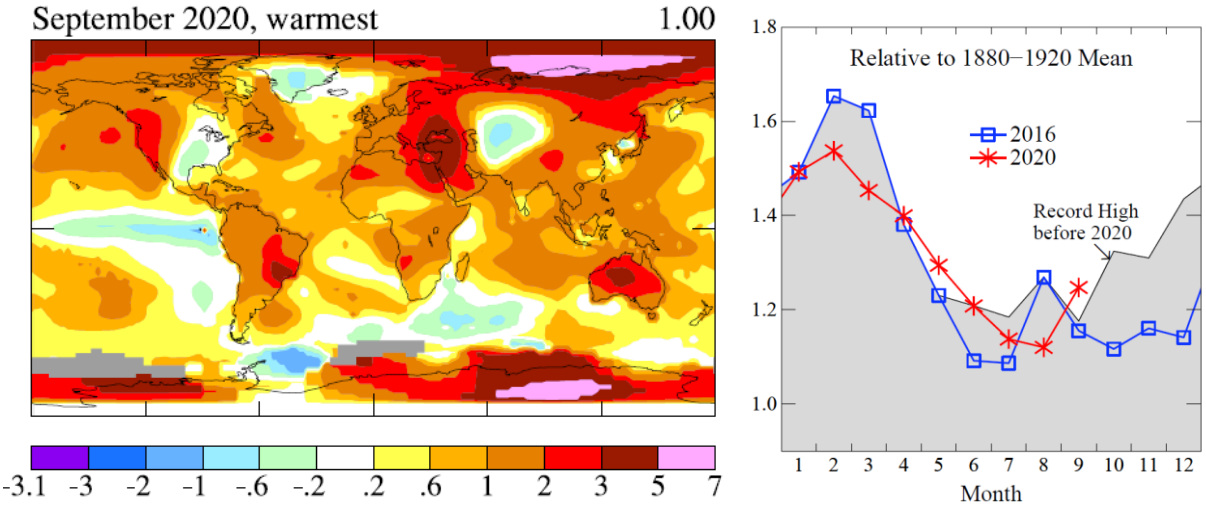
September 2020 Global Temperature Update



September 2020 was the warmest September since adequate global data began in 1880. Global temperature was +1.00ºC relative to the 1951-1980 base period and +1.25ºC relative to 1880-1920.

The January-September 2020 mean of +1.05°C relative to 1951-1980 has pulled almost even with 2016 (+1.06°C). 2020 has the inside rail position for the last three months (upper right graph), but 2020 is also running in deeper La Niña mud (graph on left at the bottom of the page), so don't bet on 2020. George Jones never tires in calling this horse race, which seems headed for practically a dead heat.

The important point is that there is an acceleration of the global warming rate (graph on lower right) in the past decade. This enhanced warmth is large enough to demand an explanation. The net growth rate of measured climate forcings ***decreased*** during the period of accelerated warming. Widespread concern about factors such increased emissions of CH_4 and CO_2 from melting tundra or fracking offer no explanation, because they are accounted for in measured gas amounts.

The likely explanation is an increase of the large unmeasured climate forcing: a less negative atmospheric aerosol forcing. This draws attention to the NASA decision not to measure aerosol climate forcing, *cf.* our Communication and draft Chapter 33 of *Sophie's Planet*, which we will make available later this week. The global warming acceleration will become clearer in 2021 from the depth of global cooling that results from the growing 2020 La Niña, which should be comparable to the 2007 and 2010 La Niñas.

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