



# CLIMATE PROJECTIONS FOR AUSTIN

The Office of Sustainability has worked closely with ATMOS Research, led by Dr. Katharine Hayhoe, to conduct geographically specific climate models for Austin through 2100 using the Camp Mabry Weather Station. To address uncertainty around various human activities, preliminary projections for Austin are based on two emissions scenarios:

- ▶ **Lower Scenario**—global carbon emissions peak and then decline by end of century.
- ▶ **Higher Scenario**—continued dependence on fossil fuels means that carbon emissions continue to grow throughout the century.

The climate projections summarized here are averaged over 30-year time scales to address natural variability, which can cause climate to vary from year to year or even decade to decade.

CLIMATE PROJECTIONS FOR AUSTIN	Historical Observed	Near-term (2011-2014)	Mid-century (2041-2070)		End-of-century (2071-2100)	
			Lower	Higher	Lower	Higher
<b>Temperature</b>						
Summer average high temperature (°F)	93.8	96.9	97.9	100.2	98.6	103.8
Cold nights (minimum temperature < 32°F)	16.6	10.8	7.8	6.4	7.0	3.9
Warm nights (minimum temperature > 80°F)	0.5	5.4	10.5	39.5	17.0	86.7
Hot days (maximum temperature > 100°F)	11.7	31.4	40.1	63.2	46.5	92.3
Very hot days (maximum temperature > 110°F)	0.0	1.3	0.4	11.6	0.9	19.5
<b>Precipitation</b>						
Annual precipitation (inches)	33.7	31.8	33.6	33.3	33.0	31.4
Dry days (<0.01 inches in 24 hours)	277.3	280.3	280.6	282.7	281.4	288.1
Longest dry spell (days)	53.1	53.3	54.4	54.7	54.0	60.4
Wet days (>2 inches in 24 hours)	2.2	2.5	2.8	2.7	2.8	2.8
Wettest 5 days (inches of precipitation)	5.8	7.2	7.6	7.7	7.8	7.8

\*Projections are based on the draft results reported in the upcoming 2014 Third National Climate Assessment and simulations from nine newer global climate models.

## CONCLUSION:

Climate projections are consistent with larger-scale trends observed across the U.S. and the world. *Austin can expect more extreme weather in the future.*



- ▶ INCREASES IN ANNUAL & SEASONAL AVERAGE TEMPERATURES
- ▶ MORE FREQUENT HIGH TEMPERATURE EXTREMES



- ▶ SLIGHT INCREASE IN NUMBER OF DRY DAYS PER YEAR
- ▶ MORE FREQUENT DROUGHT CONDITIONS IN SUMMER DUE TO HOTTER WEATHER



- ▶ LITTLE CHANGE IN ANNUAL AVERAGE PRECIPITATION
- ▶ MORE FREQUENT EXTREME PRECIPITATION

