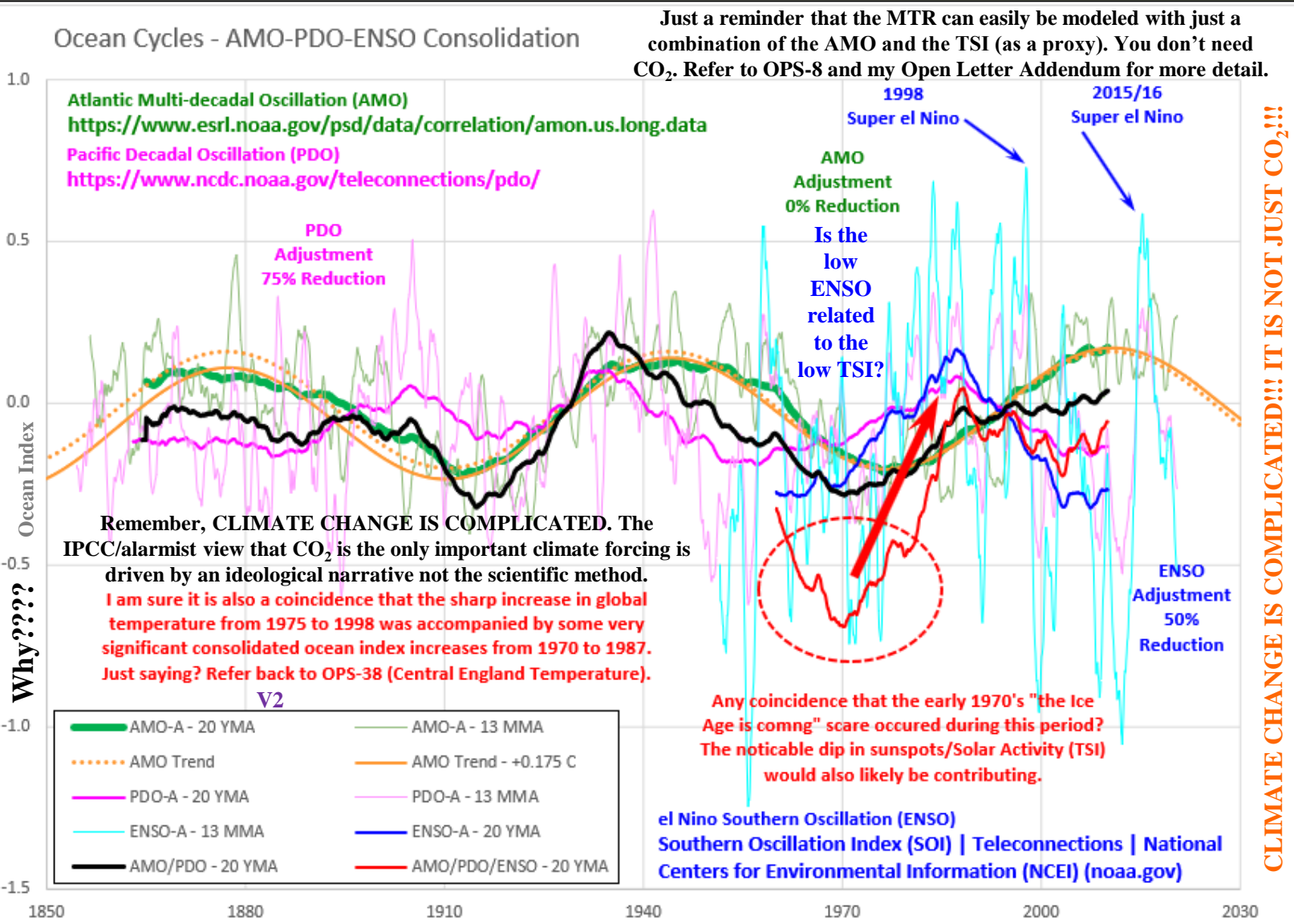
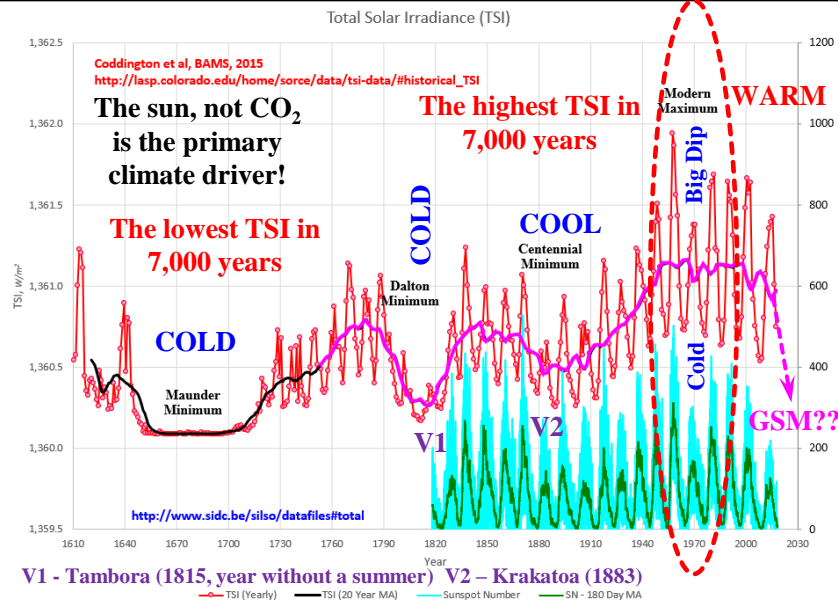


# OPS-39 Ocean Index Consolidations

The relative weightings for each cycle are open for discussion and will change depending on the relative strength of each cycle over time. The AMO does show up in the Modern Temperature Record (MTR). The other ocean cycles are not as visible. With all forcings, the temperature response is generally not immediate. The moving averages give an indication of how the forcings build up over time (positive or negative). And they take out the extremely erratic (and confusing) nature of the underlying monthly data.



Just a reminder that the MTR can easily be modeled with just a combination of the AMO and the TSI (as a proxy). You don't need CO<sub>2</sub>. Refer to OPS-8 and my Open Letter Addendum for more detail.

Remember, CLIMATE CHANGE IS COMPLICATED. The IPCC/alarmist view that CO<sub>2</sub> is the only important climate forcing is driven by an ideological narrative not the scientific method. I am sure it is also a coincidence that the sharp increase in global temperature from 1975 to 1998 was accompanied by some very significant consolidated ocean index increases from 1970 to 1987. Just saying? Refer back to OPS-38 (Central England Temperature).

- AMO-A - 20 YMA
- AMO-A - 13 MMA
- AMO Trend
- AMO Trend +0.175 C
- PDO-A - 20 YMA
- PDO-A - 13 MMA
- ENSO-A - 13 MMA
- ENSO-A - 20 YMA
- AMO/PDO - 20 YMA
- AMO/PDO/ENSO - 20 YMA

Increasing solar forcing out of the Maunder Minimum, warms the oceans slightly!! (i.e.: a gradual ocean temperature increase over time)

Remember, any change in climate forcing can take years, centuries and millennia to work through the earth's climate system. More detail? [climatechangeandmusic.com](http://climatechangeandmusic.com) ©-RJD-2020

As shown, in OPS-38, the AMO has a strong influence on the Central England Temperature (CET) and the global temperature. However, it is important to note that there are other ocean cycles that affect the global temperatures. This plot consolidates a couple of the more noticeable cycles (PDO and ENSO) with the AMO. There are others, with varying levels of importance.

## Ocean Index Consolidations

The IPCC models assume that CO<sub>2</sub> will be the only significant climate driver in the future (OPS-22). Did Solar and Ocean cycles just stop?? NOT VERY LIKELY!!

The plot to the right shows the 13 Month Moving Average (13 MMA) and the 20 Year Moving Average (20 YMA) for each of the three cycles. A 75% reduction has been applied to the PDO and a 50% reduction was applied to the ENSO. Essentially the AMO is ranked as the most important cycle followed by the ENSO and then the PDO. The consolidated index goes from a low of -0.7 to a high of 0.05. That +0.75 Ocean Index rise is likely responsible for much of the temperature rise over that period. The unadjusted rise would be +1.7 (i.e.: CO<sub>2</sub> not required?).

The IPCC programmers refuse to use the additional solar forcings (high energy particles, gamma ray intensity) that are available in the new CMIP6 protocol! Why?????

CLIMATE CHANGE IS COMPLICATED!!! IT IS NOT JUST CO<sub>2</sub>!!!

GSM - Grand Solar Minimum. The real "Climate Change" existential threat is right around the corner. Do the Research!