The City of Moab, Utah
Water Year 2020 Climate Summary

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This document summarizes current temperature and precipitation anomalies relative to 30-year (1981-2010) averages for Moab, Utah (Moab) during the 2020 water year (October 2019 through September 2020). The data for these analyses were collected at the Co-op weather station in downtown Moab and downloaded from the Global Historical Climatology Network on 05 November, 2020 using R (ver. 4.0.3, R Core Team, 2020) and the rnoaa package (ver 1.2.0, Chamberlain, et al. 2020). The data used for these analyses include the daily high temperature (TMAX), daily low temperature (TMIN), and daily precipitation accumulation (PRCP). Averages were calculated using the mean for the period of interest.

Temperature

Water year 2020 was the 15th warmest water year in the 128-year record for Moab (1893 to 2020); the average annual temperature was 0.17°C above the 30-year average. This summary suggests that temperatures are increasing 0.21°C per decade (figure 1).

The average annual TMAX was 0.59°C below the 30-year average and has been increasing 0.16°C per decade (figure 2A). The average monthly TMAX exceeded the 30-year monthly average 5 times (Nov, Mar, May, Aug, and Sep; figure 3A).

The average annual TMIN was 0.67°C above average and and has been increasing 0.26°C per decade (figure 2B). The monthly average TMIN exceeded the 30-year monthly average 9 times (Dec, Jan, Mar, Apr, May, Jun, Jul, Aug, and Sep; figure 3B).

Precipitation

Water year 2020 was the 18th driest on record for Moab. Total precipitation was 74.3 mm less than the 30-year average, measuring 159.2 mm of precipitation. This summary suggests that precipitation is decreasing at a rate of 0.28 mm per decade (figures 4A).

Nov, Dec, Mar, and Jun received above average precipitation (figures 4B), but were not enough to compensate for the 8 months that were below average (Oct, Jan, Feb, Apr, May, Jul, Aug, and Sep; figure 4C).

Figures

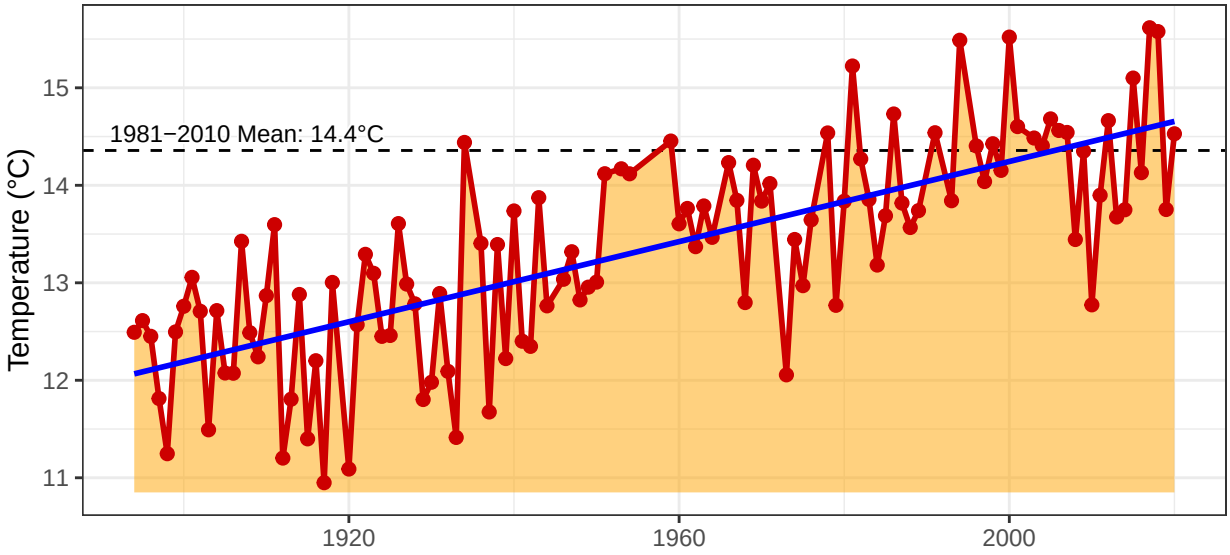

Figure 1: Average annual temperatures.

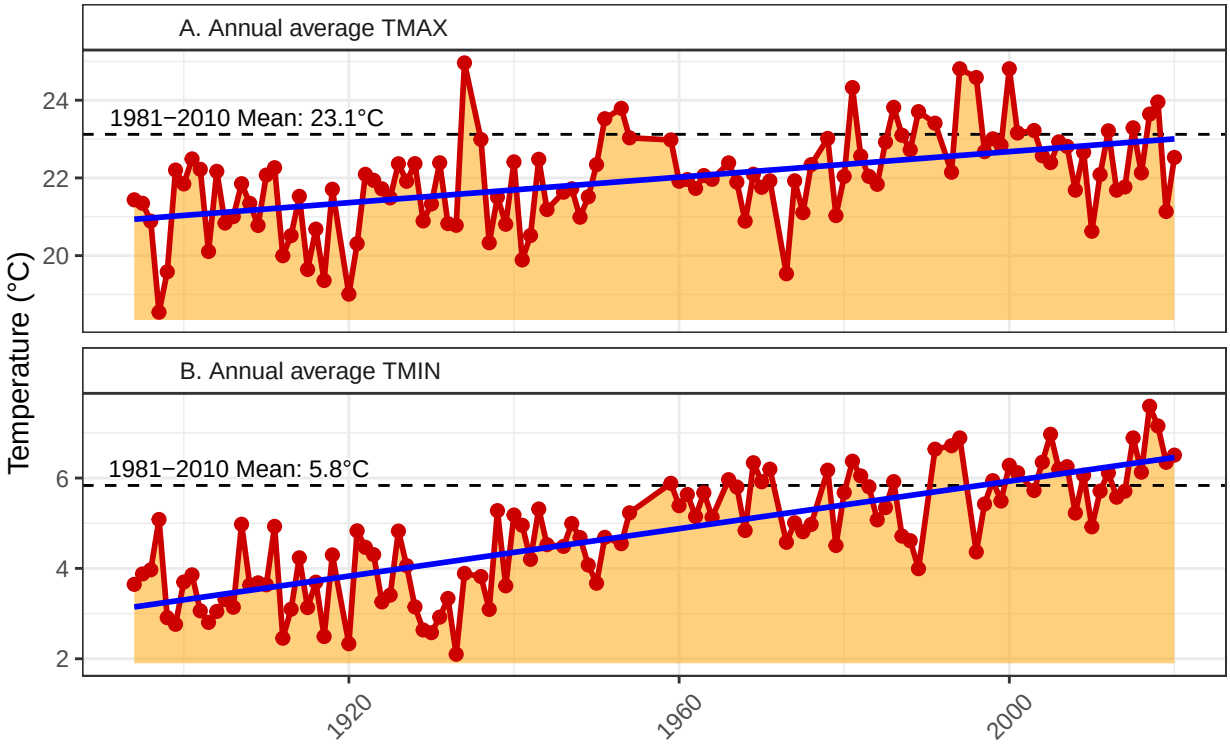

Figure 2: Average annual TMAX and TMIN.

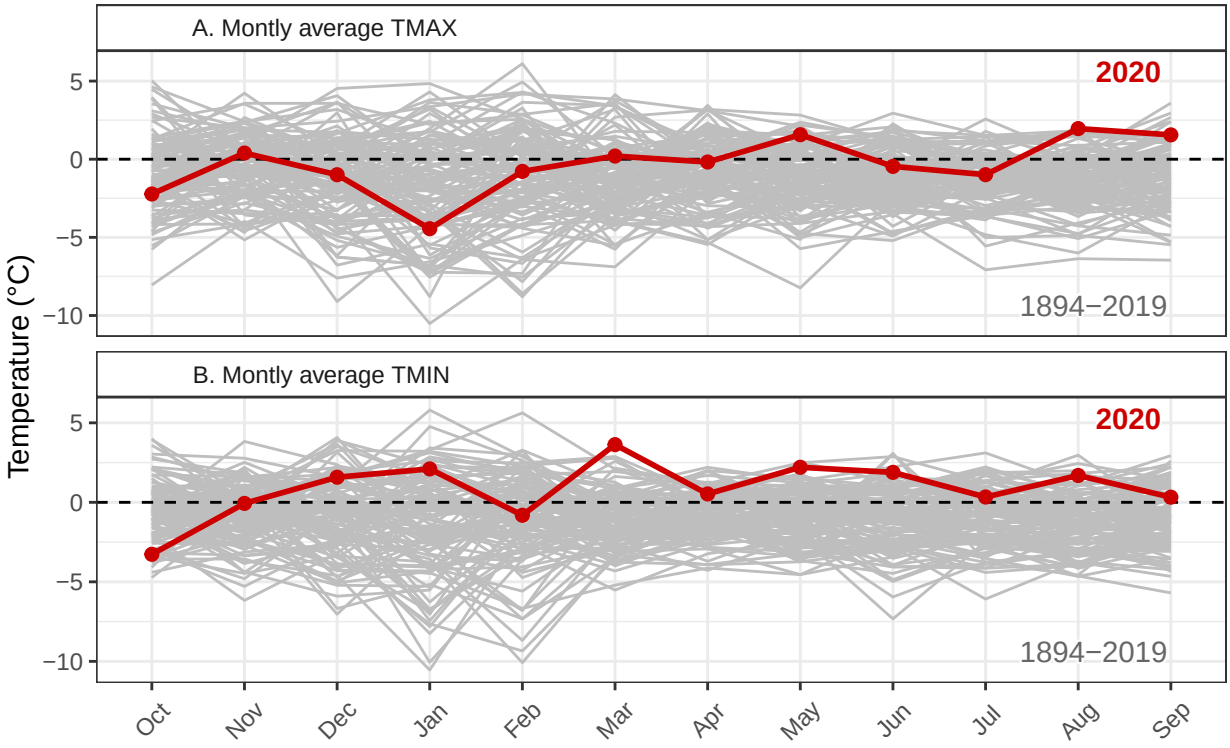

Figure 3: Average monthly TMAX and TMIN.

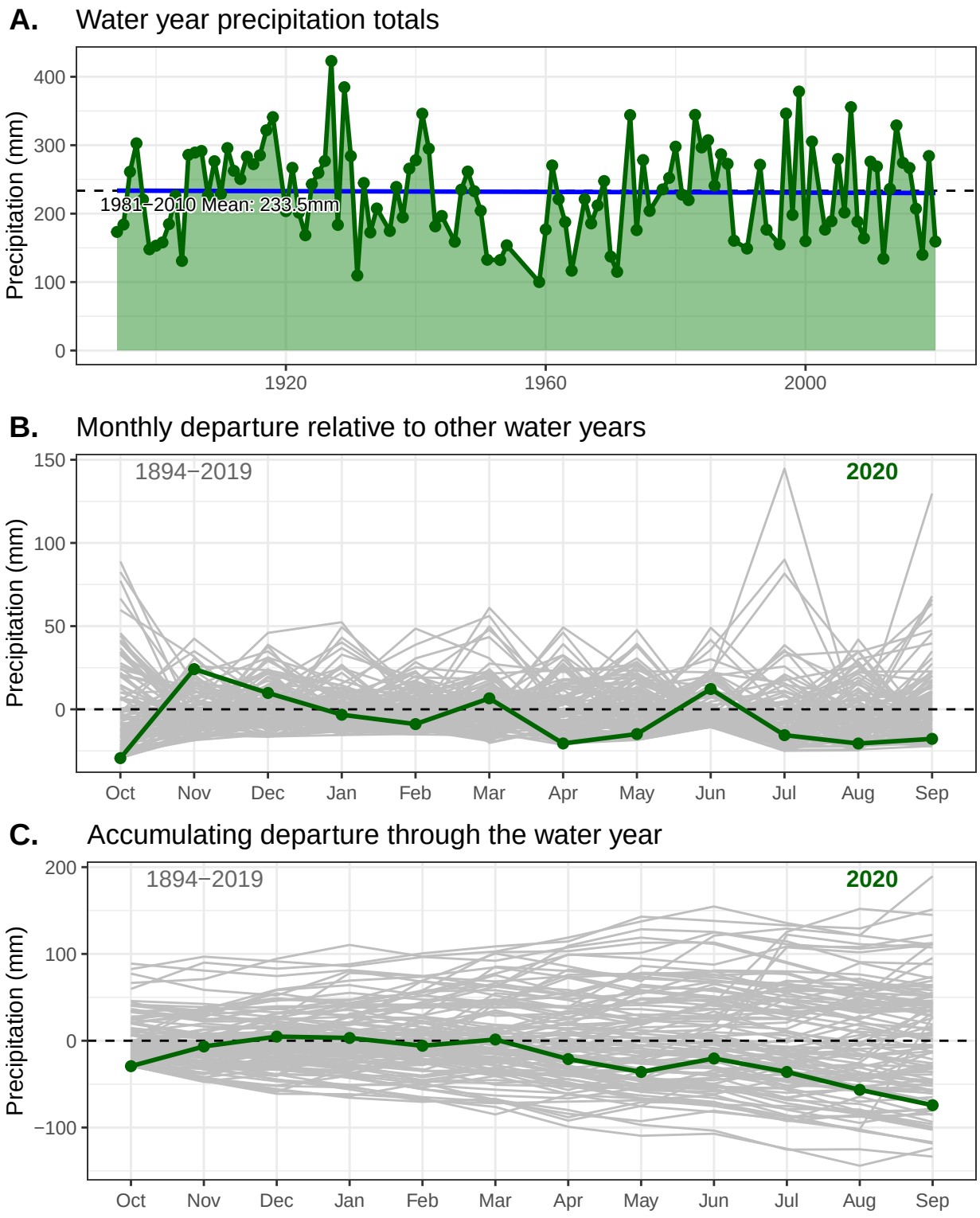

Figure 4: Water year precipitation totals and monly departures from 30-year averages.