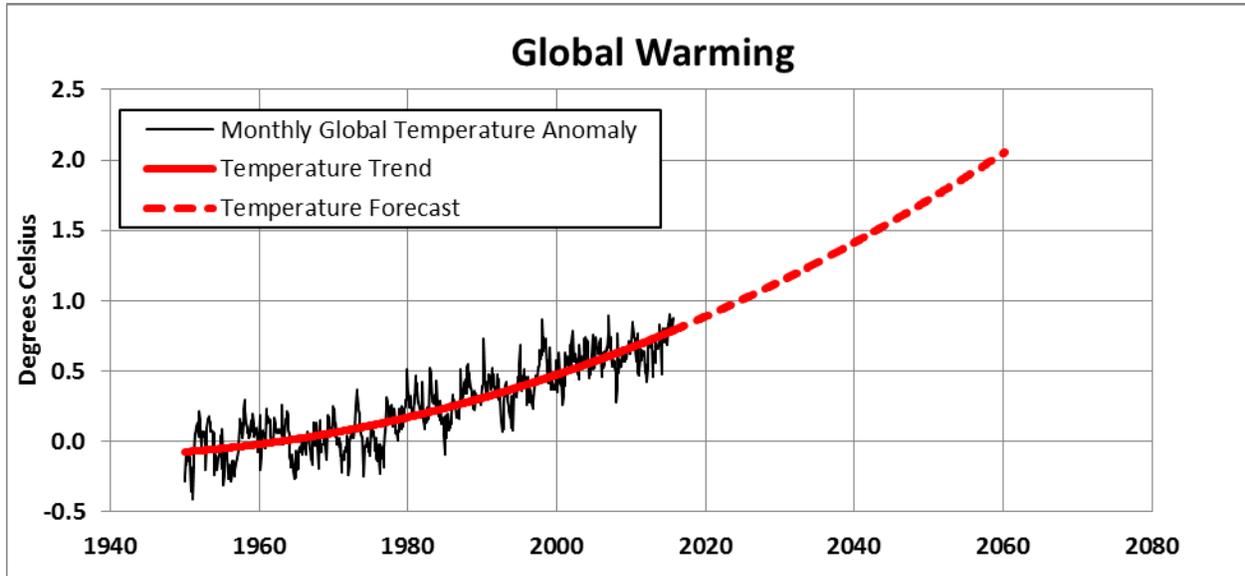


Global Warming Data, Trend and Forecast
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Updated September 2015



	Trend Value	Forecast Values				
Date	Aug 2015	Jan 2020	Jan 2030	Jan 2040	Jan 2050	Jan 2060
°C	0.79	0.89	1.14	1.41	1.72	2.05
°F	1.42	1.60	2.05	2.54	3.10	3.69

Update Note – According to NOAA data, August 2015 was the warmest August on record at 16.48 °C (61.66 °F), 0.09 °C higher than August 2014, previously the warmest August on record.

Data – Monthly global surface temperature anomaly data (black line) 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 average global surface temperature during the 20th century was 13.9 °C (57.0 °F.) The CEERT assessment begins in 1950 when the global warming signal started to emerge from the noise, a few years before high quality measurements of atmospheric carbon dioxide began in 1958.

Temperature Trend – The trendline (solid red line) represents a quadratic function with a least squares fit to the data. The differences between the data and the trend have a root mean square value of 0.13 °C. The trend is updated

monthly with the most recent data available from NOAA and is expected to change gradually over time, as discussed below.

Temperature Forecast – The forecast (dashed red line) is simply the projection of the trendline curve that fits the data and is updated monthly. It does not rely on estimates of future greenhouse gas emissions nor on computer models. This forecast is consistent with some of the model forecasts considered by the International Panel on Climate Change (IPCC) in AR5, its most recent Assessment Report.

Discussion

As new data become available and are added to the chart, new data points *above* the previous trend cause the newly calculated trend to *increase more rapidly*. Projected temperatures *increase* accordingly, as well. New data points *below* the previous trend *lower* the newly calculated trend and *lower* projected temperatures. For example, adding the warm August 2015 data point increased the projected January 2020 temperature slightly, 0.002 °C higher than the projection as of July. The projected 2060 temperature increased by 0.006 °C.