

May 15, 2019

Attention: Water Planning and Environmental Committee

Update on water supply conditions. (Presentation)

Purpose

To provide a report on current water supply conditions and outlook for the 2018-2019 winter.

Discussion

Following a dry year in Water Year (WY) 2018, WY 2019 started off dry until a series of storms in late November 2018 resulted in a significant improvement to the northern Sierra snowpack. The snowpack continued to slowly improve through January 2019, and then a series of storms in February more than doubled the snowpack from January levels. Storm systems that moved through California in March 2019 continued to produce additional snow.

The California Department of Water Resources (DWR) announced an initial State Water Project (SWP) allocation of 10 percent for Calendar Year (CY) 2019 in November 2018. On January 25, 2019, DWR announced an increase in the SWP allocation to 15 percent, and then announced a second increase to 35 percent on February 20, 2019. The latest increase to 70 percent was announced on March 20, 2019, and another increase to the allocation remains possible under certain Delta conditions.

State Water Project

Conditions improved in the northern Sierra Nevada starting in late November 2018. Precipitation was at 128 percent of average as of May 10, 2019, and snow water content was at 163 percent of normal as of April 1, the typical seasonal peak. The early April snow survey is typically the last one of the water year, but because of the amount of snow this year, DWR added another survey for May. The fifth and final Phillips Station snow survey was conducted on May 2, 2019, and measured a snow water equivalent of 27.5 inches, which was 188 percent of average for that location.

The storage level in Lake Oroville was intentionally kept below average since April 2017 to allow repair work on the main and emergency spillways. DWR announced on October 31, 2018, that it had met its goal of completely reconstructing the main spillway by November 1, 2018, however, construction on the emergency spillway is ongoing. DWR's flood operations plan for the 2018-19 flood season called for maintaining lower-than-average lake levels during the winter months to provide operational flexibility to ensure flood protection, meet water deliveries and environmental requirements, and prevent use of the emergency spillway during the winter. On April 2, 2019, DWR began to release flows from the main spillway for the first time since reconstruction, allowing for releases beyond the capacity of the Hyatt Powerplant located at the bottom of the dam. DWR may need to use the main spillway again later this spring to manage inflows from snowmelt, but releases from the Hyatt Powerplant are adequate at this time. DWR will allow the lake to continue rising during the late spring and summer months to increase water supply storage.

Table 1 shows storage levels for Lake Oroville and San Luis Reservoir as of May 9, 2019.

Table 1 - Reservoir Storage Levels (May 9, 2019)			
Reservoir	Storage in Million Acre-Feet	Percent of Capacity	Percent of Average
Oroville	3.354	95%	115%
San Luis*	1.607	79%	91%
Combined	4.961	89%	94%

*San Luis storage includes SWP and Central Valley Project. SWP share in San Luis was approximately 867 thousand acre-feet.

Colorado River

As of May 6, 2019, Upper Colorado River Basin rainfall was at 119 percent of average and snowpack was at 138 percent of average. Table 2 shows storage levels for Lakes Powell and Mead as of May 5, 2019.

Table 2 - Reservoir Storage Levels (May 5, 2019)		
Reservoir	Storage in Million Acre-Feet	Percent of Capacity
Lake Powell	9.45	39%
Lake Mead	10.74	41%
Combined	20.19	40%

As of May 2, 2019, the forecasted inflow for WY 2019 was 12.1 million acre-feet (MAF), which is 112 percent of normal. As of January 2019, the federal Bureau of Reclamation does not anticipate a shortage condition on the Colorado River in 2019. In addition, based on accumulated snowpack since the middle of January, it now looks likely that a shortage declaration will be avoided in 2020.

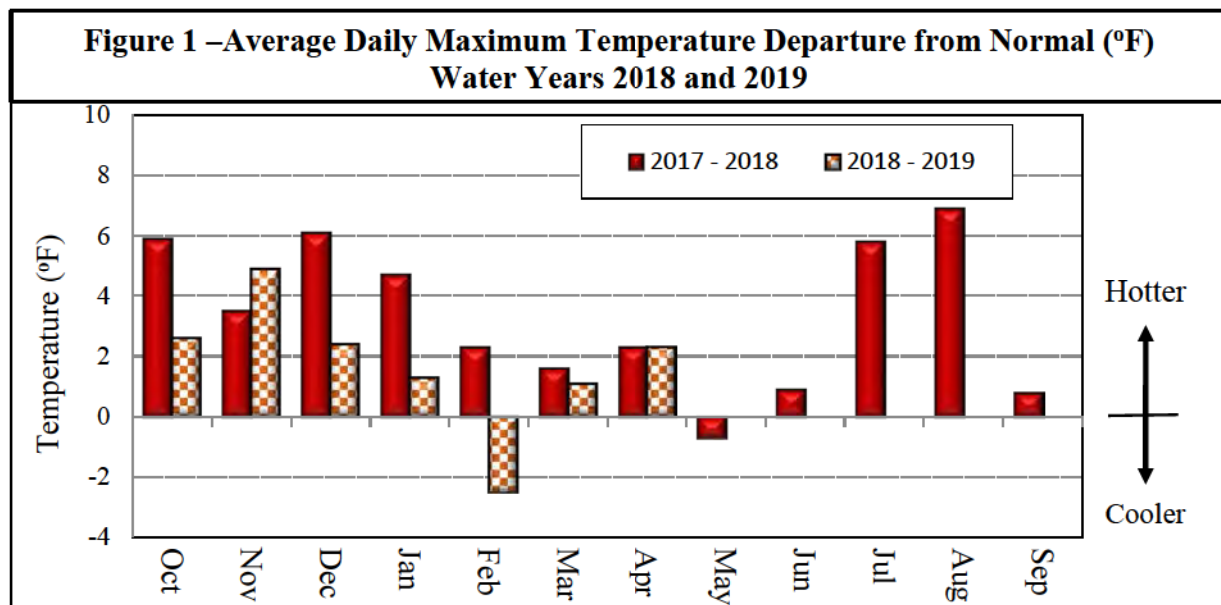
Metropolitan Water District

As of January 1, 2019, the Metropolitan Water District of Southern California (MWD) had 702,000 acre-feet (AF) of storage in Diamond Valley Lake, approximately 45,000 AF less storage than one year ago. Total storage capacity in Diamond Valley Lake is approximately 810,000 AF. MWD staff reported that the current range of water supply demand balance scenarios project a net gain in MWD's dry-year storage in CY 2019.

Local Conditions

Local reservoir storage as of April 29, 2019, was at 58 percent of capacity, or approximately 427,000 AF. This total includes “dead storage,” or capacity that is physically inaccessible or restricted by agency operating or emergency storage policies. It also includes Water Authority carryover and emergency storage in Lake Hodges, Olivenhain Reservoir, and San Vicente Reservoir. A breakdown of Water Authority storage for April 2019 is contained in Exhibit D of this month’s Water Resources Report.

Temperatures in the San Diego region were hotter than normal during six of the first seven months of WY 2019, with the average daily maximum temperature registering 2.3 degrees above average in April 2019. Figure 1 shows the departure from normal maximum monthly temperatures at Lindbergh Field for Water Years 2018 and 2019, with only May 2018 and February 2019 registering a below-normal average daily maximum temperature.

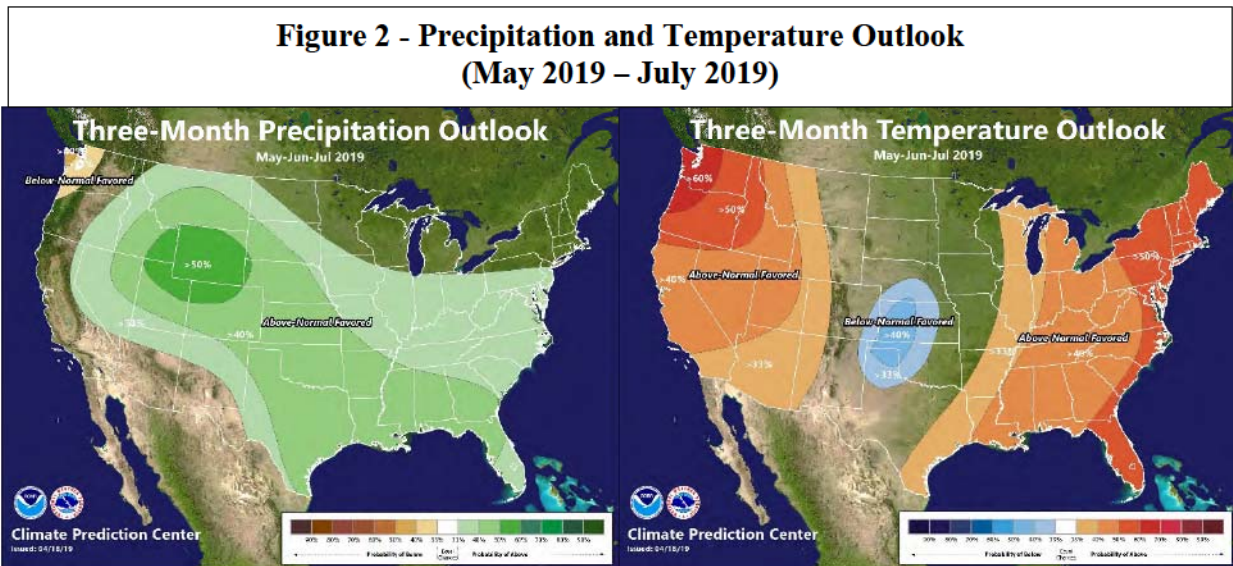


Precipitation in the San Diego region has been above average for WY 2019. Table 3 on the following page contains cumulative rainfall totals since October 1, 2018, for Lindbergh Field and Ramona Airport. These locations are geographically representative of coastal and inland regions of the Water Authority service area. While April 2019 was drier than normal, both inland precipitation and coastal precipitation remain well above normal to date for WY 2019, measured at 121 percent of normal at Lindbergh Field and 126 percent of normal at Ramona Airport.

Table 3 – Water Year 2019 Rainfall Totals (October 1, 2018 – May 9, 2019)		
Station	Precipitation (Inches)	Percent of Normal
Lindbergh Field	12.12	121%
Ramona Airport	19.25	126%

Outlook

On April 18, 2019, the Climate Prediction Center (CPC) issued its three-month outlook (May through July) for precipitation and temperature across the country (Figure 2). The CPC precipitation outlook shows that across the majority of California there is an equal chance of above normal, normal, and below normal precipitation. The CPC temperature outlook shows that there is a greater than 40 percent probability of above-normal temperatures for most of California, with the probability being somewhat lower for the southern portion of the state.



Based on current supply levels, the Water Authority and its member agencies will meet anticipated demands through a combination of imported supplies and drought-resilient local and regional water resources, including the Claude “Bud” Lewis Carlsbad Desalination Plant, conserved agricultural water transfers, savings from canal lining projects, and continued water-use efficiency measures.

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This report concludes monthly reporting on water supply conditions for the winter/spring of WY 2019. Staff will return to the Board in December 2019 with a report on the conclusion of WY 2019 and the start of WY 2020.

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