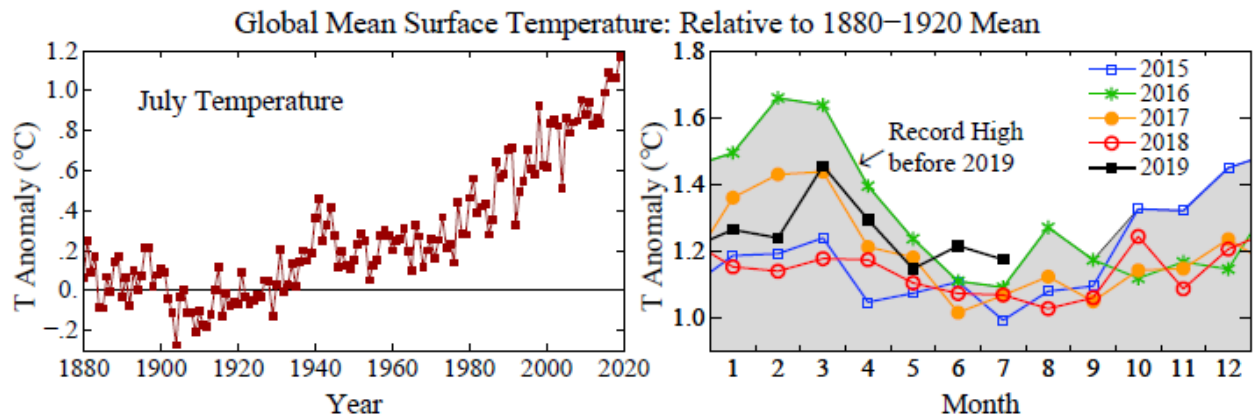


July 2019 Global Temperature Update



July 2019 was the hottest month ever in the GISTEMP analysis, i.e., since 1880 when adequate instrumental data became available. July was $+0.93^{\circ}\text{C}$ relative to 1951-1980 or $+1.17^{\circ}\text{C}$ relative to 1880-1920, which is significantly warmer than prior Julys (left figure above). July was the second consecutive month of a monthly record high (right figure). The real temperature (not anomaly) exceeded that in August 2016, which had been the warmest month.

January-July in 2019 was $+1.25^{\circ}\text{C}$ relative to 1880-1920, second only to 2016 ($+1.37^{\circ}\text{C}$) for those seven months. 2016 was affected by a super El Nino and 2019 by a weak El Nino. Because of the relative phasing of the El Ninos, 2019 may have a higher temperature than 2016 averaged over the next five months, but it seems unlikely that the 2019 annual mean will exceed that of 2016.

The maps (below) of July 2019 temperature (which use 1951-1980 base period for the sake of better spatial coverage) show that northeastern Europe was cooler than in the base period. Much of North America was near normal, but elsewhere it was unusually hot with Alaska and an area from Northern Africa to Central Europe especially warm. Higher resolution maps show that much of Spain and areas around Baffin Bay and the north coast of Alaska were more than 5°C warmer than the 1951-80 mean.

Real temperatures (as opposed to anomalies), constructed using Dr. Phil Jones climatology and GISS 250 km smoothing of anomalies, show that the monthly mean of the daily mean (not daily maximum) exceeded 35°C (95°F) in parts of North Africa and the Middle East (map on lower right).

