

Global Temperature 2007: Warmest over land since 1880

The global land surface temperature in 2007 was the highest on record since 1880, while the global land and ocean surface temperature in 2007 was the sixth highest since records began in 1891.

The Japan Meteorological Agency (JMA) monitors the global warming using surface temperature combined not only over land but also over the ocean. The annual anomaly of the global average surface temperature during 2007 was 0.28°C above normal (based on the 1971–2000 average) and was the sixth highest since 1891. Annual mean temperatures were above normal in most land areas of the world. The greatest warming was found especially in high latitude regions of the Northern Hemisphere (Figure 1). The global land surface temperature anomaly in 2007 was 0.66°C above normal and was the highest on record since 1880.

The annual mean temperature over the globe has been increasing at a rate of 0.67°C per 100 years (Figure 2). Focusing on after the mid-1980s, annual mean temperatures were above normal for most of the years, especially, those in the last 7 years (2001 to 2007) rank within the eighth warmest since 1891.

The annual mean temperature has varied along different time scales ranging from a few years to several decades. The increasing trend is likely due to human activities, particularly the emission of greenhouse gases. For more information, please refer to the following website at http://ds.data.jma.go.jp/tcc/tcc/products/gwp/temp/ann_wld.html.

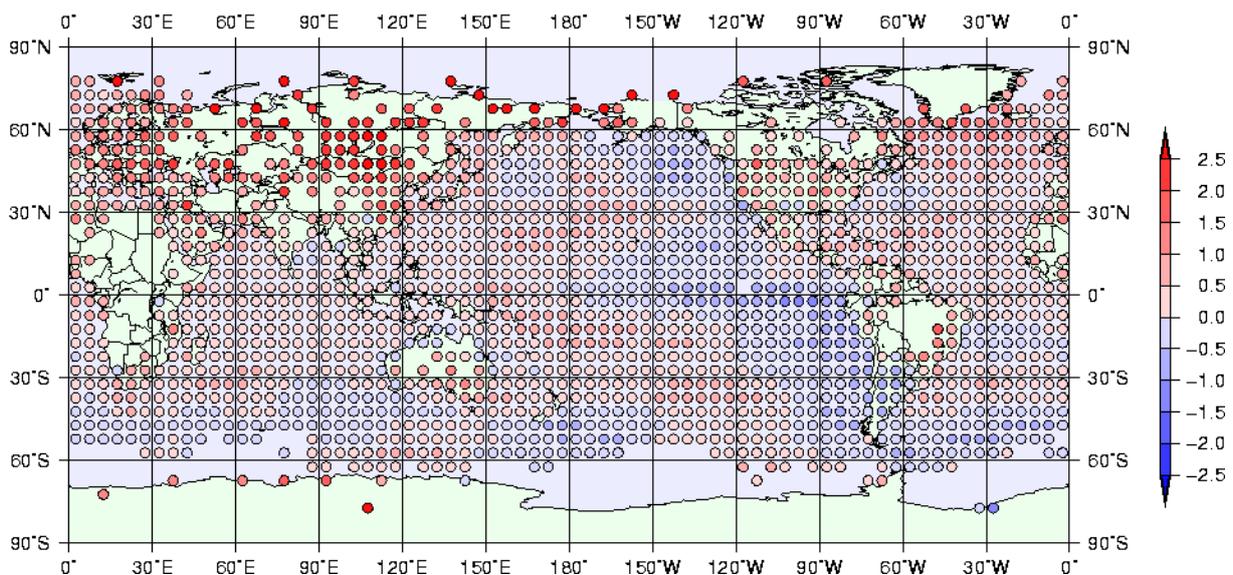


Figure 1 Annual mean temperature anomalies in 2007

The circles indicate temperature anomalies from the climatological normal (i.e. the 1971-2000 average) averaged in $5^{\circ} \times 5^{\circ}$ grid boxes.

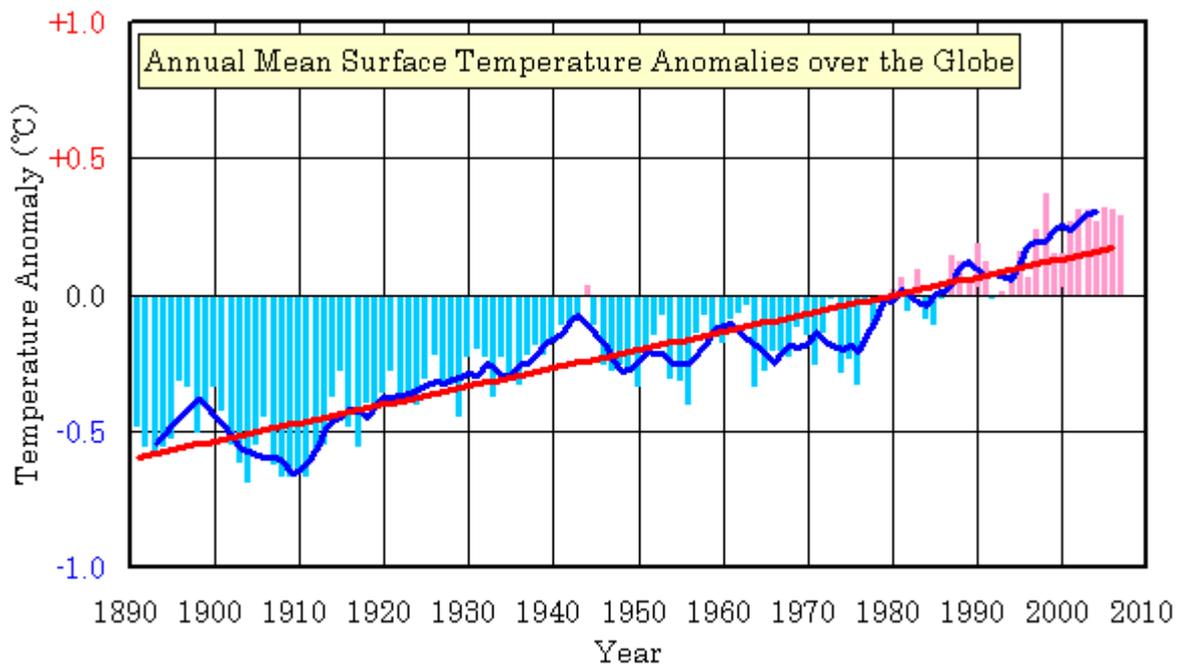


Figure 2 Annual anomalies in global average surface temperature from 1891 to 2007
 The bars indicate anomalies from the climatological normal (i.e. the 1971–2000 average). The blue line indicates five-year running mean, and the red line indicates the long-term linear trend.