February 2020 Public Works Report

Capital Improvement Projects

Lynn R Morgan Water Treatment Facility (WTF) Expansion

Construction of the WTF expansion continues ahead of schedule and within budget. Now that the pre-treatment building is up (see photo) progress has expanded to buried pipe, membrane, programming and treatment systems. Staff has met with Northern Water, Garney Construction and Burns and McDonnell Engineers to review 60% drawings of the hydroturbine and obtain construction cost estimates. We also plan to present to DOLA in March for a Renewable and Clean Energy grant that will cover roughly 40% of the cost of the turbine project.

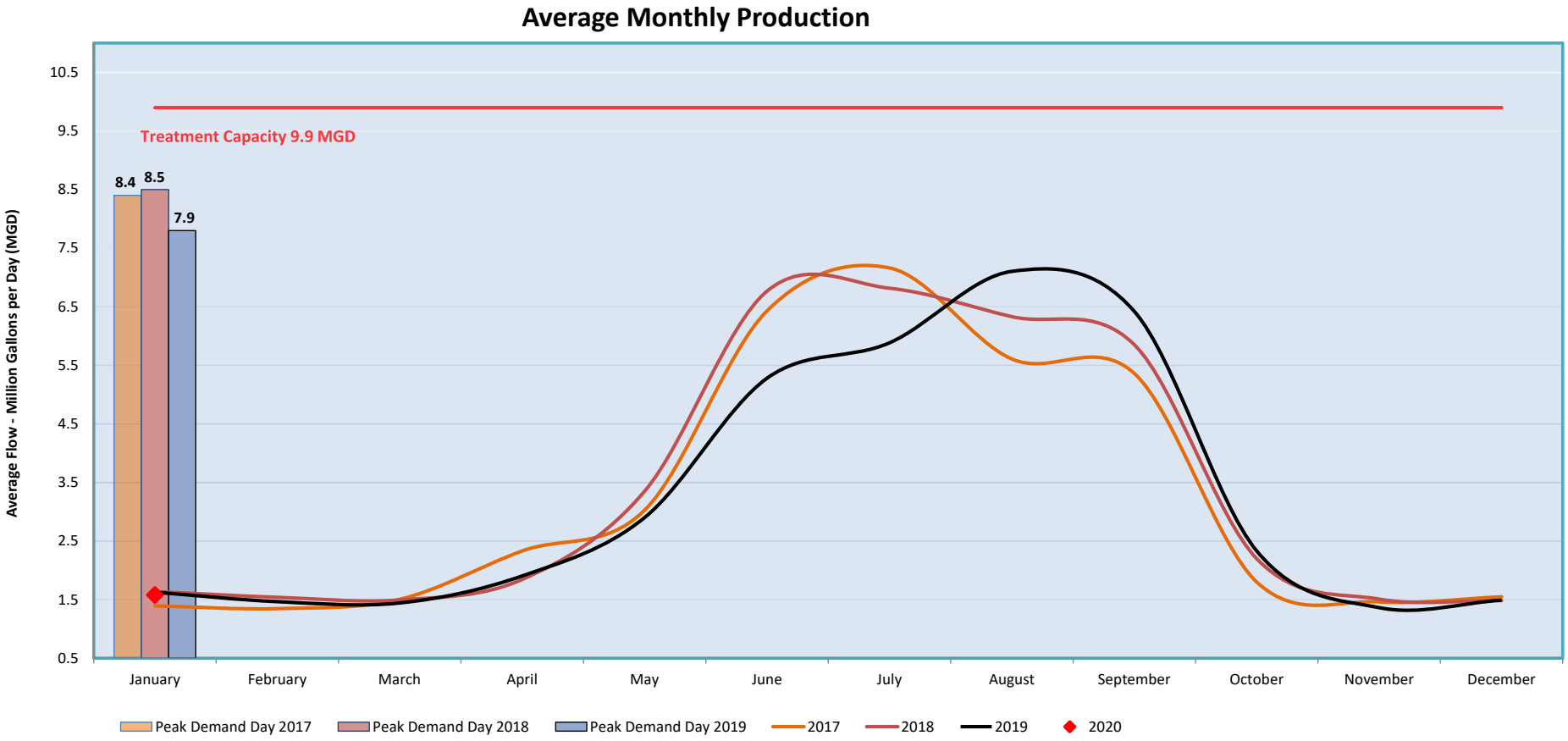
Sustainability and Water Conservation

- Drought Management Plan and Water Efficiency Master Plan update workshops were launched – there will be 5 workshops and a couple public engagement meetings once the draft is completed. A special thanks to Phil Brink from the Open Space and Tree Board for joining the group and lending his water expertise.
- As a result of the SolSmart commitment staff has begun analyzing current solar permitting, planning, zoning, and development regulations with intention to make them more solar friendly.
- We've revamped water conservation programs and rebates to offer 10 different options as well as streamlined application and bill-credit process to make it easier on the resident to participate.
- EV Readiness Plan being written to strategically plan for current and future charging station installation locations.

Lynn R. Morgan Water Treatment Facility (WTF)

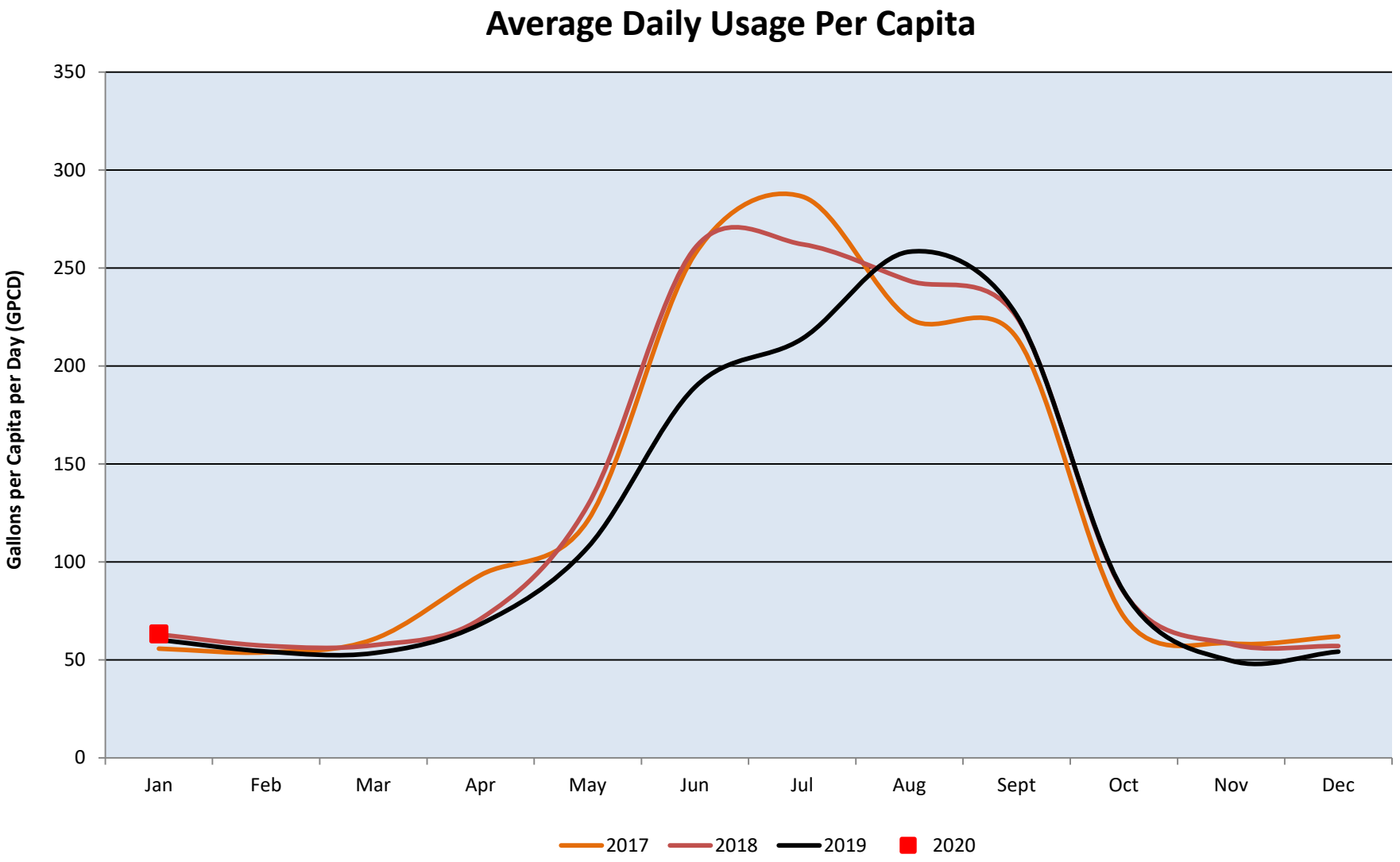
Annual Daily Average Flow: **2017** - 3.3 (Million Gallons) MG **2018** – 3.4 MG **2019** – 3.3 MG

July 2017 maintains the record for the highest monthly average flows at 7.16 MG, while February 2017 had the lowest flows at 1.35 MG closely followed by November 2019 at 1.36 MG. Summer demands greatly affect the annual average due to outdoor irrigation. The daily peak demand (customer meter totals) of 8.45 MGD was in July of 2018. This year's water demands have been unusual, in that demands arrived much later in the summer than usual and continued later into fall. Overall water demands were lower in 2019 due to a mild summer.



Annual Daily Gallons Per Capita per Day (GPCD): **2017** - 130 GPCD **2018** – 131 GPCD **2019** – 118 GPCD

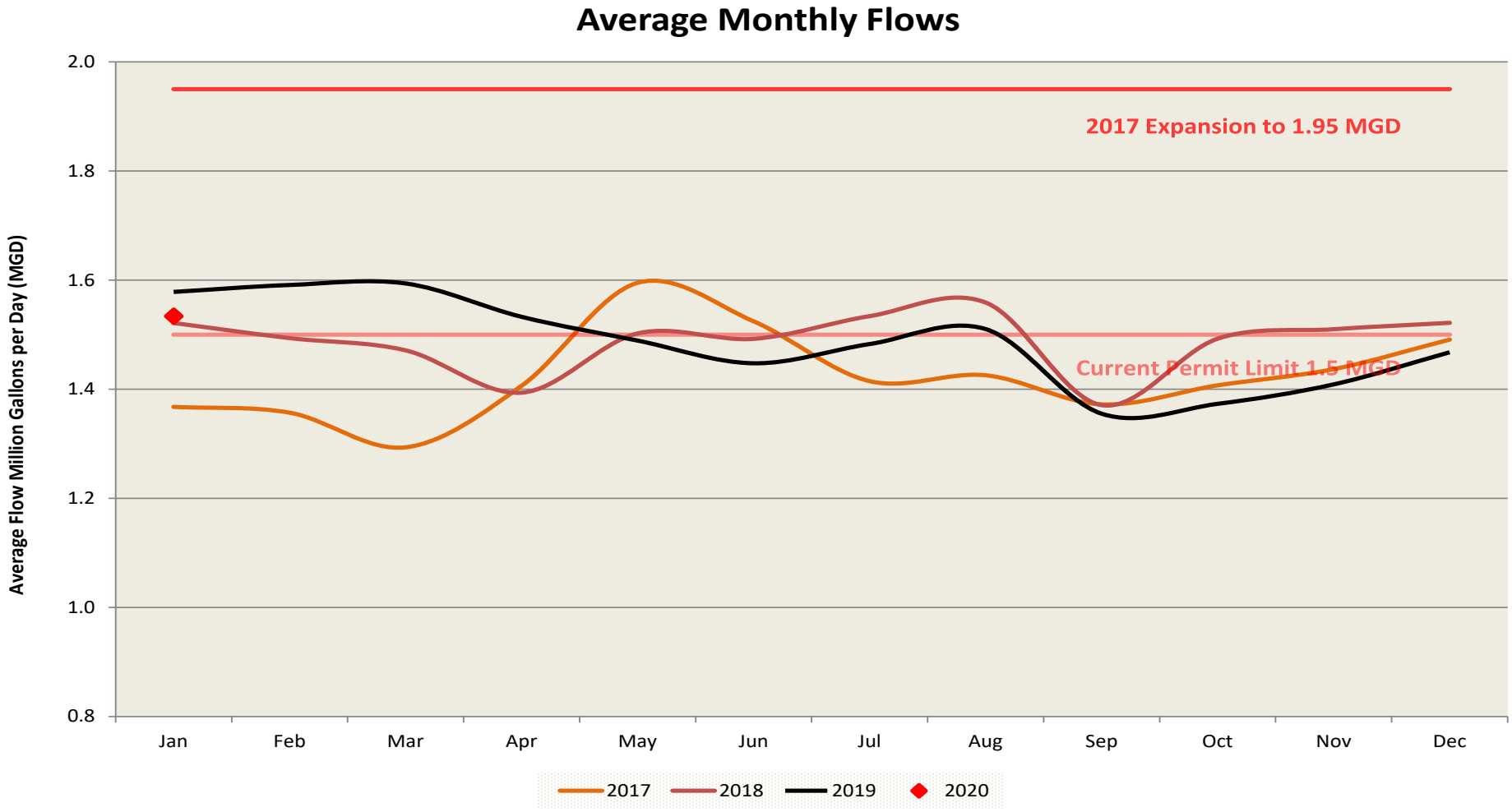
July 2017 had the highest average daily usage at 287 gallons GPCD. November 2019 had the lowest usage at 50 GPCD. This likely reflects an abrupt end to fall, the identification of leaks over the prior year and overall lower water using fixtures coming with new development. Reducing summer irrigation and increasing reuse water availability will reduce reliance on treated water supplies in the future.



North Water Reclamation Facility

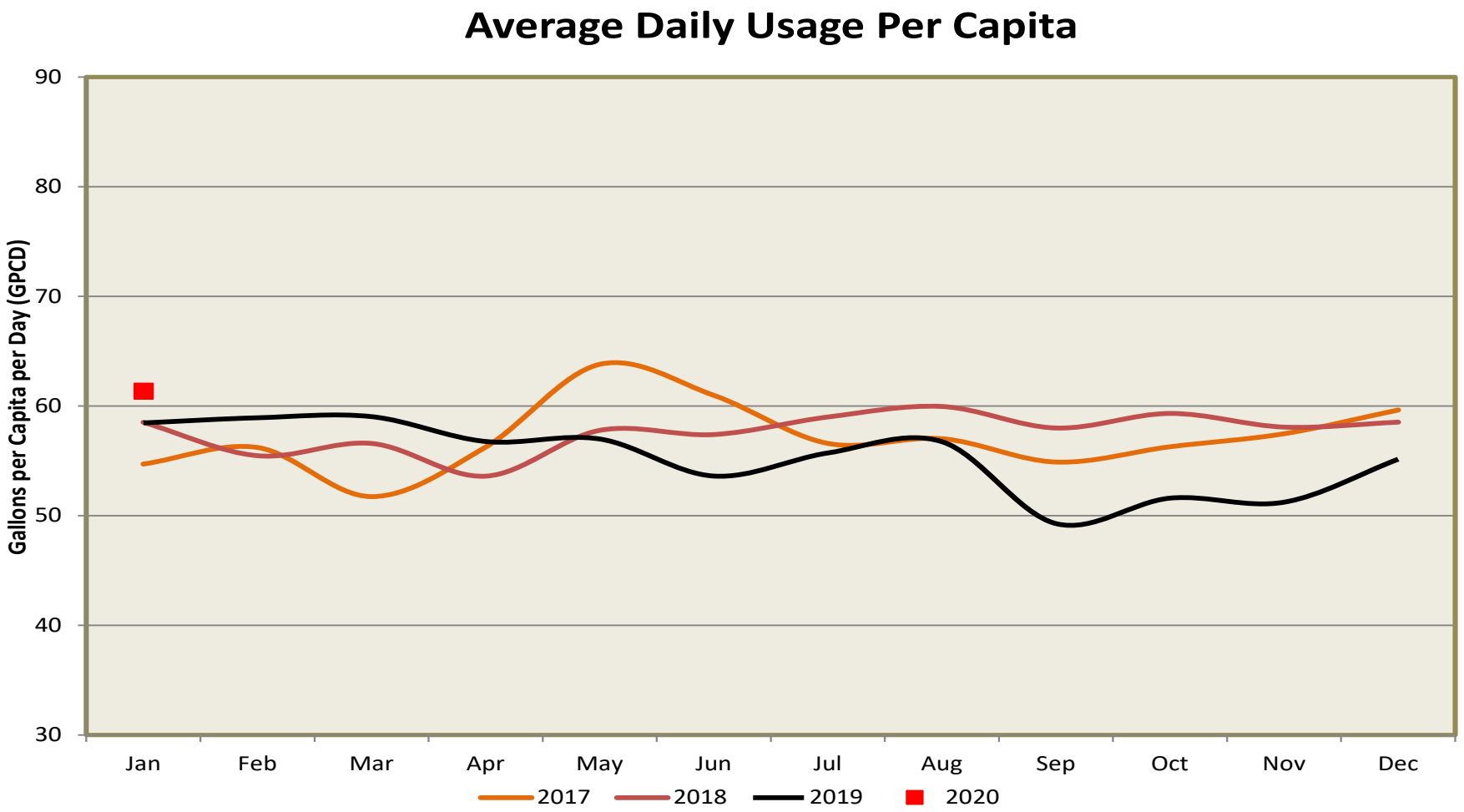
Annual Daily Average Flow: **2017** - 1.42 MG **2018** – 1.49 MG **2019** - 1.49 MG

March 2017 had the lowest average flow of 1.29 million gallons per day (MGD). May 2017 set a high average monthly flow of 1.60 MGD. February and March of 2019 saw inflows of 1.59 MG. CDPHE is indicating that they will not be renewing our permit until as late as 2023 or 2024. We recently requested party status into the Water Quality Control Commission Hearings related to permitting and design of wastewater treatment facilities and are joining other municipalities and utilities in requesting increased responsiveness and outsourcing of work by the Water Quality Control Division with regards to various permitting activities. The hearing is in March. Design of the next plant expansion continues with HDR Engineering. We anticipate construction with Archer Western Construction in late 2019 or early 2020 and lasting through 2021.



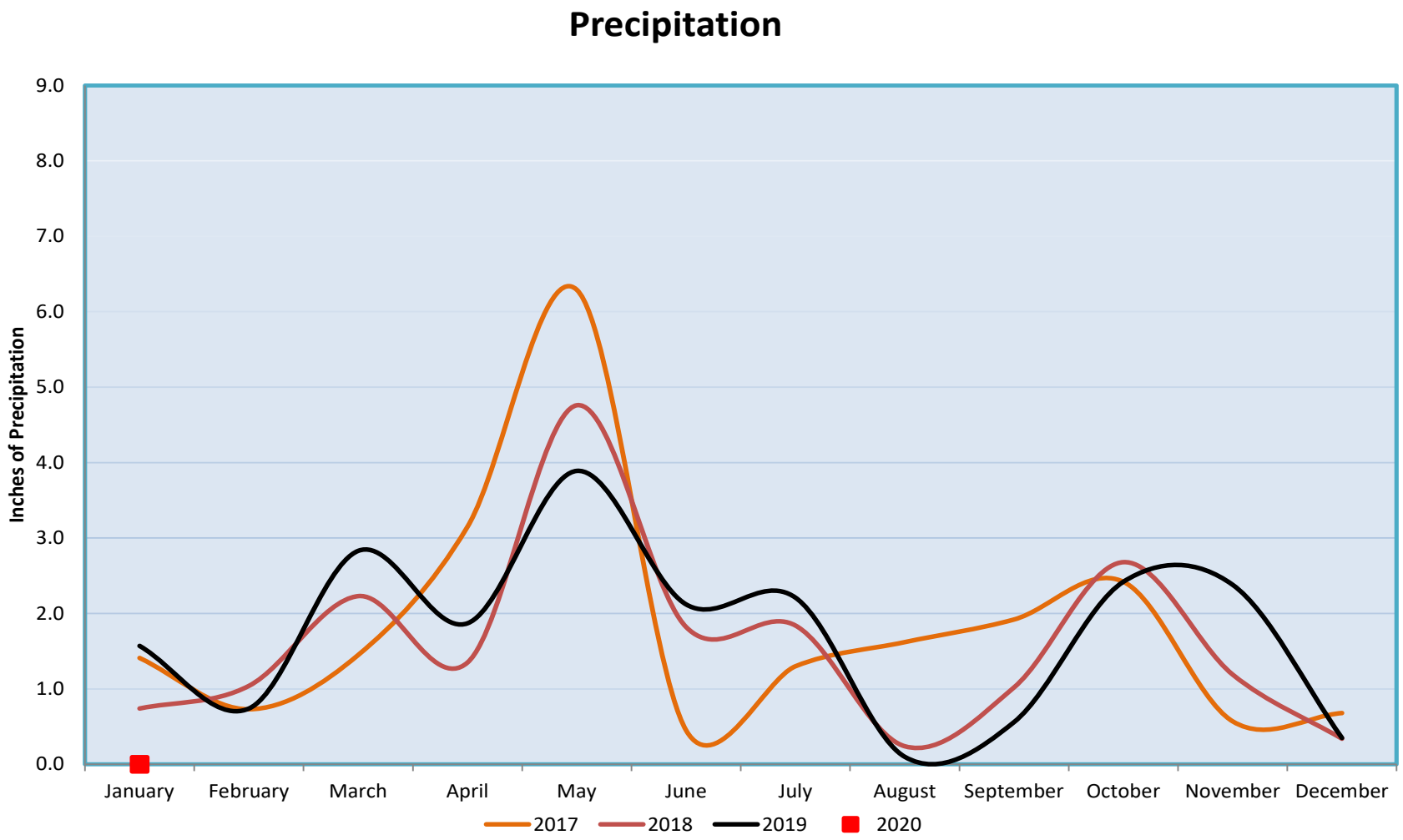
Annual Daily Gallons Per Capita per Day (GPCD): **2017** - 57 GPCD **2018 -** 58 GPCD **2019** - 55 GPCD

This graph depicts customer indoor water usage. May 2017 had the highest usage at 64 GPCD, primarily due to snow melt seeping into manholes after a particularly wet snow and subsequent warm weather. September 2019 had the lowest usage at 49 GPCD. Fall, with relatively little precipitation and dropping groundwater levels, is a good indicator of true daily flows.

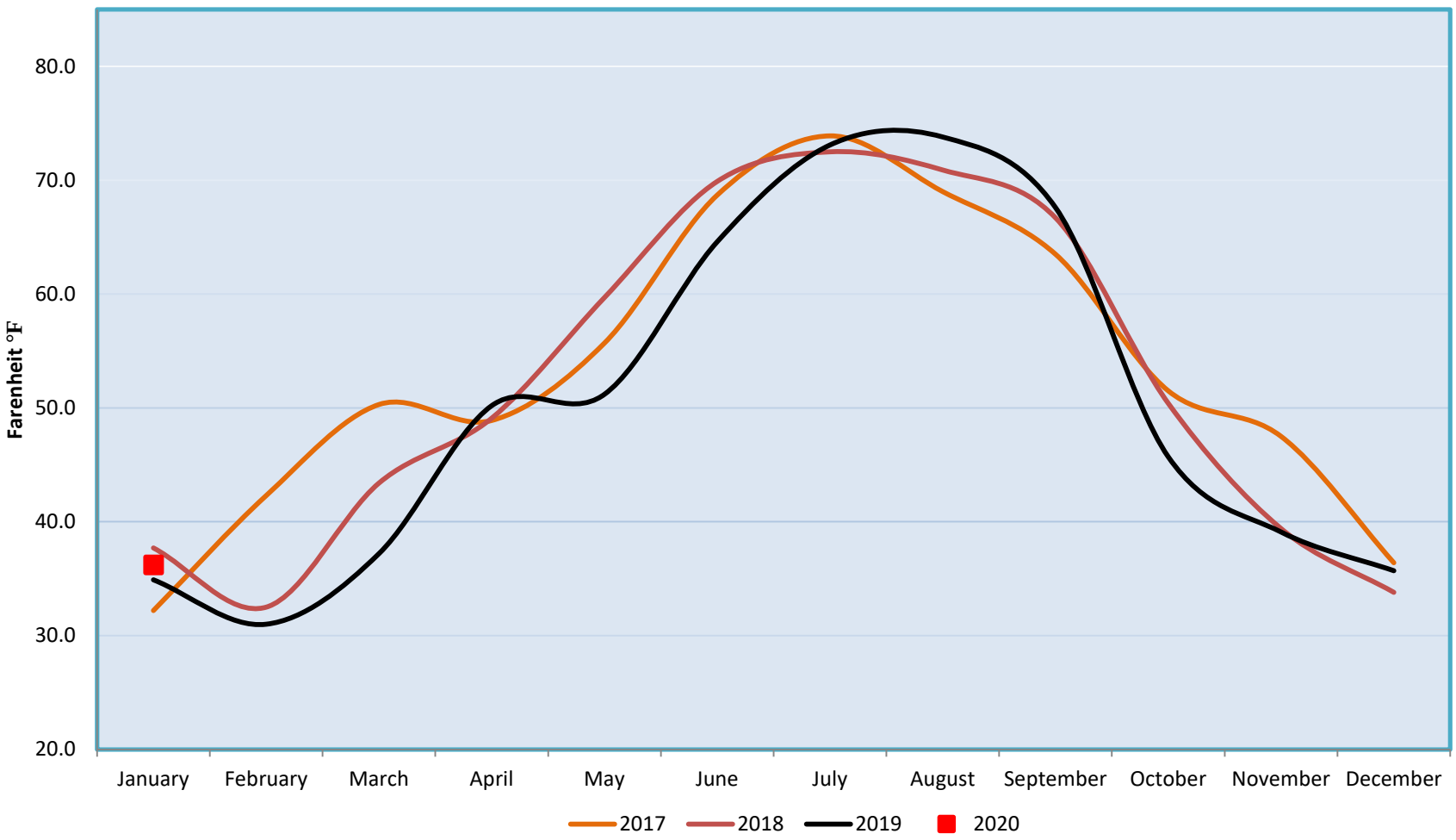


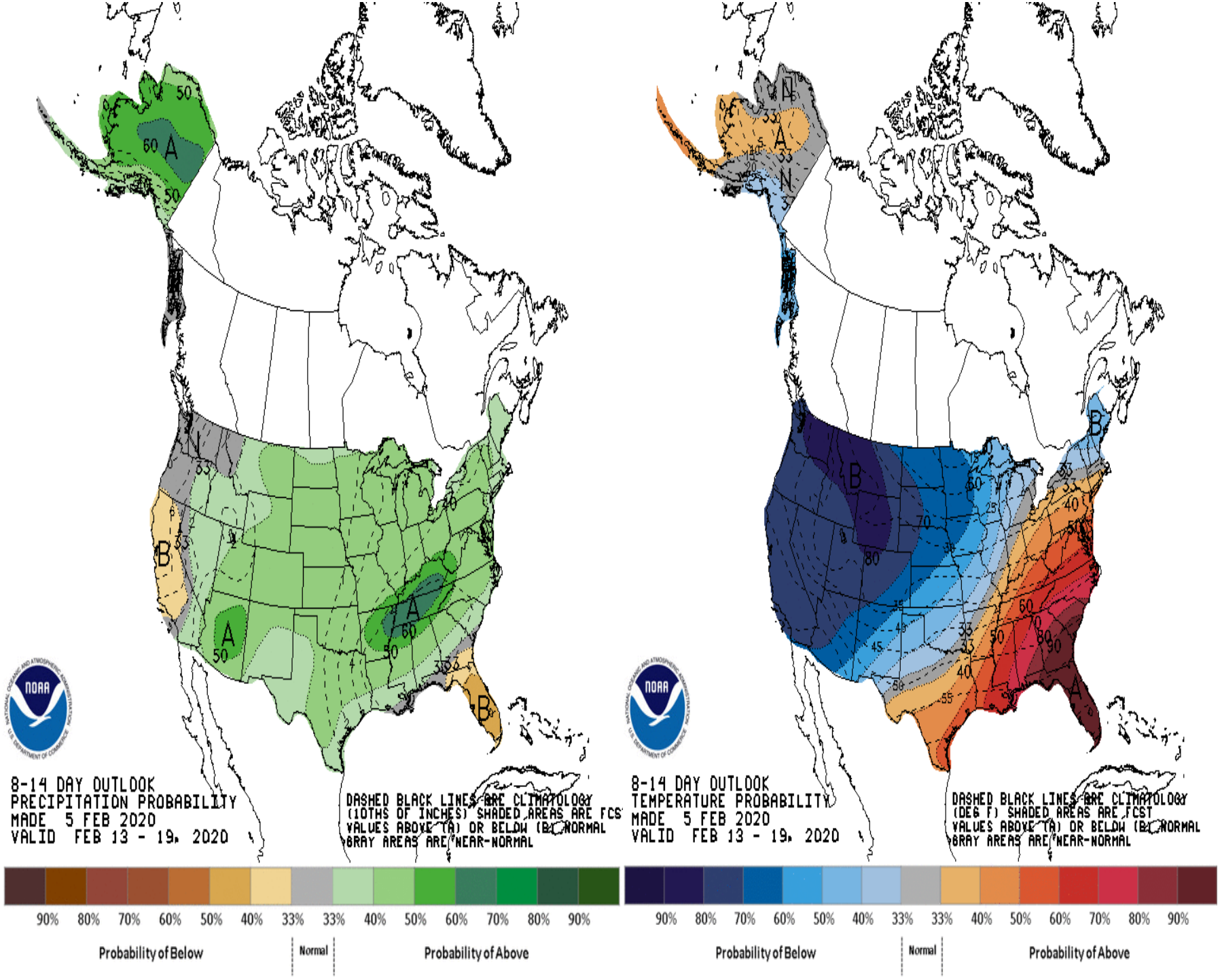
Monthly Data for Boulder – National Oceanic and Atmospheric Administration (NOAA) & Natural Resource Conservation Service (NRCS)

NOAA is predicting equal 40% chance of above normal precipitation and 70% chance of below normal temperatures through mid-February. NOAA recorded zero inches of precipitation in January, the first such reading since 1934 and only second such reading since recording began 1893. Snowpack, our water supply, continues to remain strong.



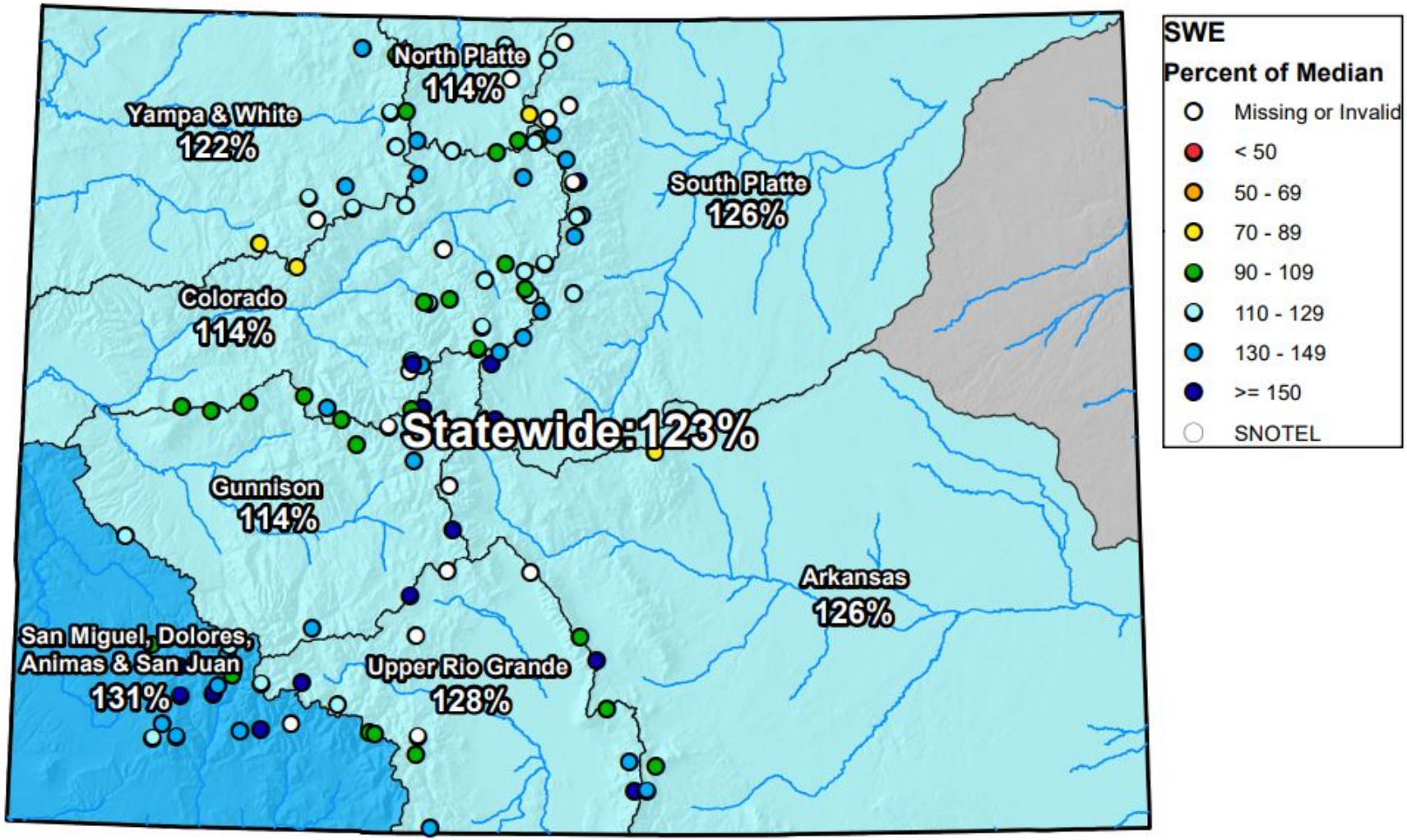
Mean Temperature




8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 5 FEB 2020
VALID FEB 13 - 19, 2020
DASHED BLACK LINES ARE CLIMATOLOGY
(10THS OF INCHES) SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
GRAY AREAS ARE NEAR-NORMAL
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 5 FEB 2020
VALID FEB 13 - 19, 2020
DASHED BLACK LINES ARE CLIMATOLOGY
(DEG F) SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
GRAY AREAS ARE NEAR-NORMAL
90% 80% 70% 60% 50% 40% 33% 33% 40% 50% 60% 70% 80% 90%
Probability of Below
Normal
Probability of Above

Colorado SNOTEL Snow Water Equivalent (SWE) Update Map with Site Data

Current as of Jan 02, 2020



USDA United States Department of Agriculture

Natural Resources Conservation Service