

1 Climate Report for Malta District

2 Historical Climate Trends for Malta District

Climate has changed over the last 50 years in Malta District. In this analysis, we use [GridMet](#) meteorology to look at trends in climate in Malta District since 1979. We do this analysis for precipitation and max. relative humidity in the section below.

2.1 Historical Trends in Precipitation in Malta District

Between 1979 and 2020, there has been a statistically significant change in precipitation of 0.78 inches per decade at an annual timescale. When looking at monthly data, there have been significant changes in precipitation in April (0.16 inches per decade). Below, annual trends in precipitation are plotted for the GridMet period of record.

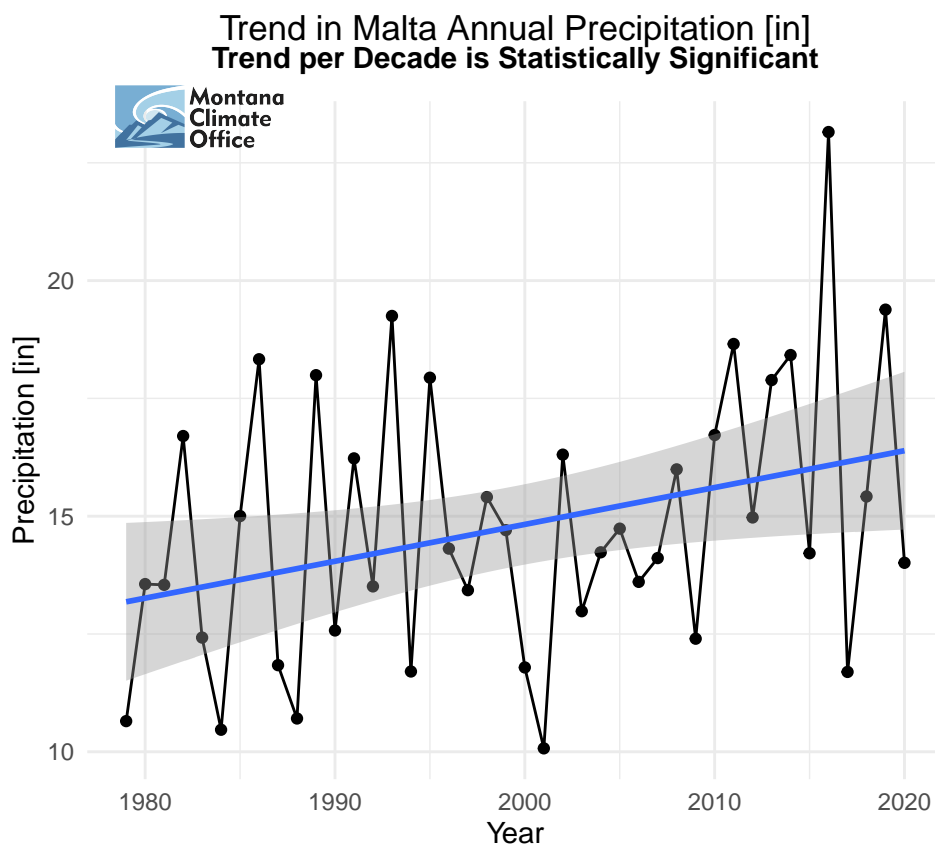


Figure 1: Historical Annual Precipitation Trends Across Malta District

2.2 Historical Trends in Max. Relative Humidity in Malta District

Between 1979 and 2020, there has been no statistically significant change in max. relative humidity in Malta at an annual timescale. When looking at monthly data, there have been significant changes in max. relative humidity in April (1.36 percent per decade) and August (-2.08 percent per decade). Below, annual trends in max. relative humidity are plotted for the GridMet period of record.

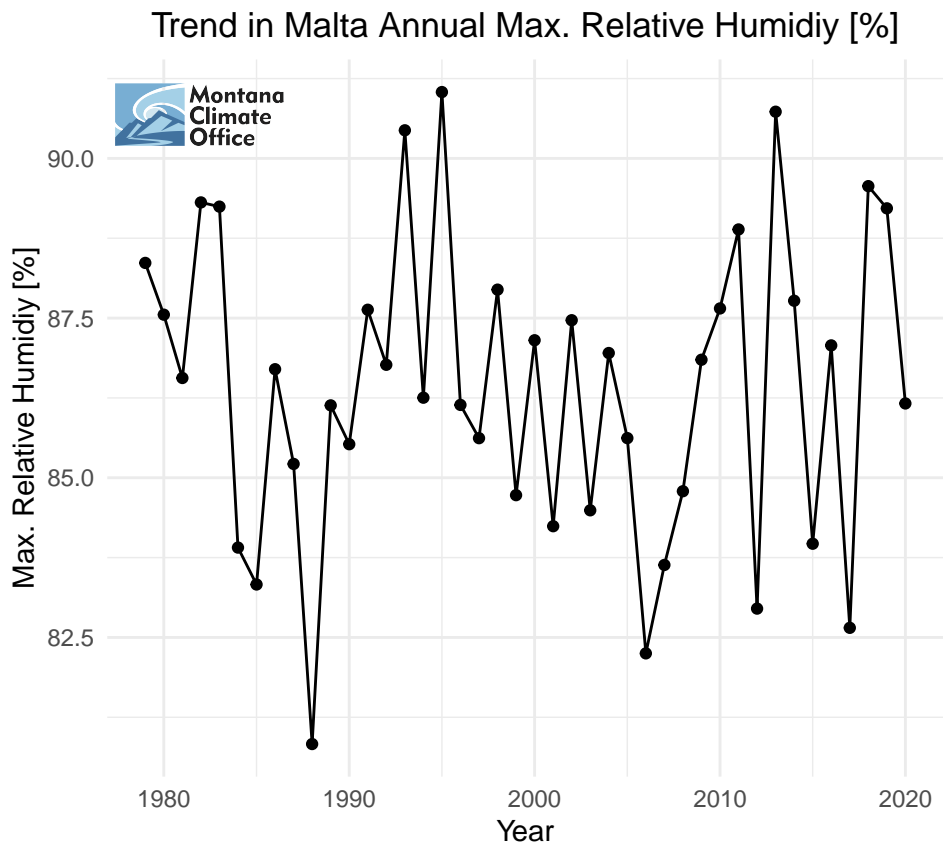


Figure 2: Historical Annual Max. Relative Humidity Trends Across Malta District

3 Future Climate Projection for Malta District

3.1 Projected Annual Changes in Temperature in Malta District

Between 1950 and 2099, it is projected that under the middle of the road emissions scenario, temperature will increase at a rate of 0.34 degF per decade and under the high emissions emissions scenario, temperature will increase at a rate of 0.34 degF per decade. Below, a timeseries plot shows projected changes in temperature under these different emission scenarios.

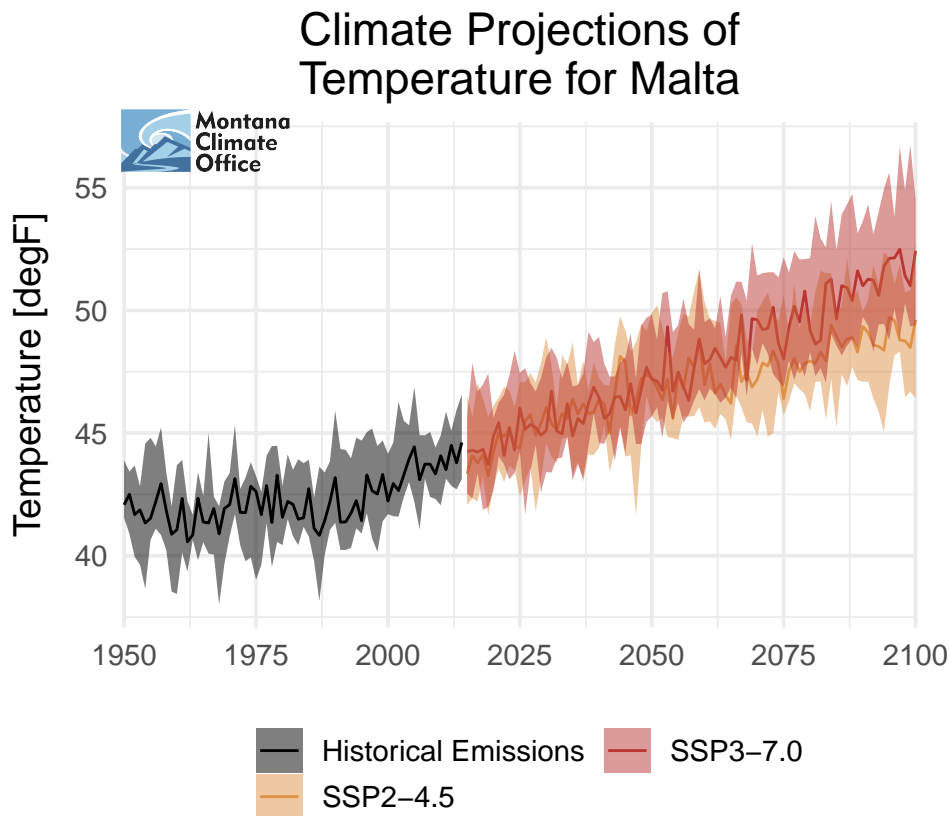


Figure 3: Projected Timeseries Of Annual Temperature In Malta District

Table 1: Projected Monthly Temperature Changes In Malta District

Month	SSP2-4.5	SSP3-7.0
Mid Century (2040-2069)		
Jan	3.84	3.90
Feb	3.44	4.07
Mar	2.32	2.67
Apr	2.21	2.60
May	2.65	2.49
Jun	3.05	3.39
Jul	4.14	4.31
Aug	4.39	5.60
Sep	3.85	4.63
Oct	3.26	3.96
Nov	3.80	4.10
Dec	3.59	4.94
End-of-Century (2070-2099)		
Jan	5.55	7.48
Feb	6.06	7.05
Mar	4.23	5.91
Apr	2.80	5.79
May	3.89	5.64
Jun	4.42	8.08
Jul	8.18	11.83
Aug	7.07	12.78
Sep	6.10	10.53
Oct	4.73	7.31
Nov	5.31	6.70
Dec	6.24	9.37

3.2 Projected Monthly Changes in Temperature in Malta District

In addition to changing at annual time scales, temperature is also projected to change at the monthly scale. By mid century (2040-2069), Aug is projected to see the largest increase in temperature (4.39 degF) under the ssp2-4.5 scenario relative to the 1991 - 2020 baseline and Aug is projected to see the largest increase in temperature (5.6 degF) under the ssp3-7.0 scenario relative to the 1991 - 2020 baseline. By end-of-century (2070-2099), Jul is projected to see the largest increase in temperature (8.18 degF) under the ssp2-4.5 scenario relative to the 1991 - 2020 baseline and Aug is projected to see the largest increase in temperature (12.78 degF) under the ssp3-7.0 scenario relative to the 1991 - 2020 baseline.. Below, a table and graph showing changes in temperature for the SSP2-4.5 and SSP3-7.0 scenarios is provided to give a monthly breakdown of projected changes.

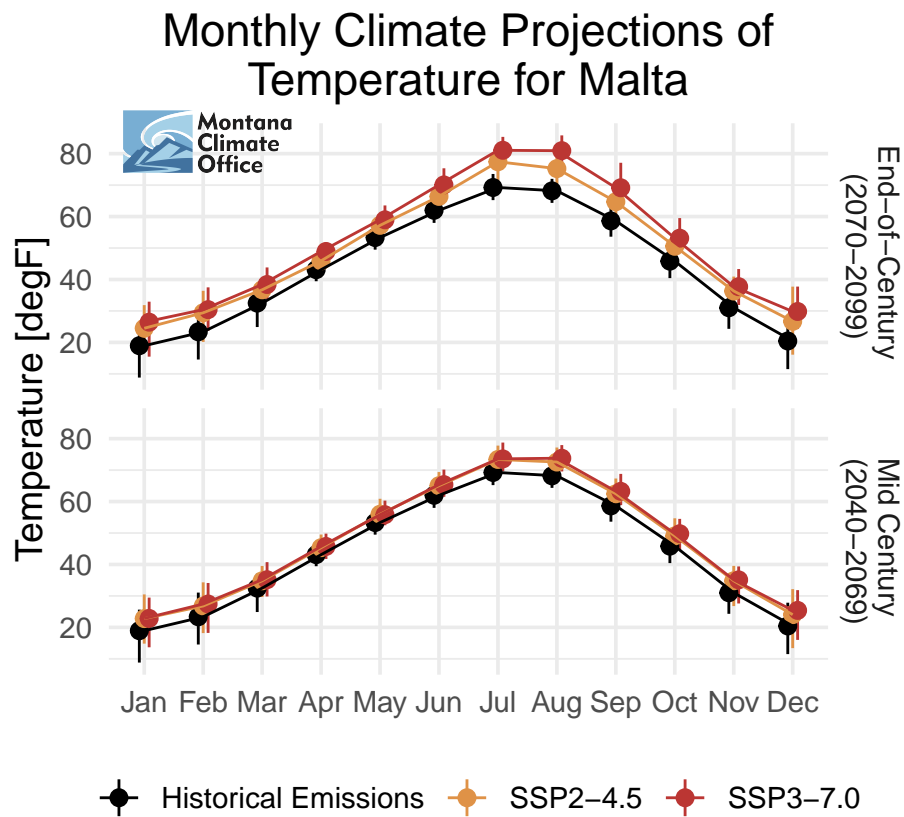


Figure 4: Projected Monthly Temperature Changes In Malta District

3.3 Projected Annual Changes in Max. Temperature in Malta District

Between 1950 and 2099, it is projected that under the middle of the road emissions scenario, max. temperature will increase at a rate of 0.29 degF per decade and under the high emissions emissions scenario, max. temperature will increase at a rate of 0.29 degF per decade. Below, a timeseries plot shows projected changes in max. temperature under these different emission scenarios.

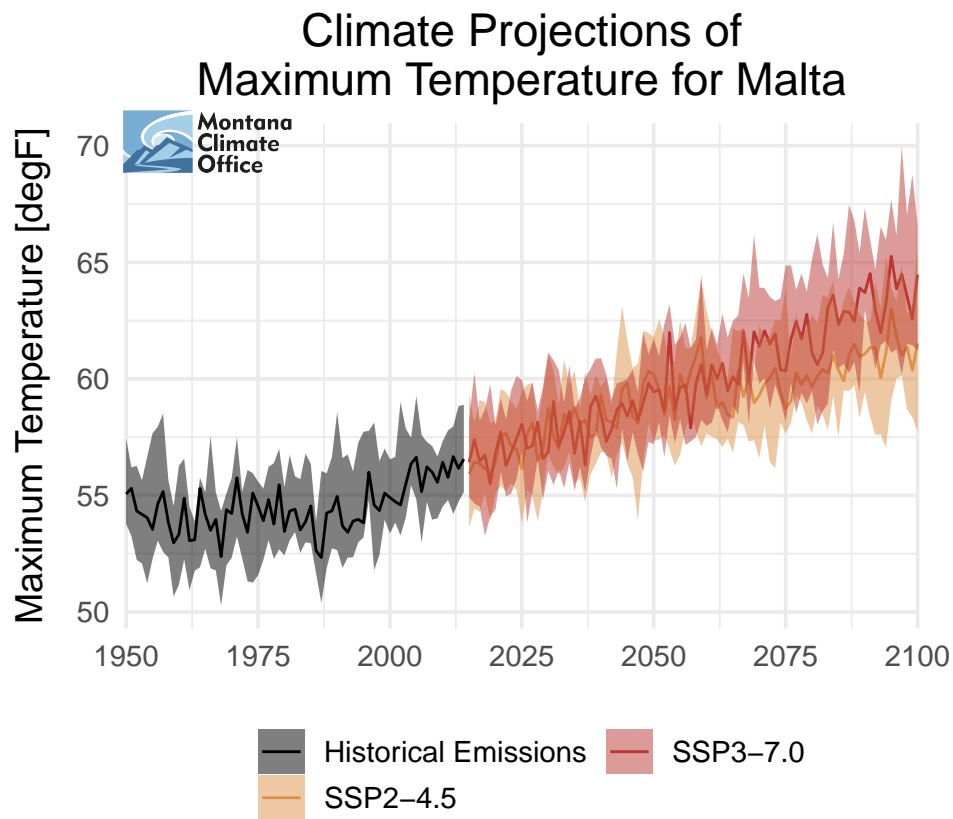


Figure 5: Projected Timeseries Of Annual Max. Temperature In Malta District

3.4 Projected Monthly Changes in Max. Temperature in Malta District

In addition to changing at annual time scales, max. temperature is also projected to change at the monthly scale. By mid century (2040-2069), Aug is projected to see the largest increase in max. temperature (4.61 degF) under the ssp2-4.5 scenario relative to the 1991 - 2020 baseline and Aug is projected to see the largest increase in max. temperature (5.72 degF) under the ssp3-7.0 scenario relative to the 1991 - 2020 baseline. By end-of-century (2070-2099), Jul is projected to see the largest increase in max. temperature (7.97 degF) under the ssp2-4.5 scenario relative to the 1991 - 2020 baseline and Aug is projected to see the largest increase in max. temperature (13.77 degF) under the ssp3-7.0 scenario relative to the 1991 - 2020 baseline.. Below, a table and graph showing changes in max. temperature for the SSP2-4.5 and SSP3-7.0 scenarios is provided to give a monthly breakdown of projected changes.

Table 2: Projected Monthly Max. Temperature Changes In Malta District

Month	SSP2-4.5	SSP3-7.0
Mid Century (2040-2069)		
Jan	2.76	2.75
Feb	2.94	3.09
Mar	2.53	2.84
Apr	2.51	2.40
May	2.25	2.30
Jun	3.12	3.30
Jul	4.20	4.23
Aug	4.61	5.72
Sep	4.03	5.04
Oct	3.71	4.17
Nov	4.25	4.54
Dec	3.09	3.41
End-of-Century (2070-2099)		
Jan	4.12	7.10
Feb	5.57	3.66
Mar	5.60	7.52
Apr	2.28	5.92
May	3.30	5.72
Jun	3.40	6.99
Jul	7.97	11.65
Aug	7.26	13.77
Sep	5.86	11.15
Oct	5.21	7.55
Nov	5.30	7.35
Dec	4.74	6.80

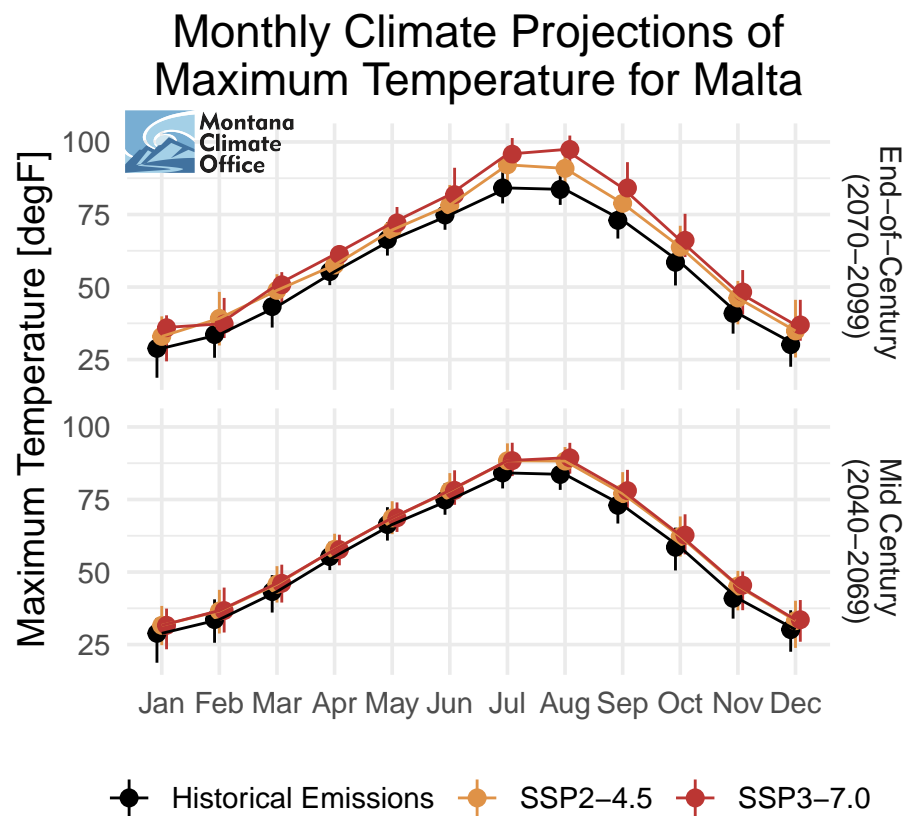


Figure 6: Projected Monthly Max. Temperature Changes In Malta District