

No global warming for 17 years 8 months

RSS considers the cause of a Pause now half the satellite record long

By Christopher Monckton of Brenchley

The RSS satellite lower-troposphere temperature anomaly for March, just in, shows no global warming at all for 17 years 8 months. This remarkable 212-month period, enduring from August 1996 to March 2014, represents half of the entire 423-month satellite record since it began in January 1979.

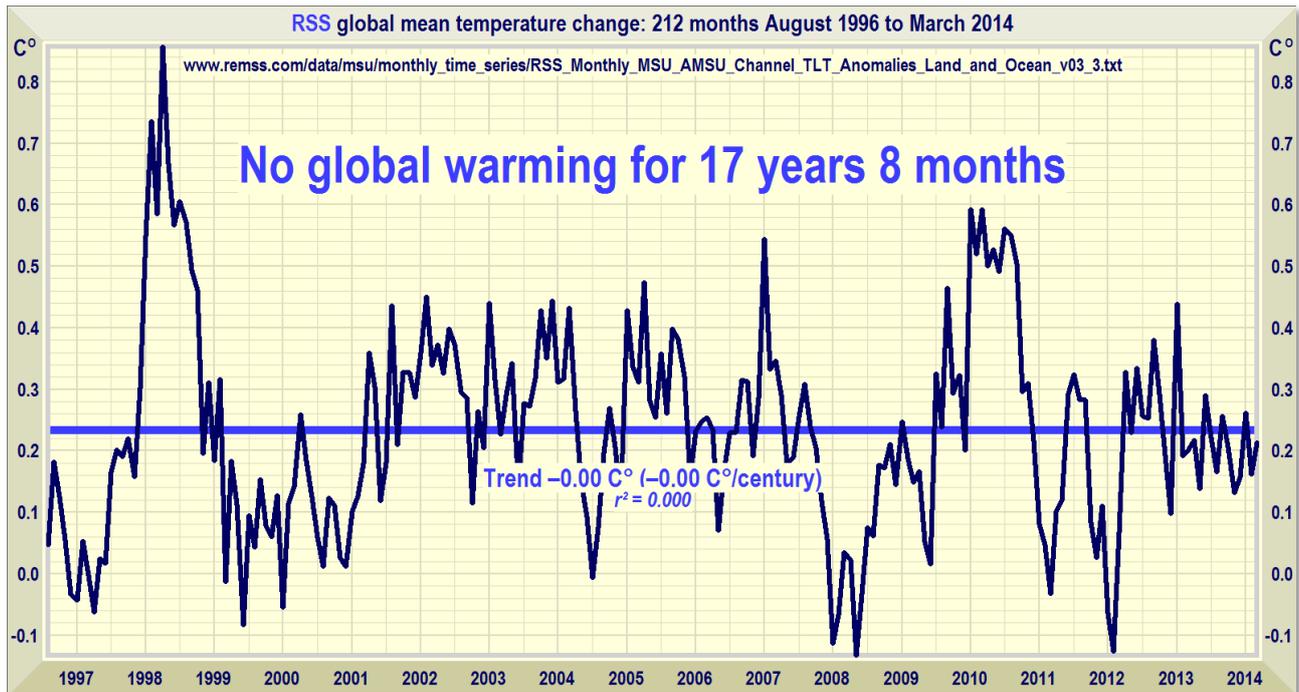


Figure 1. The remarkable 212-month absence of global warming, notwithstanding a record rate of increase in CO₂ concentration. The Pause – the zero least-squares trend on the data for the past 17 years 8 months – now extends to just over half the entire 423-month Remote Sensing Systems satellite record since January 1979.

How much global warming did officialdom predict over the past 17 years 8 months?

CO₂ concentration in 1996 was about 363 ppmv. Now it is more like 398. We may assume either that temperature feedbacks are net-zero or that, over so short a timescale as 17 years 7 months, they will not have had much opportunity to operate.

In that event, using the IPCC's method, the additional radiant energy retained in the atmosphere thanks to our activities – known as the radiative forcing – is 5.35 times the logarithm of the proportionate CO₂ concentration change in Watts per square meter, divided by the fraction of total anthropogenic forcing represented by CO₂, which the IPCC reckons at 70%. That gives 0.704 Watts per square metre of manmade forcing, based on mainstream IPCC climatology.

At minimum, 0.704 Watts per square metre is the quantum of anthropogenic radiative forcing that should have warmed the system since September 1996 – if the IPCC were right. According to NASA the volumetric mean radius of the Earth is 6371 km. Surface area, then,

is around 510 terametres. So the additional energy flux in the Earth-atmosphere system since the Pause began is close to 360 terawatts. A terawatt is a 1 followed by 12 zeroes.

In a zero-feedback regime the instantaneous and equilibrium warming are equal. By the IPCC's own method, then, the central estimate of the global warming that should have occurred since September 1996 is $0.313 \times 0.704 = 0.22 \text{ C}^\circ$. But the observed, real-world outturn is 0.00 C° . So, where did all those terawatts go? RSS have been working on that. This is what they report [with my comments in square brackets]:

“Over the past decade, we have been collaborating with Ben Santer at LLNL, along with numerous other investigators, to compare our tropospheric results with the predictions of climate models. [They are doing some good, old-fashioned science, checking the models' output rather than just believing it].

“Our results can be summarized as follows:

“Over the past 35 years, the troposphere has warmed significantly. The global average temperature has risen at an average rate of about 0.13 Kelvin (0.23 F°) per decade. [Actually, that is now closer to 0.12 K/decade : the Pause is long enough to slow the rate a little more than before].

“Climate models cannot explain this warming if human-caused increases in greenhouse gases are not included as input to the model simulation. [But the warming is well within natural variability, so the inability of models to “explain” the warming without Man merely shows how inadequately they represent natural influences].

“The spatial pattern of warming is consistent with human-induced warming. See Santer *et al.*, 2008-12, for more about the detection and attribution of human induced changes in atmospheric temperature using MSU/AMSU data. [The spatial pattern of warming is also consistent with natural variability].

“But the troposphere has **not** warmed as fast as almost all climate models predict. [Their emphasis. Some intellectual honesty about the Pause at last].

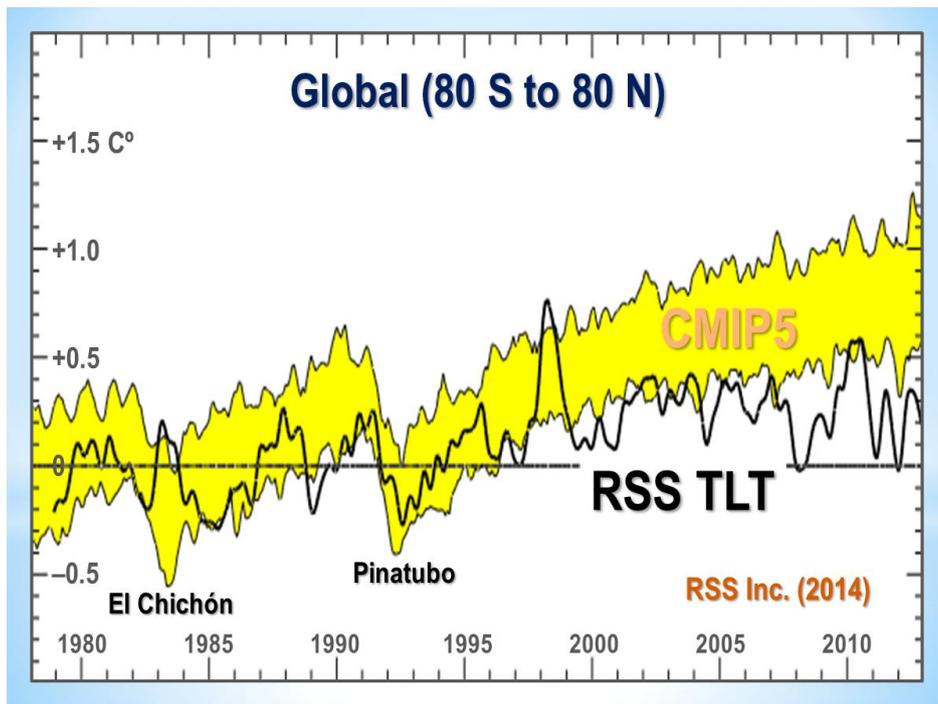
“To illustrate this last problem, we show several plots below. Each of these plots has a time series of [lower-troposphere] temperature anomalies using a reference period of 1979-2008.

“In each plot, the thick black line is the measured data from RSS V3.3 MSU/AMSU temperatures. The yellow band shows the 5% to 95% envelope for the results of 33 CMIP5 [Climate Model Inter-comparison Project, version 5] model simulations (19 different models, many with multiple realizations) that are intended to simulate Earth's climate over the 20th century.

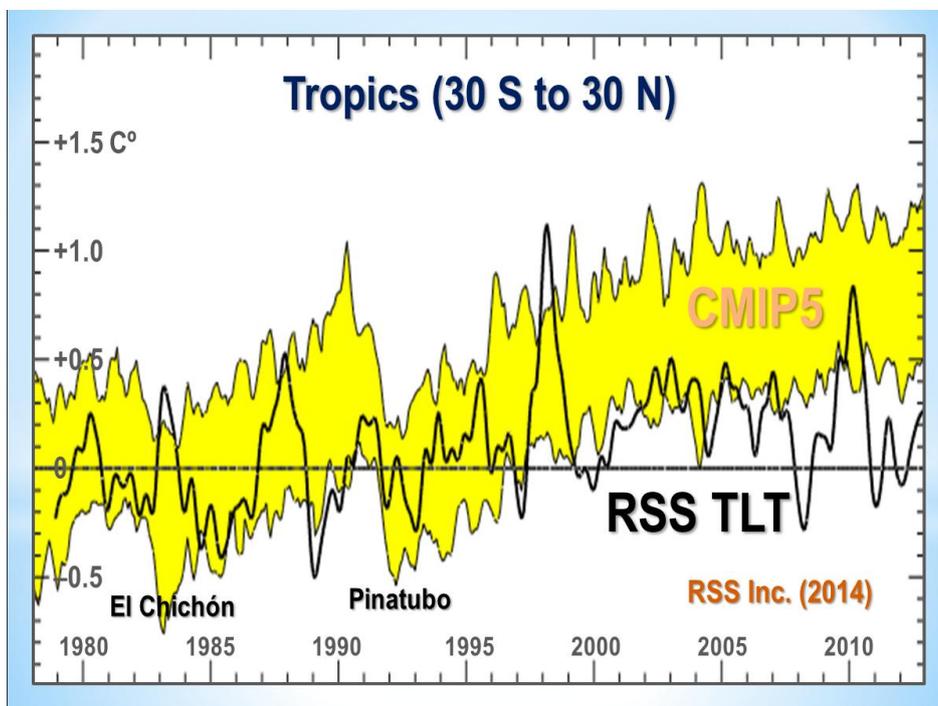
“The mean value of each time series average from 1979-1984 is set to zero so the changes over time can be more easily seen.

“For the period before 2005, the models were forced with historical values of greenhouse gases, volcanic aerosols, and solar output. After 2005, estimated projections of these forcings were used. If the models, as a whole, were doing an acceptable job of simulating the past, then the observations would mostly lie within the yellow band.

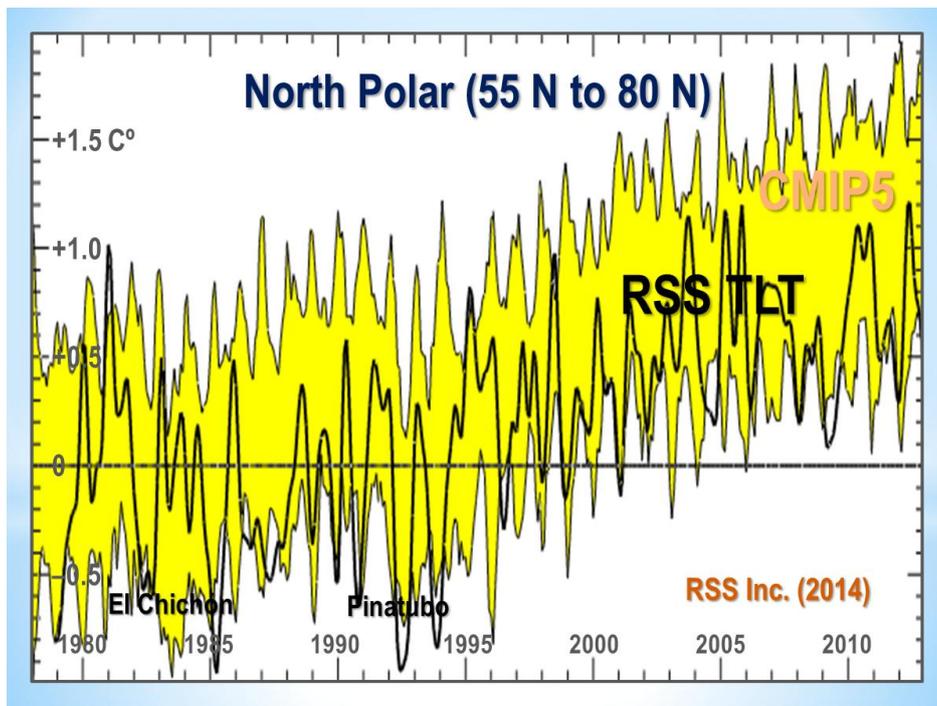
“For the first two plots, (Fig. 2 and Fig 3), showing global averages and tropical averages, this is not the case. Only for the far northern latitudes, as shown in Fig. 4, are the observations within the range of model predictions.



“Figure 2. Global (80S-80N) mean TLT [tropical lower-troposphere] anomaly as a function of time. After 1998, the observations are likely to be below the simulated values, indicating that the simulation as a whole are predicting too much warming. [Honesty again].



“Figure 3. Tropical (30S-30N) mean TLT anomaly as a function of time. Again, after 1998, the observations are likely to be below the simulated values, indicating that the simulation as a whole are predicting too much warming. [Yet more honesty].



“Figure 4. Northern Polar (55N-80N) mean TLT anomaly as a function of time. For this latitude band, the observations remain within the model envelope. [But latterly on the low side].

“The reasons for the discrepancy between the predicted and observed warming rate are currently under investigation by a number of research groups. Possible reasons include increased oceanic circulation leading to increased subduction of heat into the ocean, higher than normal levels of stratospheric aerosols due to volcanoes during the past decade, incorrect ozone levels used as input to the models, lower than expected solar output during the last few years, or poorly modelled cloud feedback effects. It is possible (or even likely) that a combination of these candidate causes is responsible.”

Just a little honesty there, too. Just one off-the-cuff suggestion (volcanoes, which have not been particularly active globally in the past decade). But no fewer than three possible modelling errors are suggested.

At long last, the Pause is having its effect. The modellers, and those – such as the IPCC – who have until recently placed a naïve and unmathematical faith in them, are rethinking the matter. In the light of the evidence, it is time for politicians to do likewise.