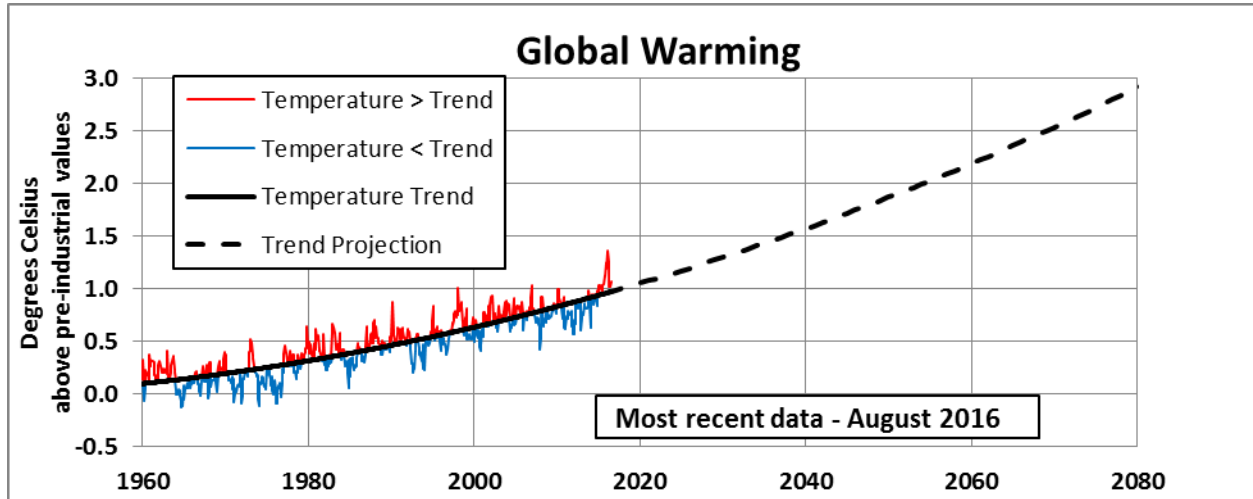


## Global Warming Data, Trend and Projection

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**Update Note – Another monthly temperature record.** A new monthly record has been established in each of the preceding 16 months! According to NOAA data released September 19, August 2016 was the warmest August on record with an average global temperature of **1.07 °C above pre-industrial values** (see data note below.) This year's value was 0.05 °C (0.09 °F) higher than August 2015, previously the warmest August. It should be noted that recent temperatures are more than half the 2.0 °C target limit established by the recent Paris agreement. August 2016 temperatures were no longer influenced by the recent El Niño; in fact, surface temperatures in the Eastern Equatorial Pacific Ocean are somewhat below normal.

**Data** – Monthly global surface temperature anomaly data (red and blue lines) are monthly differences from the average temperature *for that month* during the years 1901-2000 and are available from [NOAA](http://www.noaa.gov). The red (blue) lines represent monthly temperatures warmer (cooler) than the trend. Note that **0.15 °C** has been added to the NOAA values to account for the difference between the 20<sup>th</sup> century average and pre-industrial values.

**Trend and Projection** — The trend shown in the chart is a quadratic fit to the recorded monthly global temperatures since 1960 relative to pre-industrial values. The projection is the continuation of this curve into future times. Based on this projection, the +2.0 °C target limit will be surpassed in 2054.