WMO – Global Warming Propaganda

This little piece of propaganda has been making its way around the social media circuit lately. Despite lacking context, this chart has not been flagged by the "fact checkers". That, of course, is not surprising. You will not see any buttons that lead to information on how much data manipulation (i.e.: homogenization) these "official temperatures" have been subjected to. You will not see any reference to the AMO, PDO or ENSO ocean cycles that have made significant contributions to the temperature increase over this period. You will not be advised that this data set goes back to the mid-1700s but the chart was started in the depths of The Ice Age Is Coming Scare (a temperature low after several decades of temperature decline). You will not be advised that over 86%+ of human emissions are post-1950. The question is not has temperature risen, the question is how much of the rise is due to each of the potential forcings? The CAGW alarmist crowd will tell you its all our fault (GHG emissions, primarily CO_2). That ignores the AMO warming phase (1975 to 2005) which based on history is capable of adding the ±1 °C shown here all on its own. Especially if you wrongly believe solar activity is negligible.

WMO – GW Propaganda

My Adds

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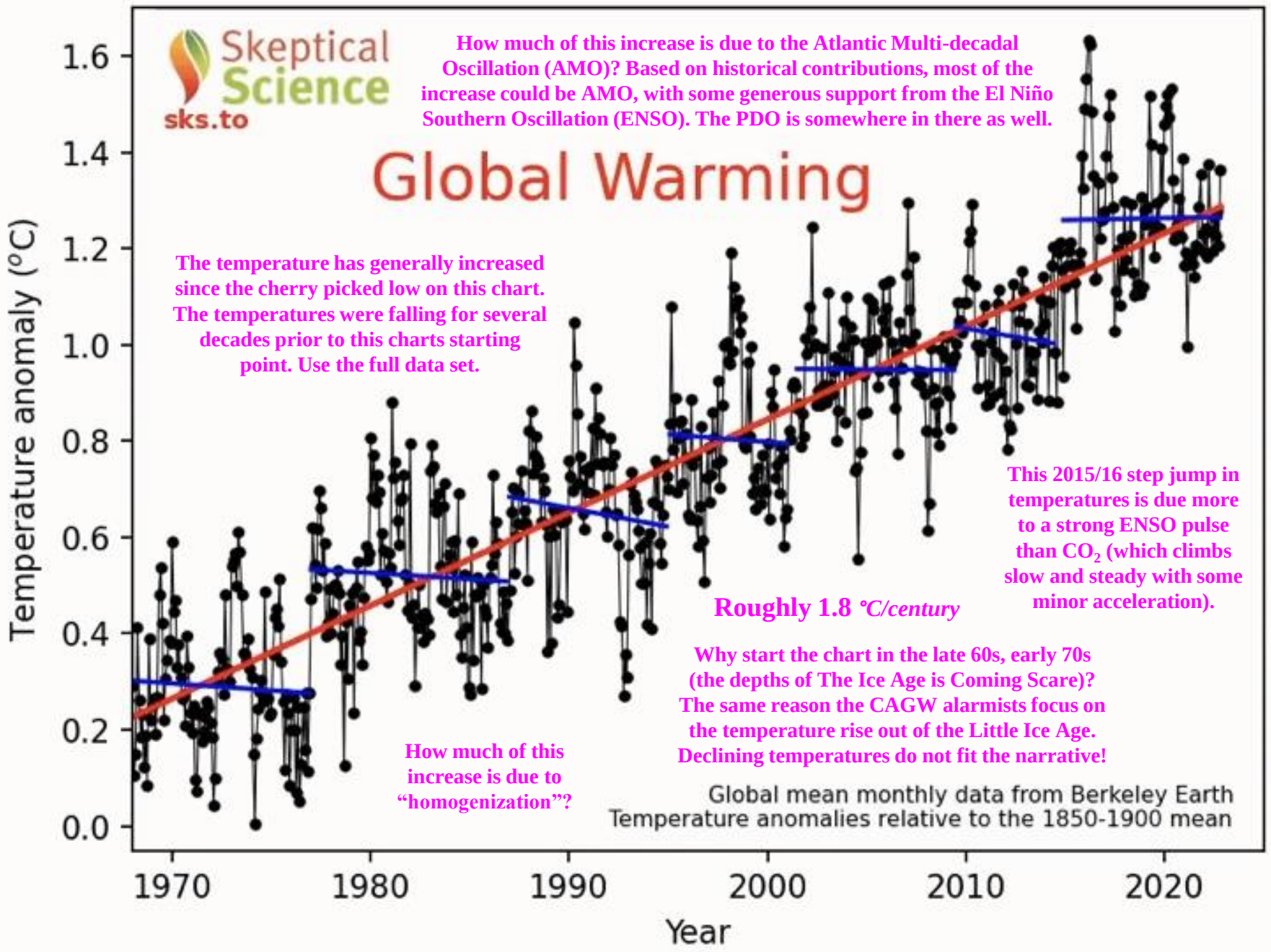
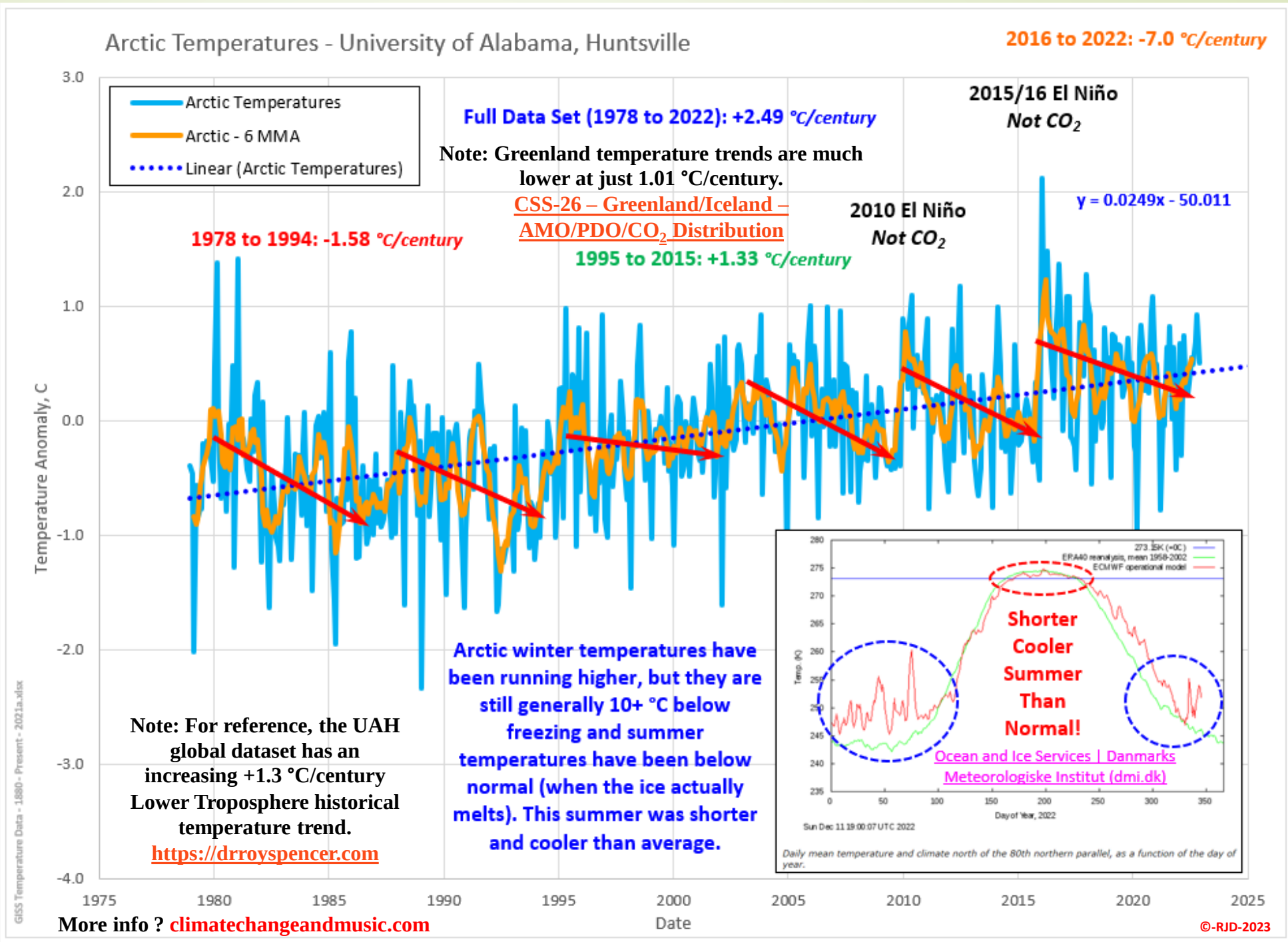


WMO – Global Warming Arctic-UAH

The chart on the previous slide also caught my attention because of the temperature pulses highlighted on the temperature curve. Those pulses are evidence that more than just CO_2 is acting on our planet and they are very similar to pulses that I noticed in the UAH Lower Troposphere polar temperature datasets. The plot to the right is the UAH Arctic data. Like the Berkeley Earth data, the overall Arctic temperatures are increasing (at 2.5 °C/century). But that rise tends to be sharp increases followed by shallow declines (with a ±9 year cyclicity). The pulses look like a strong El Niño followed by a longer La Niña dominated ENSO cycle (although the 1998 El Nino is not very prominent). What is the most likely source of the ±9 year cycle? That would most likely be the 18.6 year lunar tidal cycle which has been to the ENSO and the Arctic climate (through a variety of different mechanisms). More links and discussion later in the post.

WMO – GW Arctic-UAH



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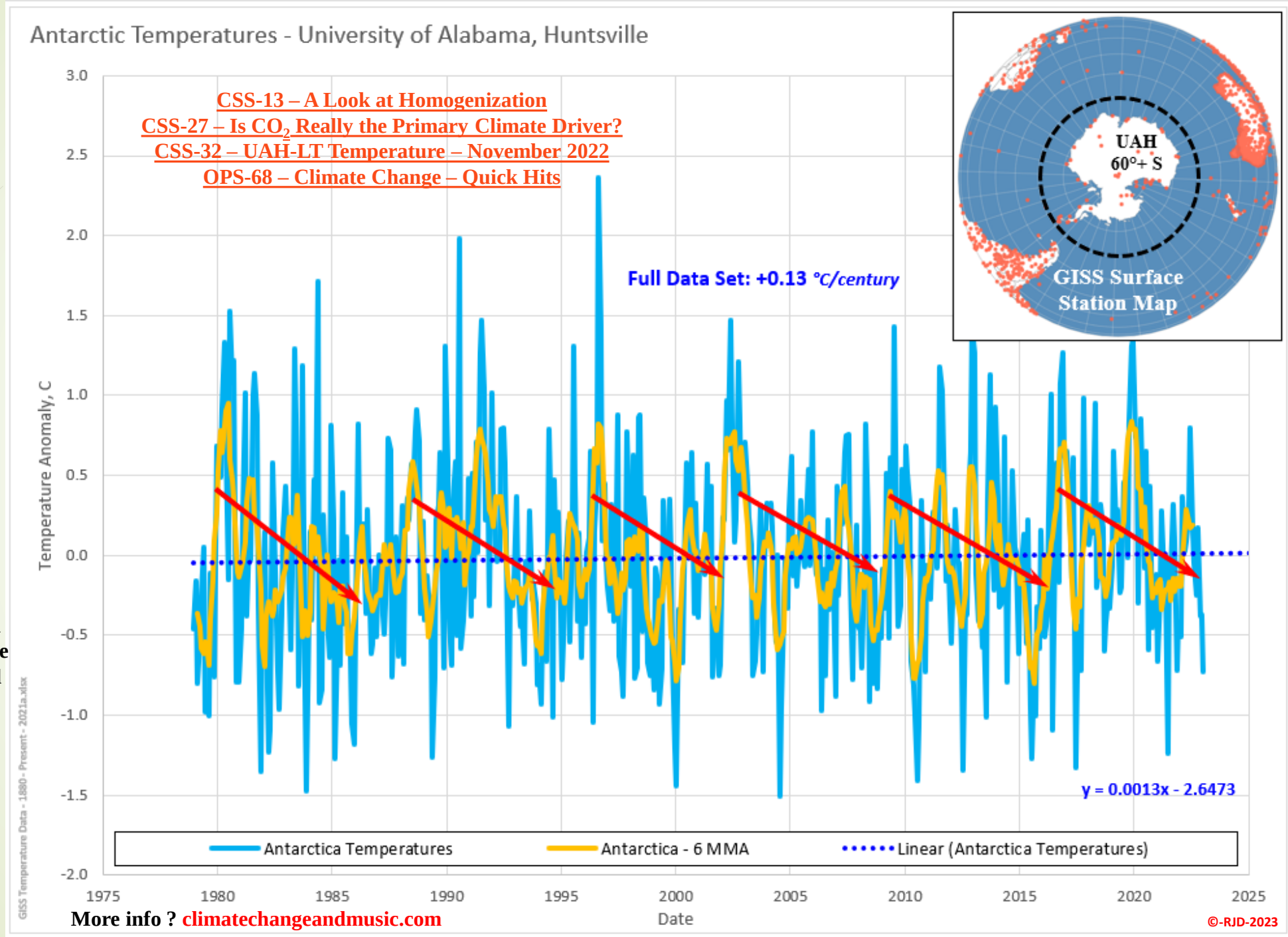
CSS-39c

WMO – Global Warming Antarctica - UAH

The same general pattern is visible in the Antarctic data. The biggest difference, Antarctic (60°+ S) temperatures have remained almost flat at just +0.13 *°C/century*. I have reviewed Antarctic temperatures in a variety of posts (listed to the right), from different perspectives. None of those perspectives help the CAGW alarmist narrative. Antarctica is a very cold place that will remain a very cold place long after our fossil fuel resources are eventually exhausted (centuries from now). Although the individual fluctuations can be significant, the oscillations tend to cancel each other out over time. The plate tectonics that set Antarctica up as the ice encased continent we all know, will keep Antarctica in the deep freeze for many millions of years into the future. Barring some unforeseen cataclysm (involving the moon), the ±9 year cyclicity should also continue long into the future.

WMO – GW Antarctica-UAH

GSM – Grand Solar Minimum. You really should do the Research!



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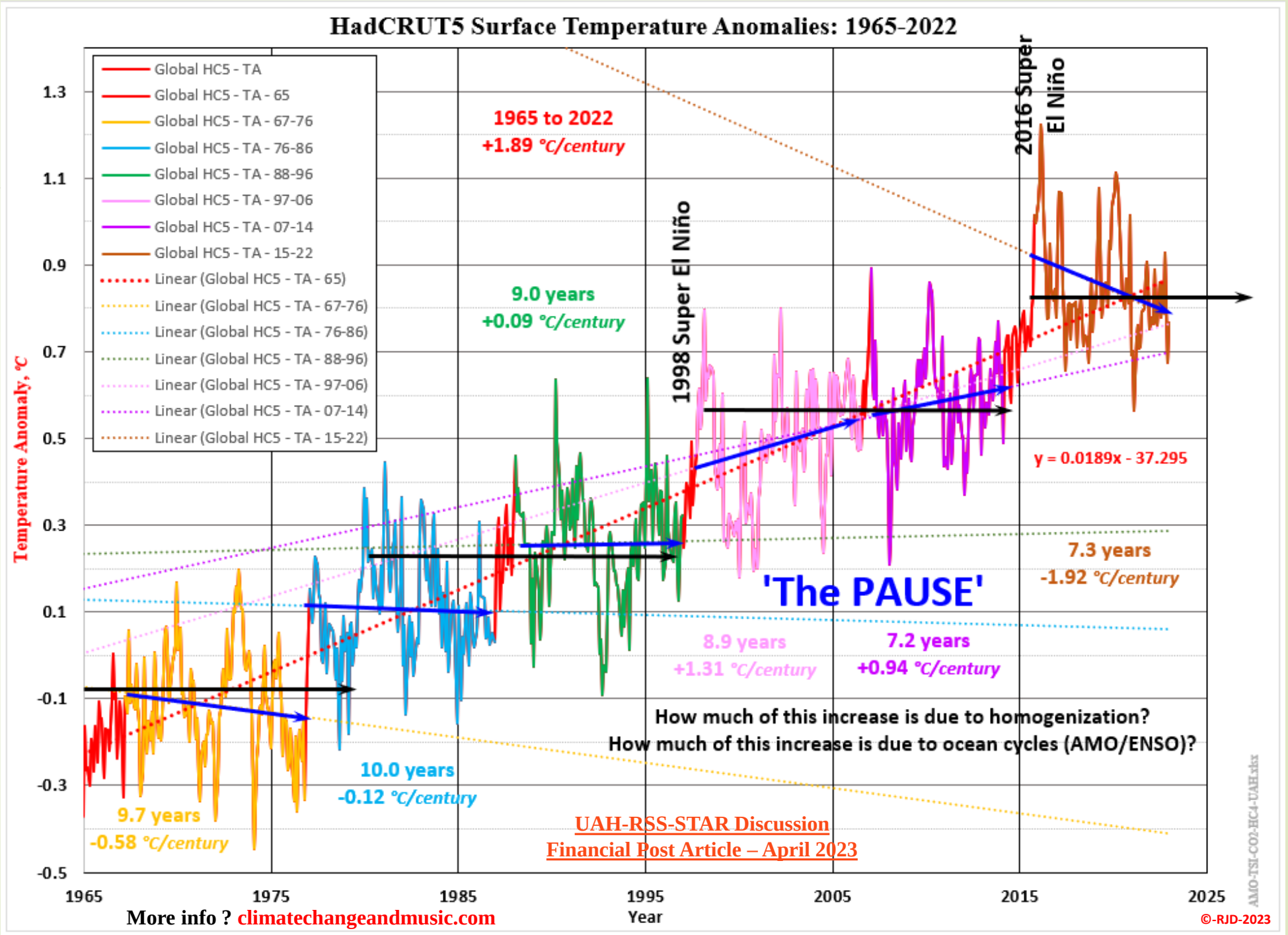
WMO – Global Warming HadCRUT5

The HadCRUT5 surface temperature dataset is similar to Berkeley Earth and shows the same ±9 year pulsing. I have always used the HadCRUT surface data because they seemed to have the most "realistic" homogenization process. But over time those differences have mostly evaporated (CSS-25 – Incremental Homogenization – HadCRUT4 to HadCRUT5). I prefer the satellite datasets because they are more accurate and more reliable. The three main satellite data sets are from the University of Alabama, Huntsville (UAH), Remote Sensing Systems (RSS) and NOAA's STAR product. Recently, the STAR product as updated and is now consistent with the UAH data. As a comparison, the STAR, UAH and RSS middle troposphere temperature trends are 0.09, 0.10 and 0.14 °C/decade, respectively. A secondary cycle around ±18 years can also be teased out of the data which would still correspond to the lunar cycles.

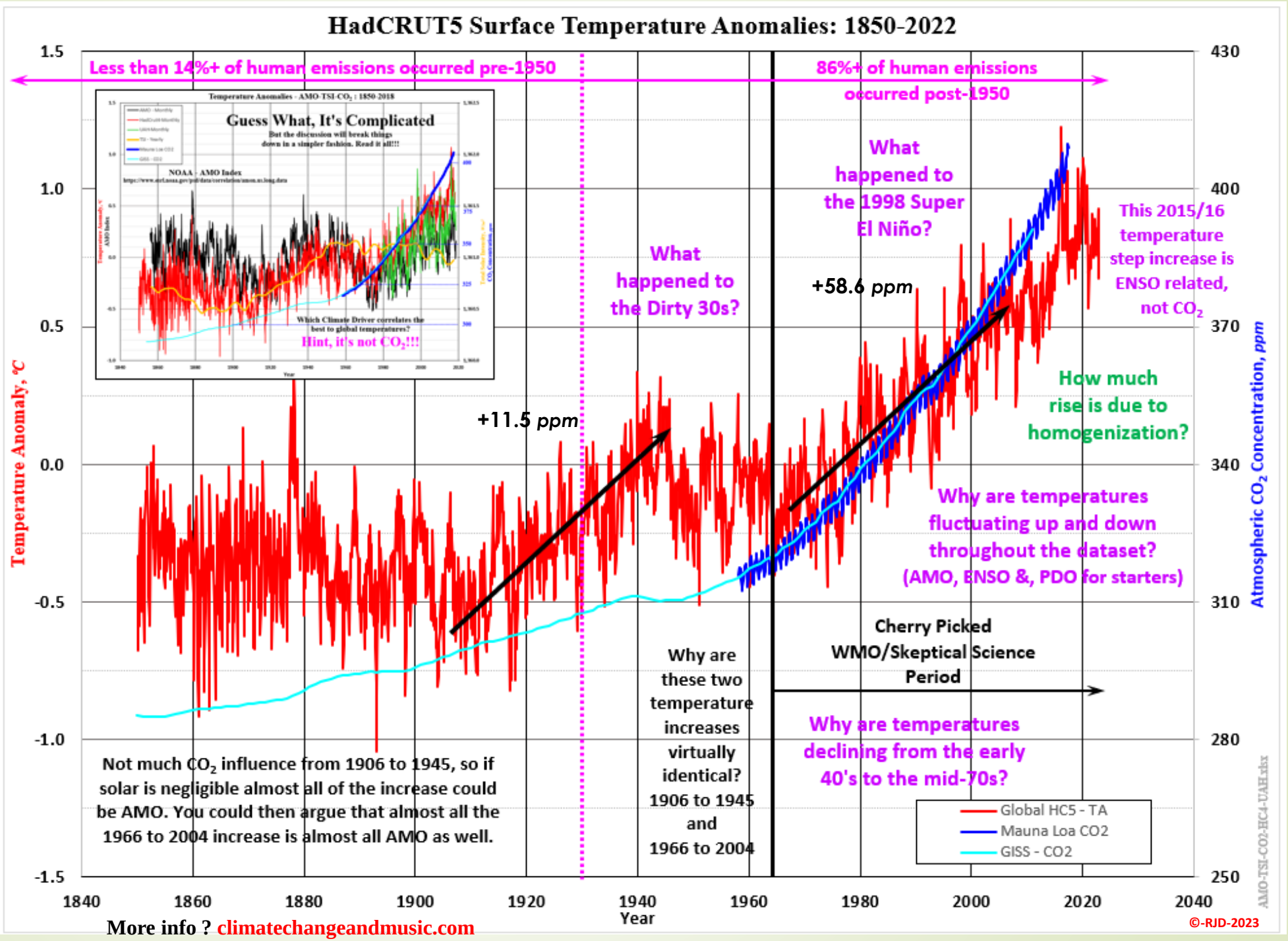
WMO – GW HadCRUT5 Pulses-RJD



WMO – Global Warming HadCRUT5 Forcings

As mentioned earlier, The WMO dataset shown on the first slide is cherry picked. The measured temperatures go back to 1800s and further and they do not rise in parallel to the steady, accelerating CO_2 concentrations. They cycle with the various ocean cycles (with the AMO and ENSO being the most dominant) and solar activity. The "It's Complicated" chart is discussed in more detail in my Open Letter Addendum, but there is obviously a lot more going on than just CO_2. Temperatures fluctuate up and down, with no significant CO_2/Temperature correlation. The two black arrows have the same parallel temperature change with very different CO_2 increases (11.5 versus 58.6 *ppm*). Apart from ignoring the many natural forcings that dominate even over this short time period, you can also see the effect of homogenization. The higher temperatures of the Dirty 30s and the strong 1998 El Niño are just gone.

WMO – GW HadCRUT5 Forcings



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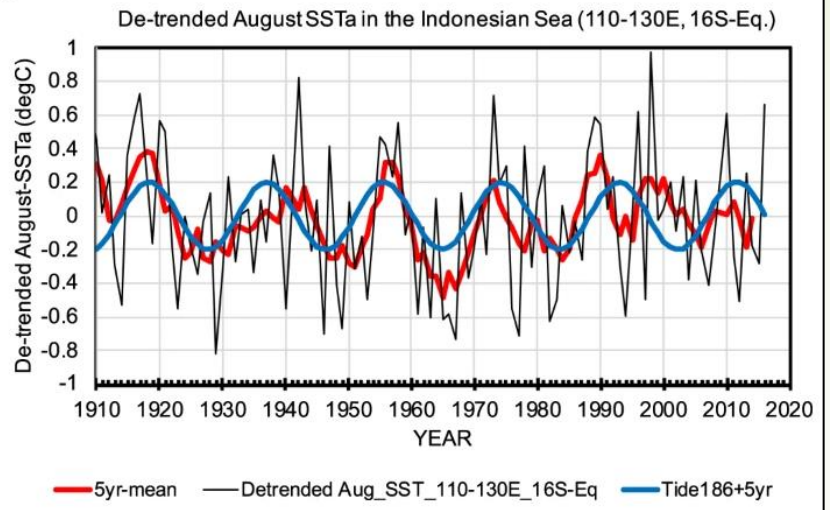
WMO – Global Warming – Geothermal Flux

More info ? climatechangeandmusic.com

GSM – Grand Solar Minimum. You really should do the Research!

Figure 4



De-trended (during 1910–2015) August-SST anomaly (in °C) time-series averaged in 110–130°E and 16°S-0° in the Indonesian Sea (black solid curve), its 5-year running means (red) and 5-year lagged 18.6-year cycle (blue).

Impact of the astronomical lunar 18.6-yr tidal cycle on El-Niño and Southern Oscillation | Scientific Reports (nature.com)
https://www.nature.com/articles/s41598-018-33526-4

WMO – GW Geothermal Flux/Lunar

Geothermal Flux is a climate forcing that may not have received its just recognition. The overall process is not a simple one since a lot of different parameters have many complex interactions. As shown in the previous slides, both the Arctic and Antarctic temperatures appear to pulse on a ±9 year cycle. That corresponds to the 18.6 year Lunar Tidal Cycle. And what causes the tidal cycles? Lunar, Planet and Solar orbital mechanics and the gravitational consequences. Different gravitational configurations cause stress on the planet, which would affect both seismicity and volcanism. Is the increased volcanism and seismicity over the last century+ due to orbital mechanics and does it play an under appreciated role in the ocean warming and the 20th century air temperature rise?

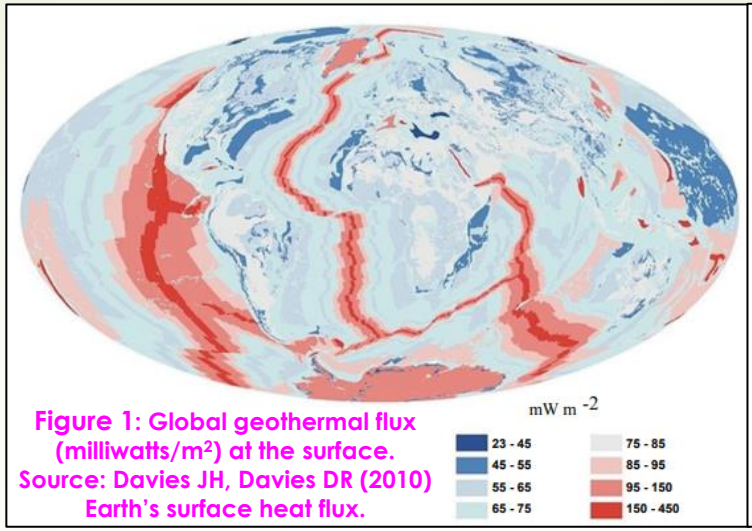


Figure 1: Global geothermal flux (milliwatts/m²) at the surface.
Source: Davies JH, Davies DR (2010) Earth's surface heat flux.

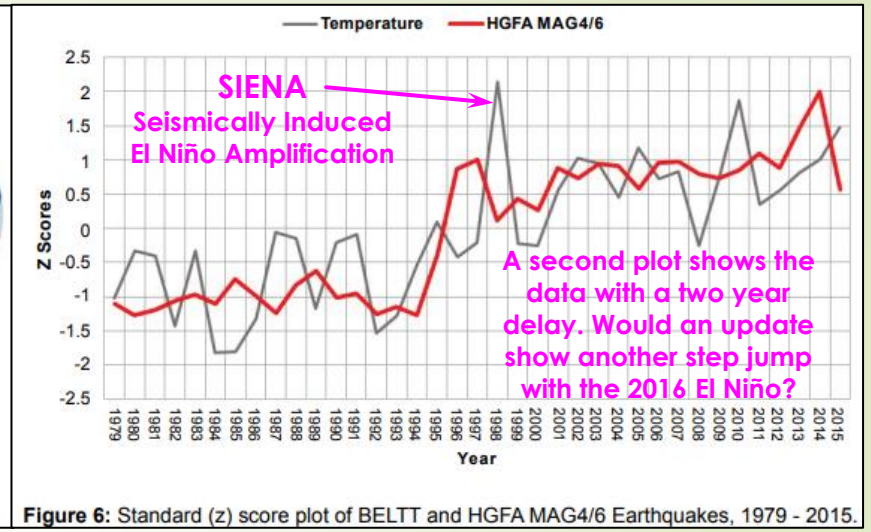
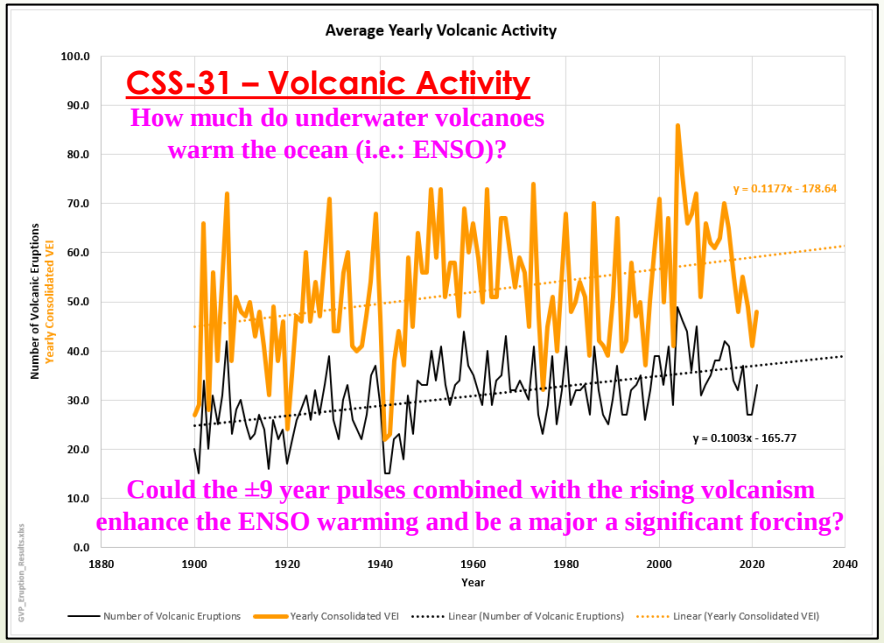


Figure 6: Standard (z) score plot of BELTT and HGFA MAG4/6 Earthquakes, 1979 - 2015.

The Correlation of Seismic Activity and Recent Global Warming (omicsonline.org)
https://www.omicsonline.org/open-access/the-correlation-of-seismic-activity-and-recent-global-warming-2157-7617-1000345.pdf

Are we entering a more active seismic/volcanic period? The data would suggest that we are. And will that lead to more terrestrial influence on the planet's heat balance? Yes, but how much? There are many papers that link volcanics and the ENSO, so, potentially a lot.

Lunar - Cycles Research Institute
https://cyclesresearchinstitute.org/subjects/cycles-astronomy/lunar/



influence of the lunar nodal cycle on Arctic climate | ICES Journal of Marine Science | Oxford Academic (oup.com)
https://academic.oup.com/icesjms/article/63/3/401/718604

Figure 15