

# Sun's Role

in the

## Satellite-Balloon-Surface Issue

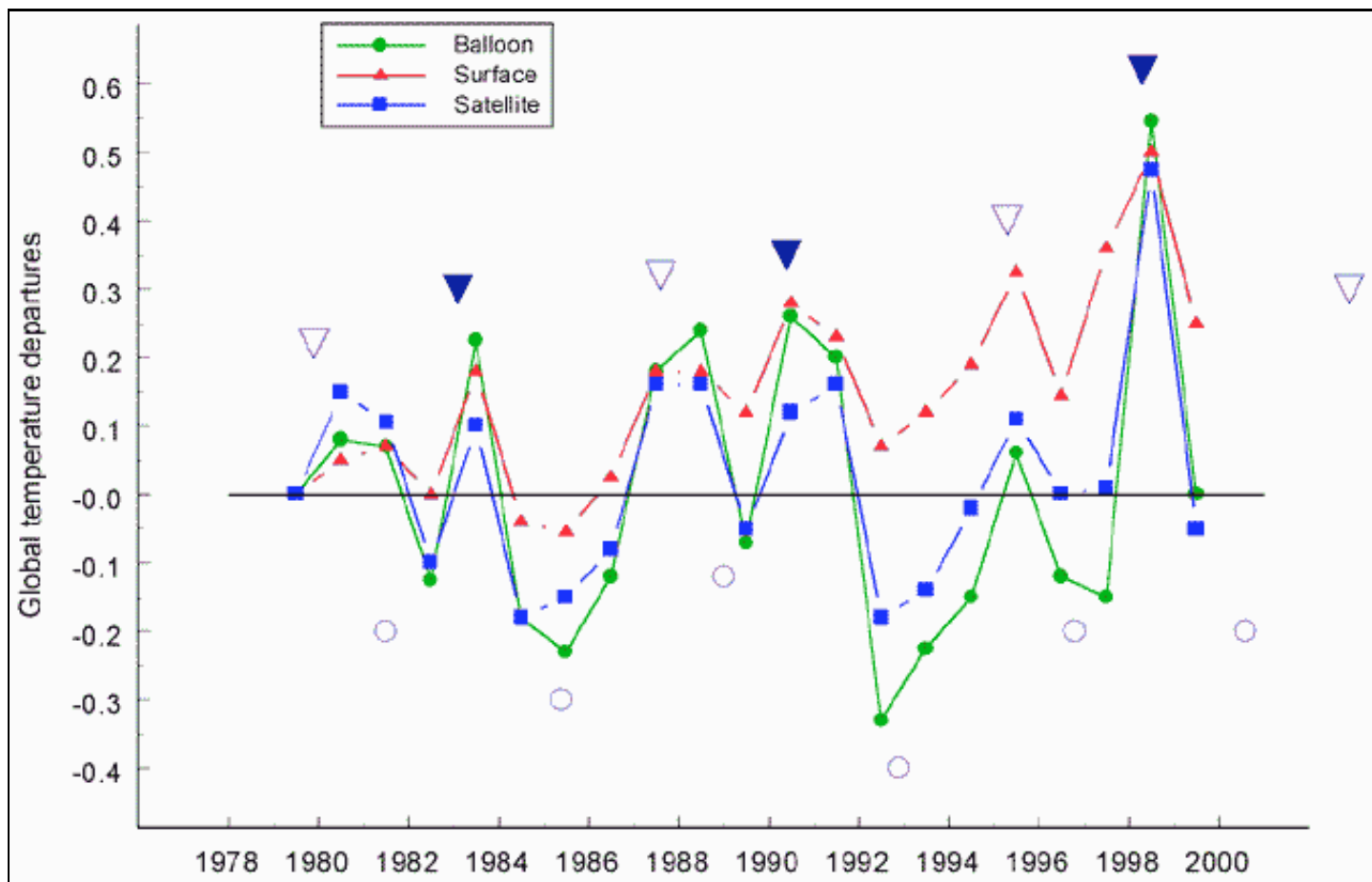
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● There has been an unending discussion about why temperatures measured by satellites and balloon sondes, progressing almost in lockstep on a trend line close to the horizontal, diverge from surface temperatures that show, at least in the last decade, a steep warming trend. The figure below shows the course of the anomalies in the three data sets which are referenced to a common zero point in 1979 - the beginning of the satellite measurements - to show the subsequent comparative trends. This presentation follows the design of the "[World Climate Report](#)" chart. New is the relationship with the Sun's eruptional activity which forms a pattern fully conforming with the balloon and satellite data, but only to a certain degree with the surface temperatures.



● The filled triangles in the figure mark the initial phases of a solar motion cycle with a mean length of 8.6 years described in my paper "[Solar Activity: A Dominant Factor in Climate Dynamics](#)". The empty triangles indicate golden section phases in between the initial phases that have been shown to play an important role in many solar-terrestrial cycles. Solar eruptions concentrate on both of these phases which correlate well with all peaks in the figure. Balloon data going back to 1958 confirm this relationship, as is shown in [Figure 24](#) of the quoted paper. In spite of my explicit challenges, no IPCC scientist ever tried to show that

these results are spurious.

- Empty circles mark midpoints between the respective phases which are correlated with troughs in the data. The connection has been corroborated by correct long-range forecasts of the temperature trough in winter 1996/1997 and the crest in 1998. The next minimum in the temperature anomalies is to be expected after 2000.6 and the next maximum after 2002.9 as indicated in the figure. This forecast could be extended as the phases of the solar motion cycle can be computed. The temperature data consistently lag the solar phases by a few months, thus pointing to a causal relationship.

- Intriguingly, the three initial phases (**filled triangles**) indicate periods of close encounters of the three data curves. This was even so in 1998 after a strong divergence in the preceding years. The next encounter should occur a few months after 2005.8. The surface temperature diverges strongest from the two other curves around the midpoints between active phases of the solar motion cycle. Balloon and satellite data give in to the solar forcing quite naturally, whereas the surface data seem to be kept away from fully adjusting to the natural downward trend. Currently, such a development is in the making and is expected to show its full extension after 2000.6. The next such event should occur around 2004.4. The overall impression is that the satellite and balloon data behave naturally, whereas the surface data do not respond to the solar forcing in the same way. Lots of explanations have been given on this web site why this should be so.



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