Global Warming Data, Trend and Projection
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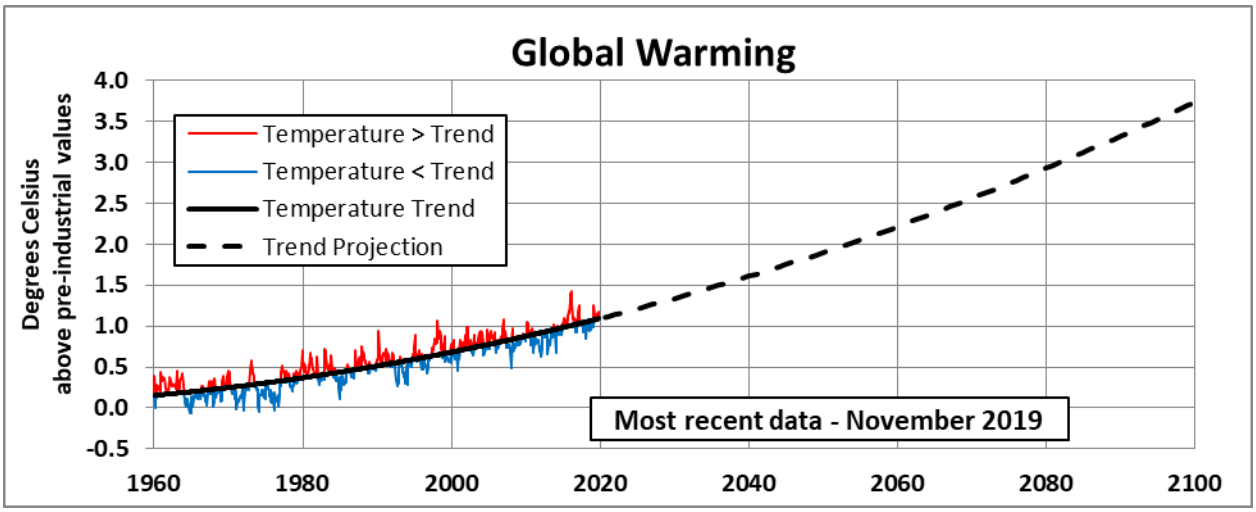

Update Note –
The global average temperature for November 2019 was 1.12°C above pre-industrial values, second only to November 2015 for the warmest November on record. High global temperatures during the winter and spring 2015-2016 were influenced by a strong El Niño event. El Niño neutral conditions are expected to persist through the coming Northern Hemisphere winter and spring.

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. **Note that 0.2 °C has been added** to the NOAA values to account for the difference between the 20th century average and pre-industrial values. The red (blue) lines represent monthly temperatures warmer (cooler) than the trend.

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. Note that the projection will change as the trend changes in response to new data. Recent temperatures are more than half the 2.0 °C target limit established by the Paris agreement. Based on the current projection, global temperatures will be 1.5 °C above pre-industrial levels in 2036 and the Paris Agreement's +2.0 °C target limit would be surpassed in 2053 (see chart.) The chart illustrates that some

monthly temperatures will exceed the optimistic international limit of +1.5 degrees well before the *trend* reaches that level.