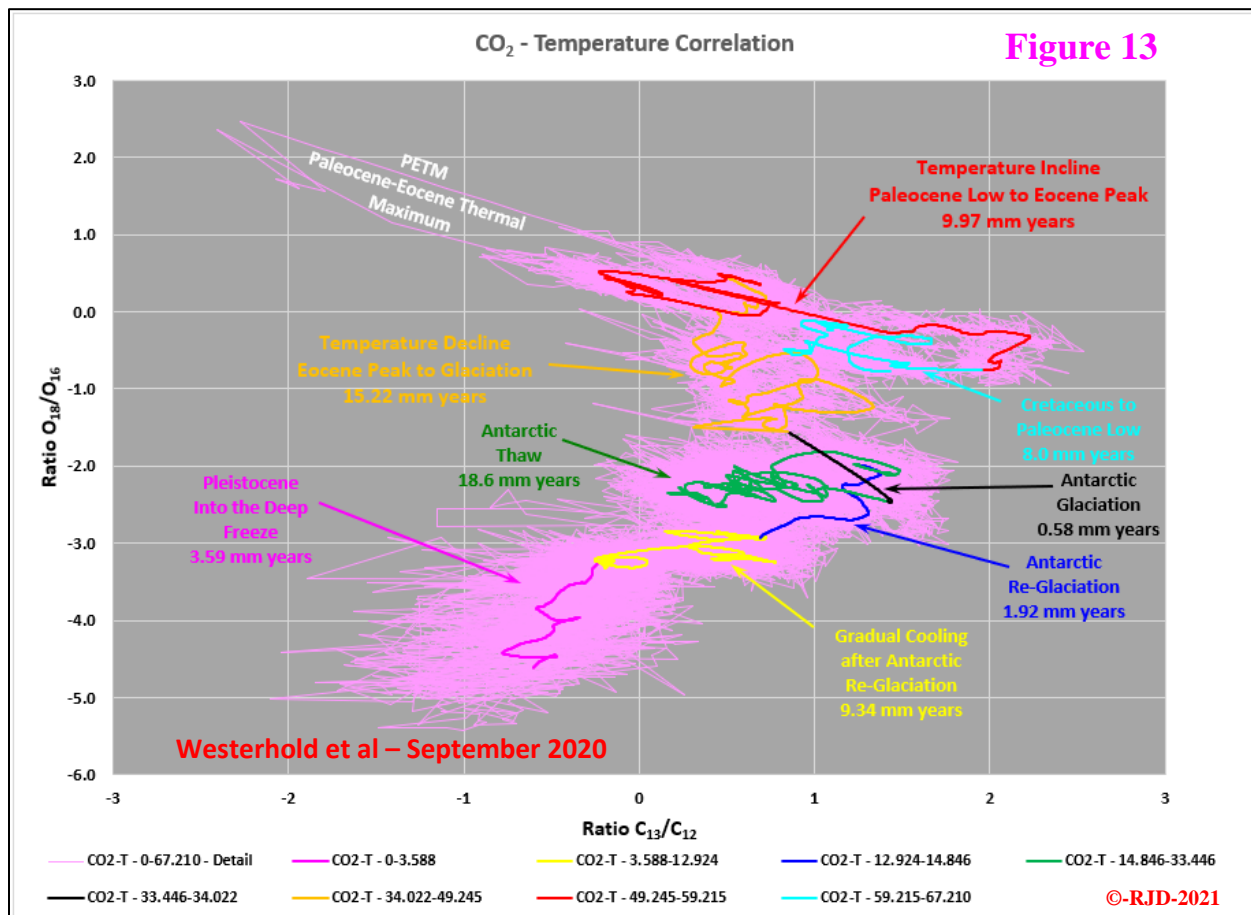
runs were based on the old CMIP5 computer protocol. Under the new CMIP6 protocol, the Russians are back in the crowd and are missing the mark just as badly as everyone else. Dr. John Christie gave a presentation back in January 2021 that compares the CMIP5 and CMIP6 results. The predictions have actually gotten worse. Maybe they should turn the new solar forcings back on? Just saying. I reviewed his presentation in my [CSS-6 – John Christie – January 2021](#) post).

3. The next point that needs to be brought up is the use of the RCP-8.5 (Representative Concentration Pathways) emissions scenario as their business-as-usual case.

There are a lot of things wrong with using this and other RCP scenarios for Policy decisions. Not the least of which is the recommendation from the [RCP developers](#) saying that they should not be used for Policy decisions. The RCP-8.5 is a virtually impossible scenario that requires massive increases in coal use, large population growth, minimal technological advances, etc. The problems with RCP-8.5 are laid out well by many groups/individuals. A couple of review options are [Roger Pielke Jr.](#) or the [Friends of Science Society](#). As a quick aside, China has and will continue to do their best to increase global coal use. Does anyone in the CAGW alarmist crowd wonder why, the lowest cost producer (courtesy slave labor) of renewables in the world would be building coal fueled power plants when renewables are supposedly much cheaper than fossil fuel options? Just asking.

Getting back to the data, the plot below (Figure 12) and the related plots on the following page (Figures 13 and 14) are based on data put together by [Westerhold et al](#) in September 2020. Until recently, a good example of CO<sub>2</sub>-Temperature relationships (data specifically) over this time interval (the Cretaceous Extinction to the present, Cenozoic) was not available. I will review this data in more detail in a separate posting ([CSS-10 – A Ride Through the Cenozoic](#)), but the information does fit with this general discussion.





Like every other representative time period over the earth's history, CO<sub>2</sub> is not driving the climate on this time scale either. Westerhold et al do their own detailed look at the CO<sub>2</sub> and Temperature correlation/causation. Just for the record, the IPCC computer models are useless for modelling this time period as well. For example, temperatures are often high when CO<sub>2</sub> levels are low (and vice versa)? Maybe, just maybe CO<sub>2</sub> is not the only climate driver acting on this planet (as per the IPCC programmed forcings).

The full 66-million-year data set is shown above (the pink floss in the above map). Temperature is represented by the  $\delta O_{18} = \delta O_{18}/O_{16}$  isotope ratio and CO<sub>2</sub> is related to the  $\delta C_{13} = \delta C_{13}/C_{12}$  isotope ratio. The

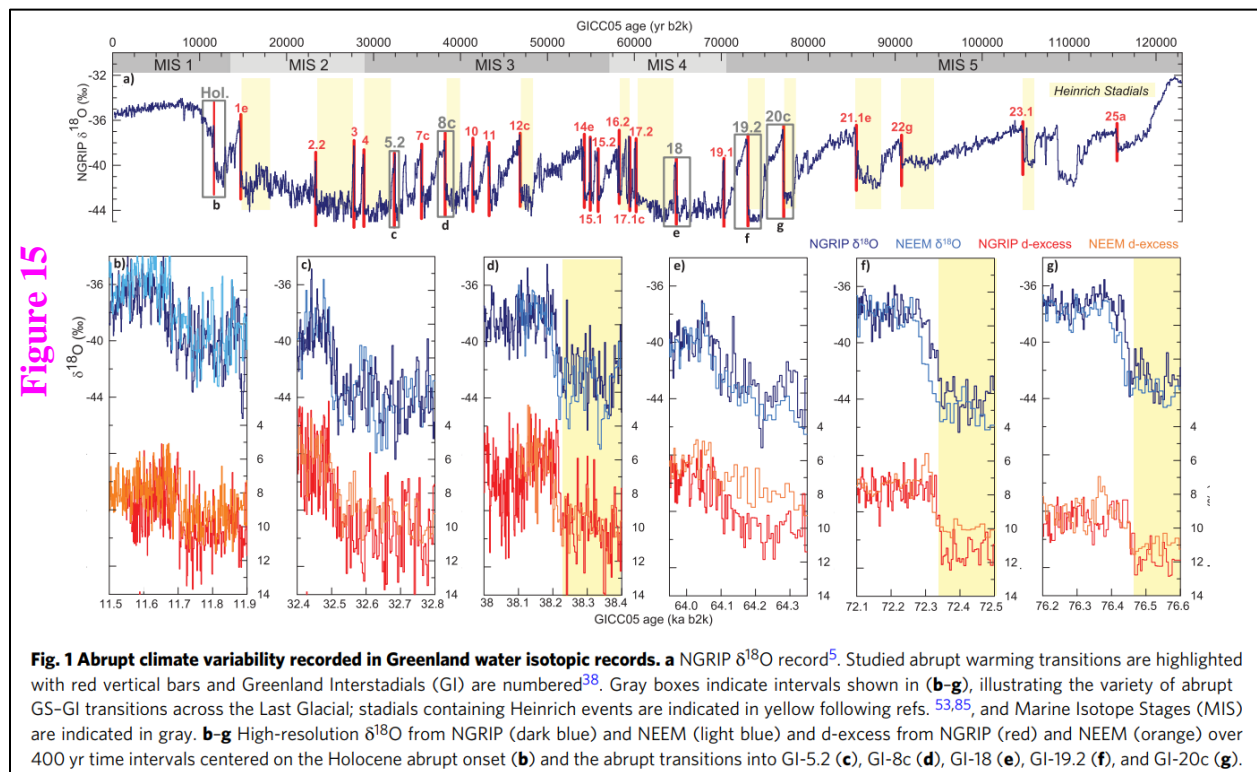
coloured lines represent different sequential time periods based on geological events and consistent

temperature regimes. [Eschenbach's conversion](#) to CO<sub>2</sub> is included to the left (Figure 14). There is not a lot of overall consistent temperature/CO<sub>2</sub> correlation going on here. During the stable climate platforms, CO<sub>2</sub> changes significantly, temperature remains relatively stable.

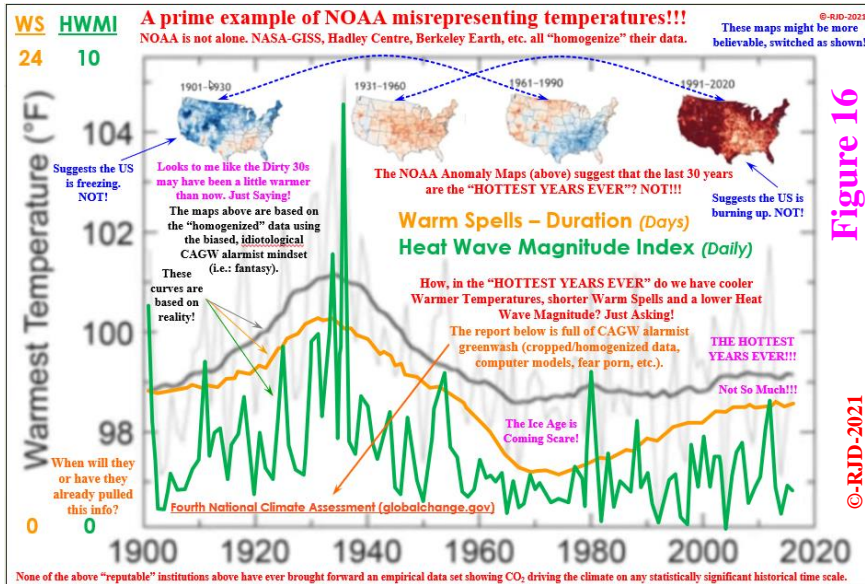
For those that want to review detailed technical papers, I will include the [Capron et al \(April 2021\)](#) paper “The anatomy of past abrupt warmings recorded in Greenland ice”. Why do I include this paper? Simple. All the data and computer processing in the world can not begin to predict what the climate will be. A look at the data below (Figure 15) shows 25 events that were far more drastic than our very modest 1 °C warming out of the Little Ice Age (LIA). The mechanism producing these Dansgaard-Oeschger (D-O) events (as described below) has not been determined (i.e.: more “settled science” (?)).

“However, no consensus exists yet to explain what triggers the abrupt warmings, characterized by Greenland surface temperature increases of 5–16 °C within a few decades to centuries<sup>8</sup>. Among the proposed paradigms, mechanisms involving changes in Nordic Seas sea-ice cover<sup>9</sup>, atmospheric circulation<sup>10</sup>, or the collapse of ice shelves<sup>11</sup> have been investigated. Recent studies suggest that abrupt climate variability can result entirely from unforced<sup>12</sup> or noise-induced oscillations of the coupled atmosphere-ice-ocean system that alter poleward energy transport (ref. 13 and 14 for reviews).”

What are the main takeaways from this paper? The MTR warming is neither unusual or unprecedented (in fact a 1 °C warming is totally inconsequential and well within the “unforced or noise-induced oscillations of the coupled atmosphere-ice-ocean system”). Even the D-O event’s 5-16 °C temperature increases can be random events. One more example of how useless the IPCC computer projections are.



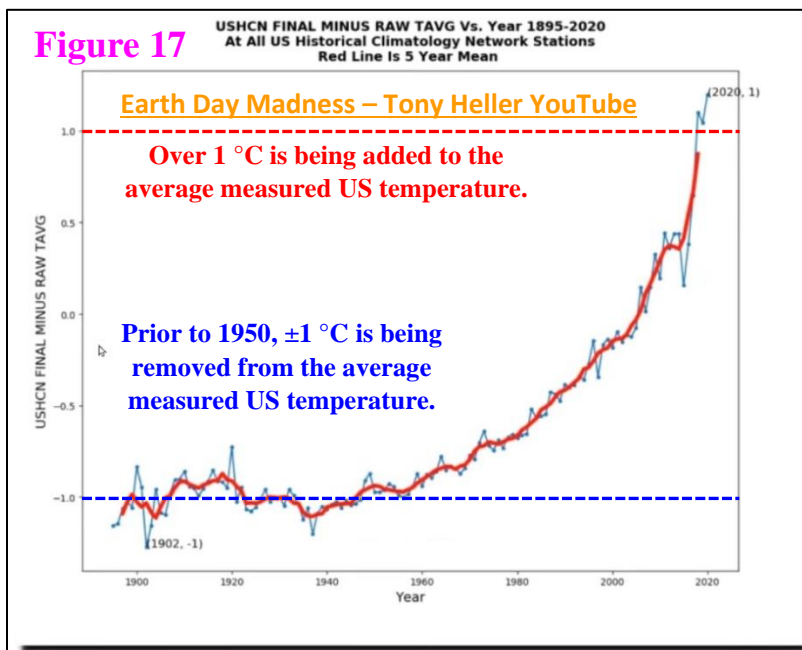
Having introduced a random unpredictable parameter into the discussion does not mean that the various climate drivers will not show up in the historical data. Solar activity ties very well with the climate data on many different time scales, with different cycles dominating at different times. And as mentioned previously, there is no empirical Temperature/CO<sub>2</sub> data set showing CO<sub>2</sub> driving the climate on any statistically significant historical time scale.



The last subject I will touch on is temperature (and data, in general) manipulation. The plot to the left (Figure 16) provides an example of the manipulation that is routinely used to push the CAGW narrative. The NOAA map suggests that the 1991 – 2020 period is “burning up” when in the real world the 1931 – 1960 period was much hotter. When applied to the temperature specifically, the adjustment process is called homogenization. NASA-GISS (among others) have

taken huge liberties and (in my opinion) have greatly over-homogenized the data. You do not have to look any further than the Dirty 30s. They have been homogenized out of existence. A smaller example is the 1998 strong el Niño which was the “hottest temperature ever” prior to the strong el Niño in 2016. I have summarized some of that temperature manipulation in my [OPS-49 – Temperature Manipulation](#) post and in more detail in my [CSS-8 – Earth Day 2021](#) post.

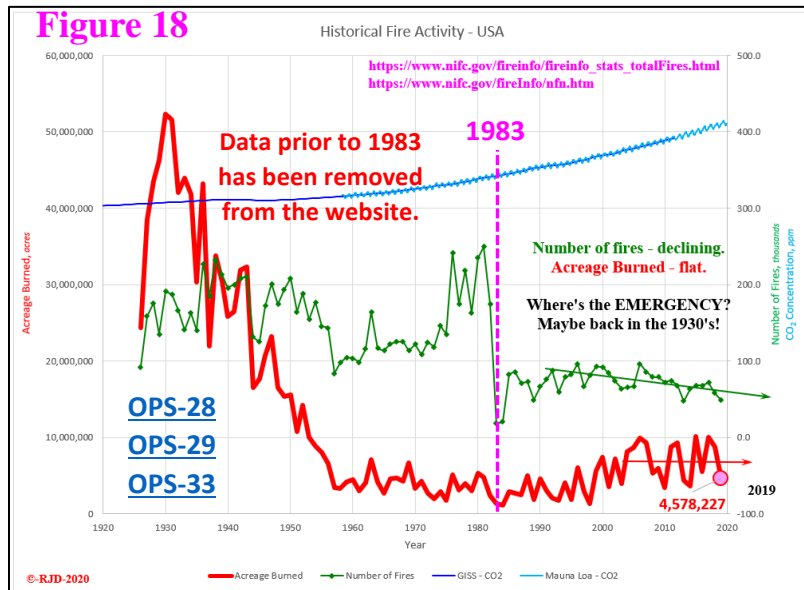
The 1930s were much hotter than today’s “HOTTEST YEARS EVER” rhetoric. A comparison of measured and “homogenized” temperatures



shows just how much manipulation is required to keep the CAGW alarmist narrative alive. The NASA homogenization process has decreased historical US temperatures by a full degree Centigrade and has increased more recent temperatures by up to a full degree Centigrade (as shown in the plot to the left (Figure 17)), with every year requiring an ever-larger adjustment). [Tony Heller](#) (for one) has investigated the data manipulation in much more detail than I have. I would suggest that you review his website and YouTube channel for some perspective. For those that will

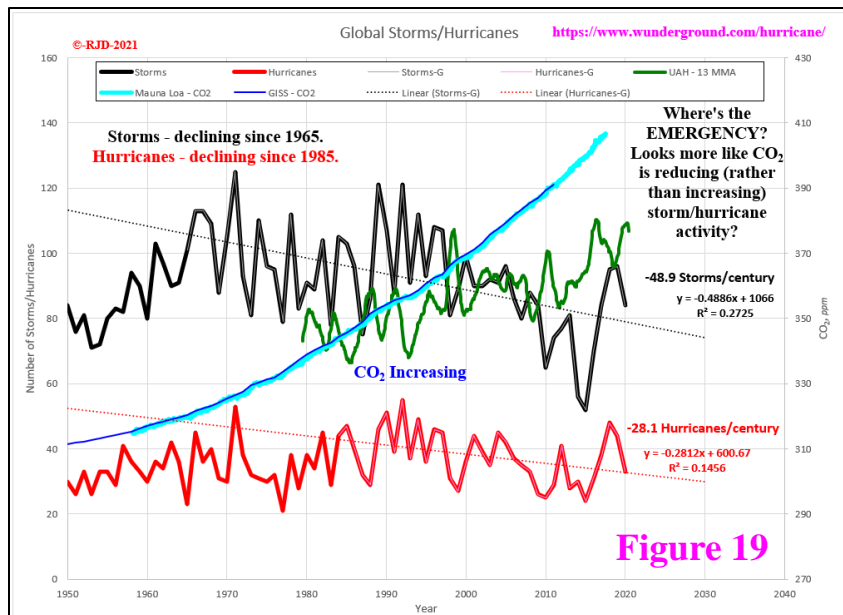
quickly point out that Tony Heller is a “gasp”, Climate Change “Denier”, please detail where the data he presents is incorrect (remember, all the data comes from NOAA).

The other option that the CAGW alarmist crowd likes to use is cropped data. I asked a question on the plot



at the top of the previous page (Figure 16), “When will they or have they already pulled this info?”. Well it took exactly one day before this headline came across my LinkedIn account, “[EPA “Disappears” the 1930s Drought and Heat Wave Climate Data](#)”. Oh, the irony. But that is not the only example. Forest Fire data from the [National Interagency Fire Center](#) (shown to the left (Figure 18)) has been conveniently cropped at 1983 (the lowest point in the database history). This highly questionable manoeuvre ignores the much higher acreage burned pre-1960.

Studies have also shown that several centuries ago acreage burned was up in the hundreds of millions of acres. That info is not really necessary since the pre-60’s data is already up to five times the current levels.



The manipulation can be more subtle than what they just did with Forest Fires and the Dirty 30s heat extremes. When you listen to the hype during Hurricane Season, the media focus is all on the Atlantic activity (which although they fluctuate from year to year, the numbers have been gradually increasing, [OPS-46 – Hurricane Update – March 2021](#)). The global numbers are shown to the left (Figure 19). When a hurricane (big or small) slams into the East Coast of the US, the results are tragic and real for

those in its path, but the Atlantic is a small fraction of the world’s cyclonic activity. As shown in the graph on the following page, global storms/cyclones have been trending down for decades. Given the data, CO<sub>2</sub> appears to be improving the extreme weather situation. In reality, as per the IPCC’s own remarks, “*There is low confidence that long-term changes in tropical cyclone activity are robust, and there is low confidence in the attribution of global changes to any particular cause. However, it is virtually certain that intense tropical cyclone activity has increased in the North Atlantic since 1970.*” [IPCC AR5 – Synthesis Report](#).

You can also add in their CAGW alarmist focus on the MTR since discussion pre-MTR is very limited. Not surprisingly, they need to focus on the MTR to comply with their UN mandate, “*The Intergovernmental Panel on Climate Change is an intergovernmental body of the United Nations that is dedicated to providing*

*the world with objective, scientific information relevant to understanding the scientific basis of the risk of human-induced climate change, its natural, political, and economic impacts and risks, and possible response options.*” That mandate and focus on the MTR is prominent throughout the IPCC’s AR5 Synthesis Report. The computer models use only data available during the MTR. Which as shown earlier guarantees that the models are incorrect and ultimately worthless based on their current programming. If you can not model the past, you can not model the future (GIGO). The CAGW alarmists (NASA included) rely heavily on their super-charged computer models (GIGO) to fan the fears of catastrophic temperature increases.

Note, the only place catastrophic temperatures actually exist is in the computer-generated virtual reality the CAGW alarmist propogandists continually push on society. In the real world, temperatures cycle up and down for a variety of reasons (with CO<sub>2</sub> being one of the more minor reasons). When all the available data and forcings are taken into account, we will not have to worry about the minor warming that CO<sub>2</sub> might provide a century from now. We should be worrying about the cooler temperatures we will experience over the next couple of decades as we move further into the Grand Solar Minimum we just entered (and are already experiencing (i.e.: Texas, February 2021)). Unfortunately, our esteemed governments are (I suspect, knowingly) ignoring this real and immediate climate change threat.

To summarize, the NASA response is designed to be overwhelming, carpet bombing the reader with papers and their perspectives. Are the NASA links valid? Sure. I have no doubt that the papers, etc. they have put forward have been peer reviewed. But all those papers are subject to the bias/assumptions they have built into their evaluations. But ignoring the natural (solar) forcings (as they do) is a huge assumption that is not justified by the science. Using an unproven fudge factor (i.e.: positive water vapor feedback) in their computer models is also not justified. And for good measure, assigning the bulk of the radiative forcing to CO<sub>2</sub> is also not scientifically justified, since there is no empirical CO<sub>2</sub> data showing CO<sub>2</sub> driving the climate on any statistically significant historical time scale. Unfortunately, for the CAGW alarmist crowd (NASA included), there is no paper (or group of papers) that can prove the CAGW alarmist narrative. The only way to move a theory (in this case a narrative) into an established scientific principle is to provide empirical data.

I have laid out the scientific method in my [OPS-47 – Fact Checking](#) post for both traditional science and the climate alarmist pseudo-science. The difference would be funny if it were not so real. And if one of our alarmist friends feels that our position is meaningless without a boatload of peer-reviewed, published scientific papers, you can direct them to the Nongovernmental International Panel on Climate Change (NIPCC). Their [Climate Change Reconsidered](#) and related reports include hundreds of peer-reviewed, published scientific papers that acknowledge/recognize the role of the sun and more realistically/accurately reflect CO<sub>2</sub>’s minor role. If NASA was using the scientific method properly, they would engage/debate the scientists responsible for the NIPCC reports and ultimately prove or disprove (not just dismiss) the NIPCC information. That has never happened.

Ultimately, the data tells the story without getting into the propaganda or deep technical evaluations from either side of the discussion. Look at the basic data (Global temperatures, atmospheric CO<sub>2</sub> concentrations and solar activity (which includes ocean cycles)) with an objective mind and it will become clear that the CAGW narrative is closer to religious belief than science. Note (in my opinion), AGW is real but the magnitude is small, whereas CAGW is almost total fantasy. So, look at the data (available in my [Open Letter](#) with links), ignore any opinions (mine included) and make up your own mind. Think for yourself!!!