

Phoenix's Summer High Temperatures: How Well Did the Climate Models Perform?

By Don Sutherland

This blog has covered climate change with a look at one location, Phoenix, during summer 2020. Additional examples include the extreme wildfires in parts of the West, including California where one fire spawned an EF-2 firenado; Death Valley's historic August heat wave that culminated in a 130° high temperature (likely the highest reliably recorded temperature on record globally); several rounds of extreme heat in Europe, including the highest temperatures on record in September, the second lowest summer minimum Arctic sea ice extent on record; and, the intensification of Hurricane Laura as it crossed the Continental Shelf prior to landfall as a Category 4 hurricane.

So how well did the climate models perform? When it came to summer high temperatures in Phoenix—summer being measured by the June 1-August 31 period—the climate models were very accurate in describing the 2011-2020 decade.

Summer (June-August) High Temperatures: Modeled vs. Actual:

Year	RCP 4.5	RCP 4.5 Range	Actual
2011	106.0°	103.3°-108.6°	106.8°
2012	106.1°	103.4°-108.7°	105.6°
2013	106.1°	103.4°-108.7°	106.4°
2014	106.2°	103.5°-108.8°	105.2°
2015	106.3°	103.5°-108.9°	106.2°
2016	106.3°	103.5°-108.9°	106.2°
2017	106.4°	103.6°-109.0°	106.5°
2018	106.4°	103.6°-109.1°	106.0°
2019	106.5°	103.7°-109.2°	106.8°
2020	106.6°	103.7°-109.2°	108.6°
2011-2020	106.3°	103.3°-109.2°	106.4°
2021-2030 Projection	107.0°	103.8°-110.1°	