Water Year 2020 Climate Summary for Natural Bridges National Monument

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2020-11-03

This document summarizes current temperature and precipitation anomalies relative to 30-year (1981-2010) averages for Natural Bridges National Monument (NABR) during the 2020 water year (October 2019 through September 2020). The data for these analyses were collected at the Visitor Center Co-op Station by NPS personnel and downloaded from the Global Historical Climatology Network on 26 October, 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 23th warmest water year in the 55-year record for NABR (1965 to 2020); the average annual temperature was 0.02°C below the 30-year average (figure 1A). The annual average daily high was 0.23°C above the 30-year average (figure 1B). The monthly average daily high exceeded the 30-year monthly average 6 times (Nov, Apr, May, Jun, Aug, and Sep; figure 1C). The annual average daily low (TMIN) was 0.89°C below average (figure 1B). The monthly average daily low exceeded the 30-year monthly average 6 times (Dec, Mar, May, Jun, Aug, and Sep; figure 1C).

Precipitation

Water year 2020 was the 2nd driest on record for NABR (figures 2A and 2B). Total precipitation was 209.2 mm less than the 30-year average, totaling 103.6 mm. Nov, Dec, Mar, and Jun received above average precipitation, but were not enough to compensate for the 8 months that were below average (Oct, Jan, Feb, Apr, May, Jul, Aug, and Sep; figures 2B and 2D).

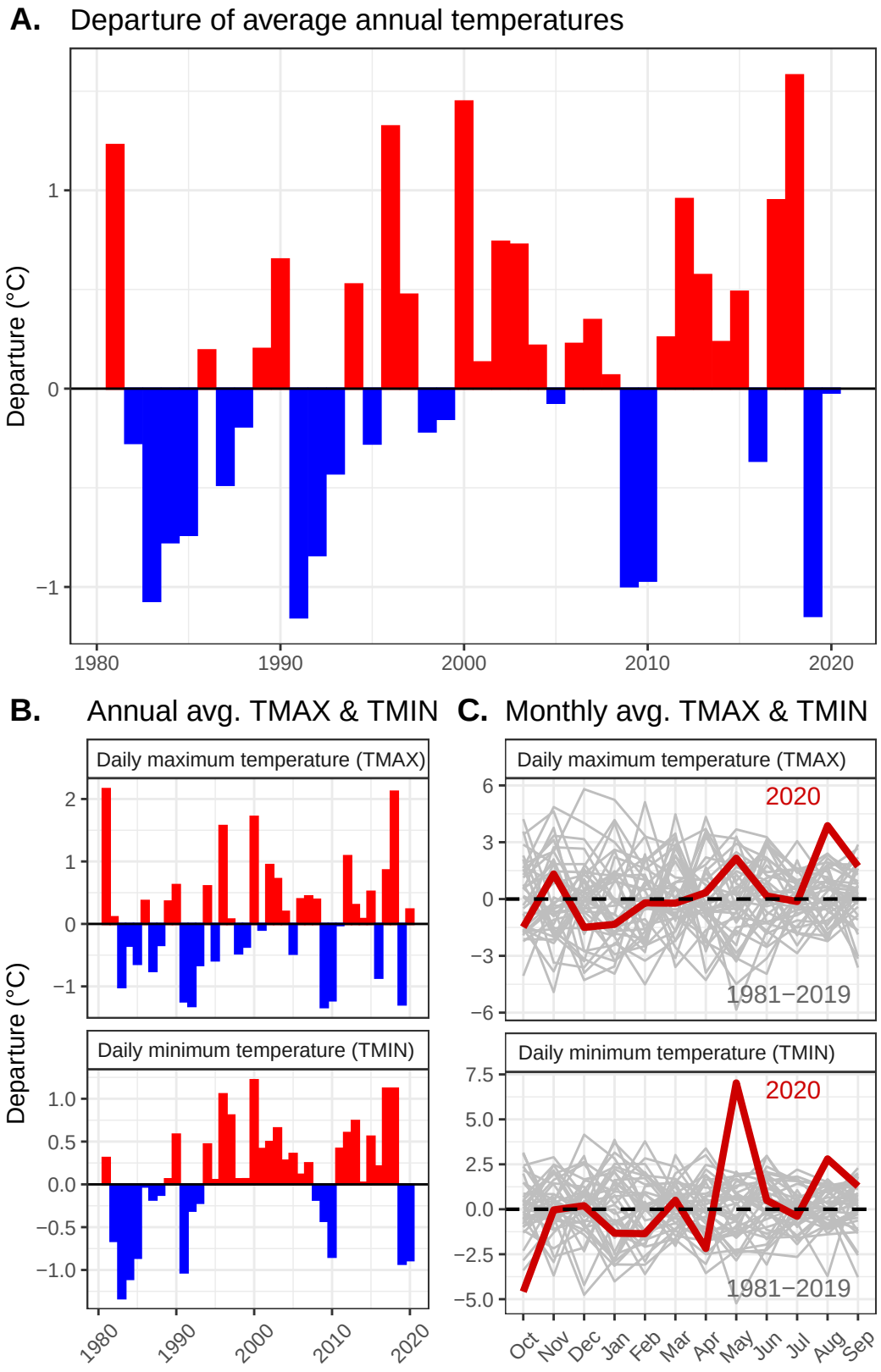

Figure 1: Departure of average temperatures from 30-year averages.

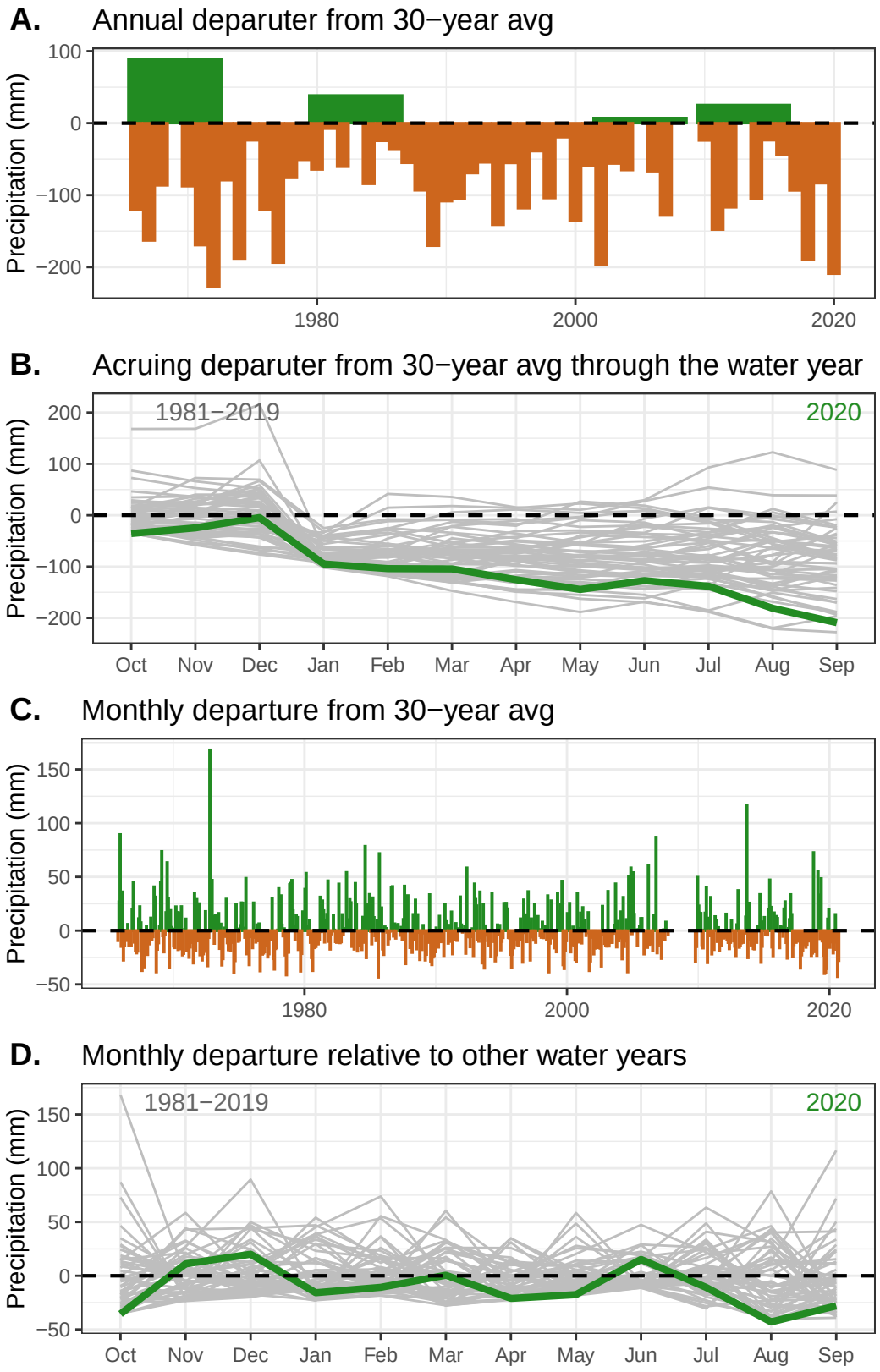

Figure 2: Departure of annual precipitation from 30-year averages.