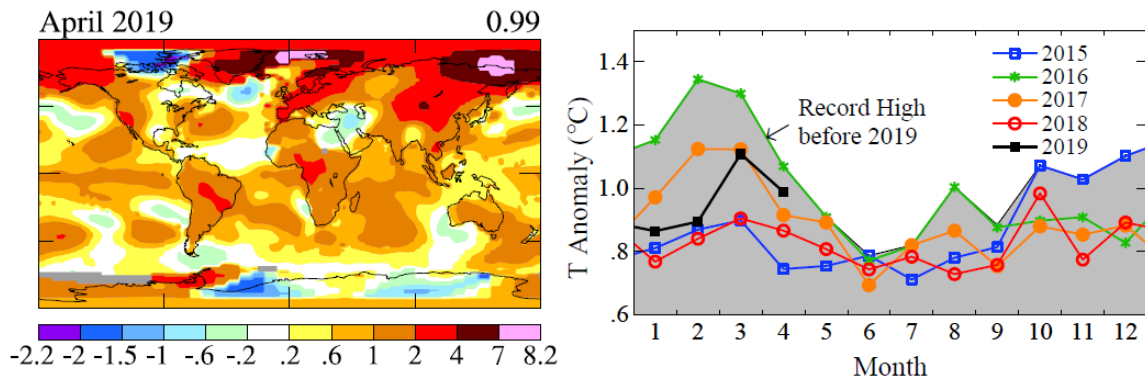


# April 2019 Global Temperature Update

Surface Temperature Relative to 1951-1980 Mean (°C)



April 2019 was 2<sup>nd</sup> warmest April in the 140-year instrumental record at +0.99°C relative to 1951-1980 (2016 was +1.07°C). So far 2019 is the 3<sup>rd</sup> warmest year (right graph), but residual global warming (which lags Niño3.4 several months) from the weak El Niño may make 2019 the 2<sup>nd</sup> warmest year.

NCEP (NOAA) forecast for the temperature in the Niño3.4 region (green range below), as provided at [https://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/lanina/enso\\_evolution-status-fcsts-web.pdf](https://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf), still has a huge range for the El Niño strength the rest of the year – ranging from growth to a moderately strong El Niño to rapid phasedown to La Niña. Is the tropical ocean really THAT unpredictable?

Mark Cane once told us that Nature rolls the El Niño dice in Northern Hemisphere spring, determining El Niño status for the year. It's spring. Presumably the range of the forecasts will narrow soon. If not, hopes for something much better than nowcasting (looking out the window) seem to have been dashed, contrary to the great expectations of a few decades ago. Does a good review of the El Niño forecasting situation, preferably in lay language, exist?

The 12-month running-mean of global temperature (dark blue curve in lower right graph) now has a defined minimum in mid-2018, lagging the January 2018 Niño3.4 minimum by several months, as expected.

