

November 24, 2020

**NOTICE OF REGULAR MEETING OF THE
COLORADO RIVER BOARD**

NOTICE IS HEREBY GIVEN pursuant to the call of the Chairperson, Peter Nelson, by the undersigned Executive Director of the Colorado River Board of California that a regular meeting of the Board Members is to be held as follows:

Date: Wednesday, December 9, 2020
Time: 10:00 a.m.
Place: Pursuant to Governor Newsom's Executive Order N-29-20 issued on March 17, 2020, this meeting will be held virtually via Zoom Webinar. Board members will receive instructions separately. The public are welcome to attend. Attendees may access this meeting using the following:
Webinar Link: <https://us02web.zoom.us/j/89693291282>
Telephone: US: +1 669 900 9128, enter Meeting ID: 896 9329 1282, followed by #; then press # again to connect.

The Colorado River Board of California welcomes any comments from members of the public pertaining to items included on this agenda and related topics. If members of the public wish to make a comment regarding items on the agenda, there are three options for consideration: (1) Public comments may be submitted by electronic mail, and **should be addressed to the Board's Chairman, Mr. Peter Nelson, at crb@crb.ca.gov and will be accepted up until 10:00 a.m. on the day of the meeting;** (2) During the meeting, members of the public may submit comments by participating in the Zoom Webinar and utilizing the "Q&A" feature in the control panel; **or** (3) By calling into the Zoom Webinar using the telephone number above and pressing *9 to "Raise Hand." Please note, **written submissions will be read aloud at the public comment period** to the extent they fit within the five-minute time limit.

If accommodations from individuals with disabilities are required, such persons should provide a request at least 24 hours in advance of the meeting by electronic mail to the Board's staff member, Mr. Brian Alvarez at balvarez@crb.ca.gov.

Requests for additional information may be directed to: Mr. Christopher S. Harris, Executive Director, Colorado River Board of California, 770 Fairmont Avenue, Suite 100, Glendale, CA 91203-1068, or 818-500-1625. A copy of this Notice and Agenda may be found on the Colorado River Board's web page at www.crb.ca.gov.

A copy of the meeting agenda, showing the matters to be considered and transacted, is attached.


Christopher S. Harris
Executive Director

Regular Meeting
COLORADO RIVER BOARD OF CALIFORNIA
Wednesday, December 9, 2020
10:00 a.m.

At the discretion of the Board, all items appearing on this agenda, whether or not expressly listed for action, may be deliberated upon and may be subject to action by the Board. Items may not necessarily be taken up in the order shown.

COVID-19 Notice

The Board is following guidance provided by Governor Newsom, pursuant to Executive Order N-29-20 issued on March 17, 2020, for adhering to the Bagley-Keene Act's open meeting requirements.

1. Call to Order

2. Opportunity for the Public to Address the Board (Limited to 5 minutes)

In accordance with California Government Code, Section 54954.3(a)

3. Administration

- a. Consideration and approval of the Minutes of the meeting held October 14, 2020 (**Action**)
- b. Consideration and approval of the Proposed Calendar-Year 2021 Board meeting schedule (**Action**)

4. Water Supply and Operations Reports

- a. Colorado River Basin Water Supply and Operations Report
- b. State and Local Water Supply and Operations Reports

5. Agency End-of-Year Reports

6. Staff Reports Regarding Colorado River Basin Programs

- a. Colorado River Basin Salinity Control Program
- b. Glen Canyon Dam Adaptive Management Program
- c. Status of Reclamation's 2007 Guidelines 7.D Review Process
- d. General Announcements

7. Executive Session

An Executive Session may be held by the Board pursuant to provisions of Article 9 (commencing with Section 11120) of Chapter 1 of Part 1 of Division 3 of Title 2 of the Government Code and Sections 12516 and 12519 of the Water Code to discuss matters concerning interstate claims to the use of Colorado River system waters in judicial proceedings, administrative proceedings, and/or negotiations with representatives from other states or the federal government.

8. Other Business

9. Future Agenda Items/Announcements

Next Scheduled Board Meeting: January 13, 2020
10:00 a.m.
Webinar

Minutes of Meeting
COLORADO RIVER BOARD OF CALIFORNIA
Wednesday, October 14, 2020

A meeting of the Colorado River Board of California (Board) was held virtually on Wednesday, October 14, 2020, using the Zoom Webinar meeting platform.

Board Members and Alternates Present:

David DeJesus (MWD Alternate)
James Hanks (IID)
Jeanine Jones (DWR Designee)
Henry Kuiper (Public Member)
Jim Madaffer (SDCWA)
Peter Nelson, Chairman (CVWD)

Glen D. Peterson (MWD)
David R. Pettijohn (LADWP)
John Powell, Jr. (CVWD Alternate)
David Vigil (DFW Alternate)
Mark Watton (SDCWA Alternate)

Board Members and Alternates Absent:

Evelyn Cortez-Davis (LADWP Alternate)
Dana B. Fisher, Jr. (PVID)
Norma Sierra Galindo (IID Alternate)

Christopher Hayes (DFW Designee)
Jack Seiler (PVID Alternate)

Others Present:

Jim Abatti
Steven Abbott
Brian Alvarez
Jim Barrett
Bert Bell
John Buttz
Robert Cheng
Dan Denham
JR Echard
Howard Elmore
Melissa Baum-Haley
Emily Halvorsen
Christopher Harris
Bill Hasencamp
Michael Hughes
Ned Hyduke
Sarai Jimenez
Lisa Johansen

Lori Jones
Rich Juricich
Laura Lamdin
Tom Levy
Lindia Liu
Kara Mathews
Kate McCutcheon
Aaron Mead
Dylan Mohamed
Sutton Morgan
Jessica Neuwerth
Jeff Plourd
Kay Pricola
Angela Rashid
Ivory Reyburn
Kelly Rodgers
Shanti Rosset
Roberta Saligumba

Tina Shields
Darren Simon
Andrew Slangen
Gary Tavetian

Cherie Watte
Jay Weiner
Meena Westford
Jerry Zimmerman

CALL TO ORDER

Chairman Nelson announced the presence of a quorum and called the meeting to order at 10:01 a.m.

OPPORTUNITY FOR THE PUBLIC TO ADDRESS THE BOARD

Chairman Nelson invited members of the audience to address the Board on items on the agenda or matters related to the Board. Hearing none, Chairman Nelson moved to the next item on the agenda.

ADMINISTRATION

Chairman Nelson asked for a motion to approve the September 9, 2020, meeting minutes. Mr. Pettijohn moved that the minutes be approved, seconded by Mr. Kuiper. By roll-call vote, the minutes were unanimously approved.

Chairman Nelson asked for a motion to approve the adoption of Board Resolution Acknowledging Federal Service of Mr. Terrance J. Fulp, Ph.D., Regional Director, U.S. Bureau of Reclamation. Mr. Madaffer moved that the Board Resolution be approved, seconded by Mr. Peterson. By roll-call vote, the Board Resolution was unanimously approved.

COLORADO RIVER BASIN WATER REPORTS

Colorado River Basin Report

Mr. Juricich reported that October 1st marked the beginning of Water Year-2021. As of October 1st, the water level at Lake Powell was 3,595.43 feet with 11.32 million-acre feet (MAF) of storage, or 47% of capacity. The water level at Lake Mead was 1,083.22 with 10.28 MAF of storage, or 39% of capacity. The total system storage was 28.81 MAF, or 48% of capacity, which is 2.78 MAF less than system storage at this time last year.

Mr. Juricich reported that as of October 1st, the preliminary observed unregulated inflow into Lake Powell for Water Year 2020 was 5.85 MAF, or 54% of normal and the Water Year-2020 observed April to July inflow to Lake Powell was 3.76 MAF, or 52% of normal. For Water Year-2020, the observed September inflow to Lake Powell was 0.05 MAF, or 11% of normal. The October inflow forecast to Lake Powell is 0.25 MAF, or 49% of normal. At the end of WY-2020, the overall Upper Colorado River Basin precipitation was 76% of normal.

Mr. Juricich reported that precipitation conditions in August and September were very dry throughout the Basin. He noted that monsoonal activity, typical in the Lower Basin for this time of year, never really materialized.

Mr. Juricich reported that as of October 1st, the Brock and Senator Wash regulating reservoirs captured 108,762 AF and 61,218 AF, respectively. He also reported that the excess deliveries to Mexico through October 1st, were 51,322 AF. He noted that there have not been any major increases in excess flows over the last several months. Mr. Juricich reported that as of October 1st, the total amount of saline drainage water bypassed to the Cienega de Santa Clara in Mexico was 95,759 AF.

State and Local Report

Ms. Jones, representing the California Department of Water Resources (DWR), reported that WY-2020 precipitation in Northern California was below average, while precipitation conditions in Southern California fared much better. She noted that the statewide reservoir storage for WY-2020 is 95% of average, thanks to the above average storage conditions in the State's reservoirs for WY-2019.

Ms. Jones reported that the National Weather Service Climate Prediction Center's Three-Month Outlook Precipitation Probability maps produced in September 2020, project dry conditions across the southern tier of the United States. She added that this precipitation pattern is related to La Nina conditions. Ms. Jones reported that although the National Oceanic and Atmospheric Administration (NOAA) relies heavily on ENSO conditions, California ENSO conditions are not a relevant predictor of water conditions for the State, particularly Northern California. However, she noted scatter plots developed by the Western Regional Climate Center have shown that there is a small correlation between La Nina conditions and dry precipitation in the south coast and interior of Southern California. She added that, like Northern California, precipitation conditions in the Upper Colorado River Basin have no clear correlation to La Nina conditions.

Ms. Jones reported that CA DWR is very interested in developing experimental forecasting capability for sub-seasonal to seasonal (S2S) precipitation and has partnered with the University of California Los Angeles (UCLA) to develop statistical modeling products. She explained that due to budget cuts, NOAA has dropped its statistical modeling approach to produce long-range predictions and is relying on dynamical modeling, which has less forecasting skill. Ms. Jones stated that CA DWR is interested in working on projects that NOAA is no longer able to fund with the hopes of providing seed money and teeing-up projects that NOAA could develop in the future once Congress provides them additional funding. Ms. Jones explained that UCLA researchers use two different statistical models, a neural network model and a simple stepwise linear regression to analyze some climate data sets that showed drier than average conditions for the Basin for this winter. She added that results from a technique called canonical correlation analysis, a more

complex statistical model, will be available next month. Ms. Jones reported that the purpose of performing experimental forecasting is to improve forecasting overall. She added that state funding for this particular modeling process is ending this winter and, due to COVID-19, additional funding for this effort is not expected at this time.

Mr. Peterson, representing the Metropolitan Water District of Southern California (MWD), reported that Chairwoman Grey was reelected for the next two years during MWD's Board meeting. He reported that sales appear low but are higher than this time last year. He added that MWD only sold about 100,000 AF of storage water and it has 3.1 MAF of water in storage. He added that three out of five of MWD's treatment plants are running solely on Colorado River water.

SAN DIEGO COUNTY WATER AUTHORITY, REGIONAL CONVEYANCE SYSTEM STUDY

Mr. Dan Denham, the deputy general manager of the San Diego County Water Authority (SDCWA), provided an overview of the Regional Water Conveyance System Study under consideration by the SDCWA. Mr. Denham reported that the study was comprised of two phases, the first of which was technical in nature, the second of which focused on economics and partnership opportunities. The first phase, Phase A, of the study has been completed, and the SDCWA Board would consider moving forward with the second phase, Phase B, at its November meeting.

Mr. Denham reported that SDCWA receives as much as 280,000 AF of water a year through the Quantification Settlement Agreement (QSA), which is currently delivered through the Colorado River Aqueduct via an exchange agreement with the Metropolitan Water District (MWD). This exchange agreement expires in 2047. The initial term of the conserved water transfer with the Imperial Irrigation District (IID) under the QSA also expires in 2047, although it can be extended to 2077 by mutual consent of IID and SDCWA. The regional conveyance system under consideration would move these QSA supplies to the San Diego region through the Imperial Valley.

Mr. Denham reported that Phase A of the study evaluated three potential alignments for a new pipeline that would split from IID's All-American Canal or Westside Main Canal, then travel west to San Diego. Through Phase A, the southern-most alignment was screened out due to cost. The two remaining alignments would consist of an 80-mile, 102-inch diameter pipe or tunnel. Mr. Denham reported that either alignment would cost approximately \$5 billion with about \$150 million in operations and maintenance costs. Mr. Denham noted that under either of these alternatives, no major changes would be required of SDCWA's water distribution system.

Mr. Denham reported that the SDCWA Board would consider moving forward with Phase B at its November meeting. If approved, Phase B would focus on economic considerations and potential partnerships, and it would take approximately 18 months to complete. Mr. Denham noted a number of synergistic potential projects that could be undertaken in concert with the conveyance project, including a treatment facility at the southwest end of the Salton Sea that could be used to create habitat projects, the use of geothermal resources to mitigate pipeline pumping costs, and operational storage opportunities for the Imperial Valley.

In response to a question from Chairman Nelson, Mr. Denham noted that SDCWA would likely want to treat water delivered by the regional conveyance facility to a target of about 500-525 total dissolved solids (TDS). Mr. Denham noted that if this treatment is conducted in the Imperial Valley, the brine stream would be significantly less saline than the Salton Sea and could be utilized for habitat creation, playa dust mitigation, or other purposes.

STATUS OF COLORADO RIVER BASIN PROGRAMS

Minute No. 323 Implementation

Minute Oversight Group

Mr. Harris reported that the Minute Oversight Group met via webinar on October 7-8. Mr. Harris noted that approximately 95% of the water conservation projects under Minute No. 319 have been completed and the remaining project, a canal lining effort, should be completed by early 2021. A comprehensive report detailing these water conservation projects will be prepared by the end of 2021. Mr. Harris further reported that the first tier of water conservation projects under Minute No. 323 have been identified. These proposed projects will be evaluated by the Projects Work Group, which will assess their feasibility and potential water savings.

Mr. Harris reported that Mexico had released a preliminary draft document looking at potential water quality treatment improvement projects that could be done in the Mexicali Valley, including the New and Alamo Rivers. Mr. Harris also reported that Mexico has expressed some renewed interest in potential desalination opportunities along the Pacific Coast of Baja California.

Finally, Mr. Harris reported that Mexico planned to add approximately 100,000 AF of water to their “Water Reserve” in Lake Mead in 2020. This would bring Mexico’s cumulative storage in Lake Mead to about 160,000 AF. Mr. Harris noted that Mexico’s conservation plans in 2021 remain to be determined.

Environmental Work Group

Board Staff Ms. Neuwerth reported that the Minute No. 323 Environmental Work Group (EWG) met via webinar on October 1st. The group discussed the water delivery plan for Water Year 2021. Ms. Neuwerth noted that Minute 323 directs 210,000 AF of water to be supplied in equal parts by non-governmental organizations (NGOs), the Mexican federal government, and the U.S. federal government. The EWG has developed a proposed water delivery plan for 2021 that would make use of 35,000 AF of Mexican federal water, approximately half of Mexico's commitment under the Minute. Ms. Neuwerth noted that this would be about one-third of the size of the 2014 pulse flow. However, research has indicated that a significant portion of the water released during the 2014 pulse flow infiltrated into the groundwater table around the Southernly International Boundary, before reaching habitat sites downstream. Ms. Neuwerth reported that the EWG has discussed delivering the 2021 flows directly to habitat sites via regional canals to maximize the environmental benefits of the water. Ms. Neuwerth noted that this proposed water delivery will require additional technical analysis and a determination by CILA and CONAGUA.

Mr. Harris noted that there have been significant personnel changes in both CILA and CONAGUA as the new Mexican administration has settled in. Humberto Marengo, the new commissioner for CILA, the Mexican section of the International Boundary and Water Commission (IBWC), participated in the recent Minute Oversight Group meeting.

In response to a question from Mr. Peterson, Mr. Harris noted that the 160,000 AF Mexico intends to have stored in Lake Mead by the end of 2020 comes is the result of multiple different efforts. Mr. Harris reported that some of the water is deferred delivery under Minute 318, while some is the result of conservation activities or obligations under Minute 323.

Status of the Salinity Control Program

Mr. Juricich provided a highlight of the Work Group meeting held on September 28-30. He reported that the USGS expects to conduct a pump test at the Pah Tempe Springs area in early 2021 for a potential salinity control project. Mr. Juricich reported that when Reclamation and Natural Resource Conservation Service fund projects, there is a habitat replacement requirement as part of the mitigation effort for the projects. Reclamation is finding that once a project is in place, they are generally left with fragmented habitat projects local water users are required to maintain, resulting in different levels of success. Reclamation is exploring ways to improve the habitat mitigation requirement, such as pooling areas into larger tracks instead of on a project-by-project basis. Reclamation and USGS are partnering on a study of the salinity conditions in the Yuma area. For the 2019 Funding Opportunity Announcement, Reclamation awarded thirty-seven million dollars to eleven different salinity control projects in the states of Colorado and Wyoming.

Mr. Juricich provided an update on the status of the Paradox Valley Unit project. During the Work Group meeting, Reclamation gave a presentation on the seismic analysis that looks at scenarios of operations including the possibility of reducing the brine injection rate during late

spring and summer while maintaining adequate salinity control. The current injection well is not operational but is expected to be restarted in November.

Mr. Juricich announced that the next Salinity Forum and Advisory Council meetings will be held in the week of October 26-29, including a couple of days of Work Group meetings. These meetings will be virtually held for the foreseeable future.

Lower Colorado River Multi-Species Conservation Program

Ms. Neuwerth noted that one of the activities covered by the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) is changes in flow, which can occur as the result of water transfers, shortage reductions, or other activities. Ms. Neuwerth reported that the LCR MSCP permittees submit an annual report to the U.S. Fish and Wildlife Service (USFWS) describing any changes in flow that occurred in the previous year. For 2019, the LCR MSCP permittees also provided a supplemental memo describing the 2019 reductions in flow in greater detail. The USFWS responded to this supplemental memo in September and concurred that the memo clarified changes in flow in 2019.

Effectiveness Review of the 2007 Colorado River Interim Operating Guidelines

Mr. Juricich provided an update to the Board on Reclamation's "effectiveness review" of the 2007 Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations of Lake Powell and Lake Mead (2007 Interim Guidelines). The effectiveness review is required pursuant to Part G, Section 7, Subsection D of the 2007 Interim Guidelines.

The review is intended to evaluate the effectiveness of the guidelines with respect to the purposes and operational elements of the 2007 Interim Guidelines. For example, one of the stated purposes of the guidelines is to improve Reclamation's management of the Colorado River by considering trade-offs between the frequency and magnitude of reductions of water deliveries, and considering the effects on water storage in Lake Powell and Lake Mead, and on water supply, power production, recreation, and other environmental resources.

Mr. Juricich reported that some of the activities that Reclamation will show in the review include the incidence of Lower Basin shortages in terms of specific elevations of Lake Mead, and the overall coordinated operation between Lake Powell and Lake Mead. Reclamation has shared an outline of the Effectiveness Review report to stakeholders in virtual meetings where Board staff and other stakeholders have provided comments.

Mr. Juricich also reported that Reclamation will be releasing a draft of the Effectiveness Review report and will schedule follow-up meetings later in October. The final effectiveness review report is expected to be released in December 2020.

ANNOUNCEMENTS

Proposed Lake Powell Pipeline Project

Mr. Harris provided an update to the Board on the proposed Lake Powell Pipeline Project. The State of Utah is proposing to construct and operate a pipeline that would divert up to 86,000 acre-feet per year from Lake Powell and convey it to the extreme southwestern corner of Utah for use in the St. George metropolitan region. A draft environmental impact statement (DEIS) for the proposed project was released on June 8, 2020, and the DEIS comment deadline closed on September 8, 2020. Reclamation received over 14,000 comments on the DEIS, including a joint letter from the other six Colorado River Basin States to the Secretary of the Interior. The primary issues raised in the Basin States' letter included: (1) Law of the River issues; (2) reservoir system operational issues; and (3) water use and accounting, and water quality issues.

Mr. Harris reported that on September 24, 2020, the State of Utah and the Washington County Water Conservancy District formally requested that Reclamation extend the timeline for completion of the National Environmental Policy Act (NEPA) assessment process and not issue a Final EIS until the issues identified by the Basin States could be addressed and resolved. Toward this end, representatives in both basins are now working to develop lists of those specific issues that will then be consolidated into one list that can be provided to Utah and can serve as a framework for discussions among the Basin States. Currently, the Lower Basin States are working to develop a list of issues associated with the proposed project, and hope to share the draft list soon with representatives in Colorado, New Mexico, and Wyoming.

Washington, D.C. Updates

Mr. Harris reported that Congress is exploring COVID-19 relief. Mr. Harris also noted that on September 15th, the Army Corps of Engineers published a rulemaking notice titled, "Proposal to Reissue and Modify Nationwide Permits."

Mr. Harris reported that on September 18th, DOI finalized two projects title transfers to local water user organization in Utah: (1) Emery County Project to the Emery County Water Conservancy District; and, (2) Uintah Basin Replacement Project to the Moon Lake Water Users Association.

Next Scheduled Board Meeting

Finally, Mr. Harris noted that the next meeting of the Colorado River Board would be held on November 18th and would also be held virtually using the Zoom Webinar meeting platform.

ADJOURNMENT

With no further items to be brought before the Board, Chairman Nelson adjourned the meeting at 11:15 a.m.

Final Schedule 2021 Colorado River Board Meetings

Date	Location	Time	Board Materials
January 13	Remote/Ontario	10:00 am	<input type="checkbox"/> Notice <input type="checkbox"/> Board Folder <input type="checkbox"/> Executive Director's Report <input type="checkbox"/> Meeting Minutes
February 10	Remote/Ontario	10:00 am	<input type="checkbox"/> Notice <input type="checkbox"/> Board Folder <input type="checkbox"/> Executive Director's Report <input type="checkbox"/> Meeting Minutes
March 10	Remote/Ontario	10:00 am	<input type="checkbox"/> Notice <input type="checkbox"/> Board Folder <input type="checkbox"/> Executive Director's Report <input type="checkbox"/> Meeting Minutes
April 14	Remote/Ontario	10:00 am	<input type="checkbox"/> Notice <input type="checkbox"/> Board Folder <input type="checkbox"/> Executive Director's Report <input type="checkbox"/> Meeting Minutes
May 12	Remote/Ontario	10:00 am	<input type="checkbox"/> Notice <input type="checkbox"/> Board Folder <input type="checkbox"/> Executive Director's Report <input type="checkbox"/> Meeting Minutes
June 9	Remote/Ontario	10:00 am	<input type="checkbox"/> Notice <input type="checkbox"/> Board Folder <input type="checkbox"/> Executive Director's Report <input type="checkbox"/> Meeting Minutes
July 14	Remote/Ontario	10:00 am	<input type="checkbox"/> Notice <input type="checkbox"/> Board Folder <input type="checkbox"/> Executive Director's Report <input type="checkbox"/> Meeting Minutes
August 11	Remote/Ontario	10:00 am	<input type="checkbox"/> Notice <input type="checkbox"/> Board Folder <input type="checkbox"/> Executive Director's Report <input type="checkbox"/> Meeting Minutes
September 15	Remote/Ontario	10:00 am	<input type="checkbox"/> Notice <input type="checkbox"/> Board Folder <input type="checkbox"/> Executive Director's Report <input type="checkbox"/> Meeting Minutes
October 13	Remote/Ontario	10:00 am	<input type="checkbox"/> Notice <input type="checkbox"/> Board Folder <input type="checkbox"/> Executive Director's Report <input type="checkbox"/> Meeting Minutes
November 10	Remote/Ontario	10:00 am	<input type="checkbox"/> Notice <input type="checkbox"/> Board Folder <input type="checkbox"/> Executive Director's Report <input type="checkbox"/> Meeting Minutes
December 15	Remote/Las Vegas, NV	10:00 am	<input type="checkbox"/> Notice <input type="checkbox"/> Board Folder <input type="checkbox"/> Executive Director's Report <input type="checkbox"/> Meeting Minutes

11/30/2020

LOWER COLORADO WATER SUPPLY REPORT

River Operations
Bureau of Reclamation

Questions: BCOOWaterops@usbr.gov

(702) 293-8373

<http://www.usbr.gov/lc/region/g4000/weekly.pdf>

	PERCENT	Content 1000 ac-ft (kaf)	Elev. (Feet above mean sea level)	7-Day Release (CFS)
CURRENT STORAGE	FULL			
LAKE POWELL	44%	10,629	3,587.87	10,800
* LAKE MEAD	39%	10,097	1,081.04	11,700
LAKE MOHAVE	89%	1,614	639.87	8,500
LAKE HAVASU	92%	570	447.48	5,100
TOTAL SYSTEM CONTENTS **	47%	27,916		
As of 11/29/2020				
SYSTEM CONTENT LAST YEAR	52%	31,184		
* Percent based on capacity of 26,120 kaf or elevation 1,219.6 feet.				
** TOTAL SYSTEM CONTENTS includes Upper & Lower Colorado River Reservoirs, less Lake Mead exclusive flood control space.				
Salt/Verde System	77%	1,774		
Painted Rock Dam	0%	0	530.00	0
Alamo Dam	12%	123	1,120.49	25
Forecasted Water Use for Calendar Year 2020 (as of 11/30/2020) (values in kaf)				
NEVADA			259	
SOUTHERN NEVADA WATER SYSTEM				226
OTHERS				32
CALIFORNIA			4,031	
METROPOLITAN WATER DISTRICT OF CALIFORNIA				819
IRRIGATION DISTRICTS				3,196
OTHERS				15
ARIZONA			2,448	
CENTRAL ARIZONA PROJECT				1,382
OTHERS				1,066
TOTAL LOWER BASIN USE				6,738
DELIVERY TO MEXICO - 2020 (Mexico Scheduled Delivery + Preliminary Yearly Excess ¹)				1,553
OTHER SIGNIFICANT INFORMATION				
UNREGULATED INFLOW INTO LAKE POWELL - NOVEMBER MID-MONTH FORECAST DATED 11/16/2020				
		MILLION ACRE-FEET	% of Normal	
FORECASTED WATER YEAR 2021		6.801	63%	
FORECASTED APRIL-JULY 2021		4.550	64%	
OCTOBER OBSERVED INFLOW		0.091	18%	
NOVEMBER INFLOW FORECAST		0.260	55%	
		Upper Colorado Basin	Salt/Verde Basin	
WATER YEAR 2021 PRECIP TO DATE ²		60% (3.3")	33% (1.4")	
CURRENT BASIN SNOWPACK ²		76% (2.6")	NA% (NA)	

¹ Delivery to Mexico forecasted yearly excess calculated using year-to-date observed and projected excess.

² Precipitation and snowpack values may vary significantly from week-to-week early in the water year.

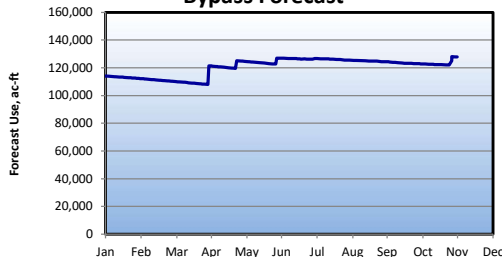
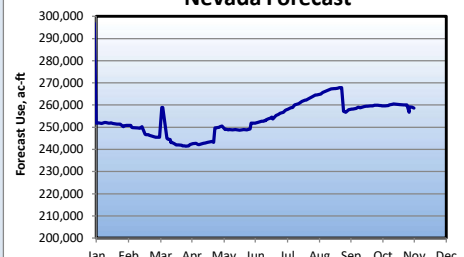
INTERIOR REGION 8: LOWER COLORADO BASIN
CY 2020

ARIZONA, CALIFORNIA, NEVADA, MEXICO

FORECAST OF END OF YEAR CONSUMPTIVE USE

FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS ¹
(ACRE-FEET)**WATER USE SUMMARY**

	Use To Date CY 2020	Forecast Use CY 2020	Approved Use ² CY 2020	Excess to Approval CY 2020
ARIZONA	2,279,124	2,448,434	2,454,727	-6,293
CALIFORNIA	3,802,530	4,030,735	4,030,580	155
NEVADA	250,373	258,689	258,689	0
STATES TOTAL ³	6,332,027	6,737,858	6,743,996	-6,138
ACCOUNTABLE DELIVERIES TO MEXICO	1,454,355	1,553,020	1,500,000	53,020
TO MEXICO IN SATISFACTION OF TREATY (including downward delivery) ⁴	1,402,958	1,500,000		
TO MEXICO IN EXCESS OF TREATY ⁵	51,397	53,020		
WATER BYPASSED PURSUANT TO IBWC MINUTE NO. 242 ⁶	118,056	127,875		
TOTAL LOWER BASIN & MEXICO	7,904,438	8,418,753		

¹ Incorporates 80 daily reporting stations which may be revised after provisional data reports are distributed by the USGS. Use to date has been updated through June for users reporting monthly, and is estimated based on schedule for users reporting annually.² These values reflect adjusted apportionments. See Adjusted Apportionment calculation on each state page.³ Includes unmeasured returns based on estimated consumptive use/diversion ratios by user from studies provided by Arizona Department of Water Resources, Colorado River Board of California, and Reclamation.⁴ Includes downward adjustment(s) to Mexico's annual delivery schedule for the creation of Mexico's Recoverable Water Savings and/or Mexico's Water Reserve.⁵ Mexico excess forecast is based on actual-to-date and the 5-year average for the period 2014-2018 for remainder of the year.⁶ Bypass forecast is based on actual-to-date and the average for the period 1990-2018 for the remainder of the year.**Lower Basin Forecast****Arizona Forecast****California Forecast****Mexico in Excess Forecast****Bypass Forecast****Nevada Forecast****AZ Others Forecast****Yuma Mesa Division Forecast****CAP Forecast****CRIT AZ Forecast****Wellton-Mohawk Forecast****YCWUA Forecast**

Graph notes: January forecast use is scheduled use in accordance with the Annual Operating Plan's state entitlements, available unused entitlements, and over-run paybacks. A downward sloping line indicates use at a lower rate than scheduled, upward sloping is above schedule, and a flat line indicates a use rate equal to schedule. Lower priority users such as CAP, MWD, and Robert B. Griffith may adjust use rates to meet state entitlements as higher priority use deviates from schedule. Abrupt changes in the forecast use line may be due to a diversion schedule change or monthly updating of provisional realtime diversions.

INTERIOR REGION 8: LOWER COLORADO BASIN
CY 2020

NOTE:

- Diversions and uses that are pending approval are noted in **red italics**.
- Water users with a consumptive use entitlement - **Excess to Estimated Use** column indicates overrun/underrun of entitlement. Dash in this column indicates water user has a diversion entitlement.
- Water user with a diversion entitlement - **Excess to Approved Diversion** column indicates overrun/underrun of entitlement. Dash in this column indicates water user has a consumptive use entitlement.

ARIZONA WATER USERS

FORECAST OF END OF YEAR CONSUMPTIVE USE

FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS

[Arizona Schedules and Approvals](#)
[Historic Use Records \(Water Accounting Reports\)](#)

WATER USER	Use To Date CY 2020	Forecast Use CY 2020	Estimated Use CY 2020	Excess to Estimated Use CY 2020	Diversion To Date CY 2020	Forecast Diversion CY 2020	Approved Diversion CY 2020	Excess to Approved Diversion CY 2020
ARIZONA PUMPERS	13,462	14,074	14,074	---	20,712	21,654	21,654	0
LAKE MEAD NRA, AZ - Diversions from Lake Mead	56	59	59	---	56	59	59	0
LAKE MEAD NRA, AZ - Diversions from Lake Mohave	202	216	216	---	202	216	216	0
DAVIS DAM PROJECT	2	2	2	---	14	15	15	0
BULLHEAD CITY	6,414	7,079	8,122	---	10,028	11,072	12,720	-1,648
MOHAVE WATER CONSERVATION DISTRICT	627	656	656	---	936	979	979	0
BROOKE WATER LLC	300	325	323	---	451	488	484	4
MOHAVE VALLEY IDD	12,865	13,693	16,516	---	23,824	25,357	30,585	-5,228
FORT MOJAVE INDIAN RESERVATION, AZ	30,481	31,615	44,550	---	56,446	58,546	82,500	-23,954
GOLDEN SHORES WATER CONSERVATION DISTRICT	266	278	278	---	399	417	417	0
HAVASU NATIONAL WILDLIFE REFUGE	3,285	3,365	3,563	---	27,365	28,303	41,820	-13,517
LAKE HAVASU CITY	7,037	7,682	8,928	---	11,353	12,393	14,400	-2,007
CENTRAL ARIZONA PROJECT (CAP)	1,253,504	1,382,484	---	---	1,253,504	1,382,484	---	---
TOWN OF PARKER	369	393	433	---	807	869	916	-47
COLORADO RIVER INDIAN RESERVATION, AZ	195,365	199,590	246,946	---	430,316	458,095	512,102	-54,007
EHRENBURG IMPROVEMENT ASSOCIATION	218	228	228	---	305	319	319	0
CIBOLA VALLEY ¹	13,916	14,275	15,219	---	19,462	19,963	21,270	-1,307
CIBOLA NATIONAL WILDLIFE REFUGE	7,943	8,131	14,264	-6,133	12,811	13,113	23,005	-9,892
IMPERIAL NATIONAL WILDLIFE REFUGE	2,471	2,793	3,799	-1,006	3,983	4,503	6,128	-1,625
BLM PERMITEES (PARKER DAM TO IMPERIAL DAM)	723	756	756	0	1,112	1,163	1,163	0
CHA CHA, LLC	740	820	1,365	---	1,140	1,262	2,100	-838
BEATTIE FARMS	600	641	722	---	922	988	1,110	-122
YUMA PROVING GROUND	493	509	474	---	493	509	474	35
GILA MONSTER FARMS	3,819	4,103	5,257	---	6,692	7,199	9,156	-1,957
WELLTON-MOHAWK IDD	251,166	260,652	278,000	-17,348	358,110	379,638	412,965	-33,327
BLM PERMITEES (BELOW IMPERIAL DAM)	63	66	66	0	98	102	102	0
CITY OF YUMA	12,350	13,707	16,401	-2,694	21,859	24,246	27,500	-3,254
MARINE CORPS AIR STATION YUMA	1,234	1,312	1,360	---	1,234	1,312	1,360	-48
UNION PACIFIC RAILROAD	23	25	29	---	44	48	48	0
UNIVERSITY OF ARIZONA	716	761	896	---	716	761	896	-135
YUMA UNION HIGH SCHOOL DISTRICT	106	113	150	---	143	153	200	-47
DESERT LAWN MEMORIAL	19	20	20	---	27	28	28	0
NORTH GILA VALLEY IRRIGATION DISTRICT	9,750	10,156	12,165	---	39,892	42,492	44,200	-1,708
YUMA IRRIGATION DISTRICT	35,470	37,529	38,701	---	64,913	68,983	71,700	-2,717
YUMA MESA IDD	153,693	160,092	143,893	---	213,231	226,671	239,280	-12,609
UNIT "B" IRRIGATION DISTRICT	21,454	21,942	20,888	---	25,230	26,287	29,400	-3,113
FORT YUMA INDIAN RESERVATION	1,432	1,497	1,497	---	2,198	2,298	2,298	0
YUMA COUNTY WATER USERS' ASSOCIATION	235,670	245,803	244,397	---	330,227	353,394	375,492	-22,098
COCOPA INDIAN RESERVATION	721	889	1,651	---	955	1,213	2,530	-1,317
RECLAMATION-YUMA AREA OFFICE	99	103	103	---	99	103	103	0
RETURN FROM SOUTH GILA WELLS	---	---	---	---	---	---	---	---
TOTAL ARIZONA	2,279,124	2,448,434	2,531,967	---	2,942,309	3,177,695	3,376,694	---
CAP	1,253,504	1,382,484	---	---	---	1,382,484	---	---
ALL OTHERS	1,025,620	1,065,950	1,146,967	---	---	1,795,211	1,991,694	---
YUMA MESA DIVISION, GILA PROJECT	198,913	207,777	171,610	36,167	---	338,146	---	---

ARIZONA ADJUSTED APPORTIONMENT CALCULATION

Arizona Basic Apportionment	2,800,000
System Conservation Water - Pilot System Conservation Program ²	(400)
System Conservation Water - Colorado River Indian Tribes (CRIT) ³	(50,000)
System Conservation Water - Fort McDowell Yavapai Nation (FMYN) ⁴	(10,000)
Creation of Extraordinary Conservation ICS - CRIT (Estimated) ^{5,8}	(3,736)
Creation of Extraordinary Conservation ICS - GRIC (Estimated) ^{6,8}	(83,000)
Creation of Extraordinary Conservation ICS - MVIDD (Estimated) ^{7,8}	(6,137)
Arizona DCP Contribution ⁹	(192,000)
Total State Adjusted Apportionment	2,454,727
Excess to Total State Adjusted Apportionment	-6,293

Estimated Allowable Use for CAP

1,388,810

¹ Includes the following water users within the Cibola Valley: Cibola Valley IDD, Arizona Game and Fish Commission, GSC Farm, LLC, Red River Land Company, LLC, Western Water, LLC, and the Hopi Tribe.

² The estimated amount of System Conservation Water that will be created by the City of Bullhead City pursuant to System Conservation Implementation Agreement (SCIA) No. 15-XX-30-W0587, as amended. This System Conservation Water will remain in Lake Mead to benefit system storage.

³ System Conservation Water to be created by CRIT pursuant to the Agreement Among the United States of America, Through the Department of the Interior, Bureau of Reclamation, the State of Arizona, Through the Arizona Department of Water Resources, the Central Arizona Water Conservation District, and the Colorado River Indian Tribes to Fund the Creation of Colorado River System Water Through Voluntary Water Conservation and Reductions in use During Calendar Years 2020-2022. This System Conservation Water will remain in Lake Mead to benefit system storage.

⁴ CAP water being conserved by FMYN pursuant to SCIA No. 19-XX-30-W0658, which will remain in Lake Mead to benefit system storage. In accordance with this SCIA and Section 3.b of the Lower Basin Drought Contingency Plan Agreement, the Bureau of Reclamation intends to apply this water towards the Secretary of the Interior's commitment to create or conserve 100,000 AF per annum or more of Colorado River System water to contribute to conservation of water supplies in Lake Mead and other Colorado River reservoirs in the Lower Basin.

⁵ CRIT has been approved to create up to 3,736 AF of Extraordinary Conservation (EC) ICS in 2020. The actual amount of EC ICS created by CRIT will be based on final accounting and verification.

⁶ CAP water being conserved by GRIC to create EC ICS consistent with its approved plan to create up to 83,000 AF of EC ICS in 2020. The actual amount of EC ICS created by GRIC will be based on final accounting and verification.

⁷ MVIDD has been approved to create up to 6,137 AF of EC ICS in 2020. The actual amount of EC ICS created by MVIDD will be based on final accounting and verification.

⁸ When combined with the approved EC ICS creation amounts of other ICS creators in the state of Arizona, the total amount of EC ICS approved for creation in the state of Arizona is approximately 153,000 AF, which exceeds the state's annual creation limit set forth in Section XI.G.3.B.4 of the 2007 Interim Guidelines. In accordance with Section XI.G.3.B.4 and Section IV.B of the Lower Basin Drought Contingency Operations (LBOs), the total amount of EC ICS that may be created by the states of Arizona, California, and Nevada in 2020 will be limited to 625,000 AF.

⁹ In accordance with Section III.B.1.a of LBOs, the state of Arizona shall make an annual DCP Contribution in the total amount of 192,000 AF. In accordance with the Agreement Regarding Lower Basin Drought Contingency Plan Obligations, it is currently anticipated that the required DCP Contribution will be made by the Central Arizona Water Conservation District (CAWCD) through the creation of EC ICS by and reductions in consumptive use. CAWCD has been approved to create up to 60,468 AF of EC ICS in 2020. The actual amount of EC ICS created by CAWCD and credited toward the DCP Contribution will be based on final accounting and verification.

NOTES: Click on Arizona Schedules and Approvals above for incoming diversion schedules and approvals.

INTERIOR REGION 8: LOWER COLORADO BASIN
CY 2020

NOTE:

- Diversions and uses that are pending approval are noted in *red italics*.
- Water users with a consumptive use entitlement - **Excess to Estimated Use** column indicates overrun/underrun of entitlement. Dash in this column indicates water user has a diversion entitlement.
- Water user with a diversion entitlement - **Excess to Approved Diversion** column indicates overrun/underrun of entitlement. Dash in this column indicates water user has a consumptive use entitlement.

CALIFORNIA WATER USERS
FORECAST OF END OF YEAR CONSUMPTIVE USE
FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS

[California Schedules and Approvals](#)

[Historic Use Records \(Water Accounting Reports\)](#)

WATER USER	Use To Date CY 2020	Forecast Use CY 2020	Estimated Use CY 2020	Excess to Estimated Use CY 2020	Diversion To Date CY 2020	Forecast Diversion CY 2020	Approved Diversion CY 2020	Excess to Approved Diversion CY 2020
CALIFORNIA PUMPERS	1,623	1,697	1,697	---	2,947	3,081	3,081	0
FORT MOJAVE INDIAN RESERVATION, CA	6,975	7,273	8,996	---	12,964	13,518	16,720	-3,202
CITY OF NEEDLES (includes LCWSP use)	936	1,030	1,605	-575	1,809	1,940	2,261	-321
METROPOLITAN WATER DISTRICT	717,948	819,388	---	---	720,631	822,330	---	---
COLORADO RIVER INDIAN RESERVATION, CA	3,092	3,233	3,233	---	5,122	5,355	5,355	0
PALO VERDE IRRIGATION DISTRICT	342,209	343,118	419,768	---	751,708	785,241	856,000	-70,759
YUMA PROJECT RESERVATION DIVISION	36,145	38,000	47,721	---	73,769	79,061	91,553	-12,492
YUMA PROJECT RESERVATION DIVISION - INDIAN UNIT	---	---	---	---	39,386	42,038	46,058	-4,020
YUMA PROJECT RESERVATION DIVISION - BARD UNIT	---	---	---	---	34,383	37,023	45,495	-8,472
YUMA ISLAND PUMPERS	2,093	2,188	2,188	---	3,782	3,954	3,954	0
FORT YUMA INDIAN RESERVATION - RANCH 5	945	987	832	---	1,707	1,779	1,501	278
IMPERIAL IRRIGATION DISTRICT ¹	2,358,952	2,459,169	2,640,300	-181,131	2,367,379	2,475,361	2,715,352	---
SALTON SEA SALINITY MANAGEMENT	0	0	0	0	0	0	0	---
COACHELLA VALLEY WATER DISTRICT	330,750	353,750	394,000	-40,250	347,432	372,335	406,654	---
OTHER LCWSP CONTRACTORS	614	642	642	---	1,008	1,054	1,054	0
CITY OF WINTERHAVEN	60	63	63	---	93	97	97	0
CHEMEHUEVI INDIAN RESERVATION	188	197	197	---	10,847	11,340	11,340	0
TOTAL CALIFORNIA	3,802,530	4,030,735			4,301,198	4,576,446	4,950,151	

CALIFORNIA ADJUSTED APPORTIONMENT CALCULATION

California Basic Apportionment	4,400,000
System Conservation Water - Pilot System Conservation Program ²	(145)
IID Creation of Extraordinary Conservation ICS - Stored in Lake Mead (Estimated) ³	(1,579)
IID Creation of Additional Conserved Water (Estimated) ⁴	(23,421)
MWD Creation of Extraordinary Conservation ICS (Estimated) ⁵	(344,275)
Total State Adjusted Apportionment	4,030,580
Excess to Total State Adjusted Apportionment	155

Estimated Allowable Use for MWD

1,163,663

¹ As shown here, IID's Approved Diversion and Estimated Use values reflect the maximum amount of Colorado River water available to IID in 2020.

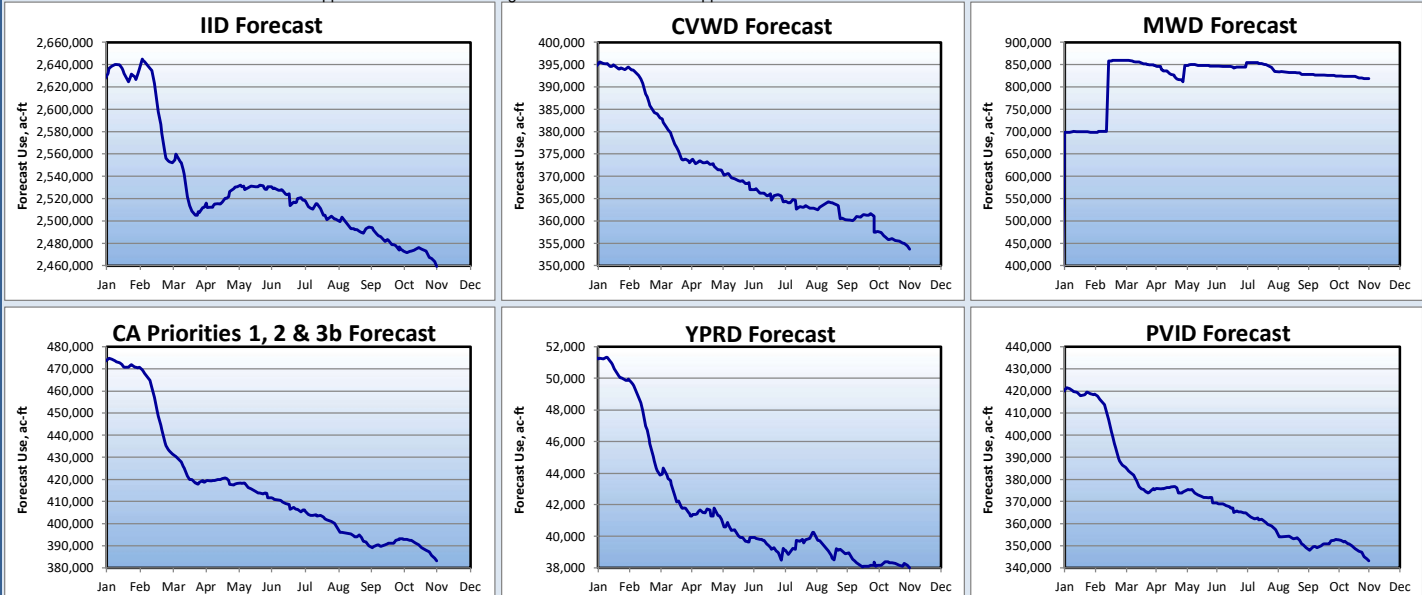
² System Conservation Water to be conserved by the City of Needles pursuant to System Conservation Implementation Agreement No. 15-XX-30-W0596, executed under the Pilot System Conservation Program. This water will remain in Lake Mead to benefit system storage.

³ IID has been approved to create up to 62,000 AF of Extraordinary Conservation (EC) ICS in 2020; however, due to limitations set forth in the California ICS Agreement, may only store up to 1,579 AF in its Lake Mead ICS Account. Creation and storage of EC ICS by IID in excess of 1,579 AF will require an executed amendment to the California ICS Agreement, which has not occurred as of the date of this forecast. The actual amount of EC ICS created by IID and stored in its Lake Mead ICS Account will be based on final accounting and verification.

⁴ In its CY 2020 water order, IID has indicated that it intends to create up to a total of 25,000 AF of "Additional Conserved Water" for purposes including, but not limited to, the creation of ICS for storage in Lake Mead. As noted above, IID may only use up to 1,579 AF of "Additional Conserved Water" for the creation and storage of EC ICS in its Lake Mead ICS Account. Storage of "Additional Conserved Water" as EC ICS in excess of this amount will require an executed amendment to the California ICS Agreement, which has not occurred as of the date of this forecast. The actual amount of "Additional Conserved Water" created by IID in 2020 will be based on final accounting and verification.

⁵ MWD has been approved to create up to 450,000 AF of EC ICS in 2020, less the amount of EC ICS created by IID, and further limited to the amount that, when added to the EC ICS created by the states of Arizona and Nevada, does not exceed 625,000 AF. The actual amount of EC ICS created by MWD will be based on final accounting and verification.

NOTES: Click on California Schedules and Approvals above for incoming diversion schedules and approvals.



INTERIOR REGION 8: LOWER COLORADO BASIN
CY 2020

NOTE:

- Diversions and uses that are pending approval are noted in **red italics**.
- Water users with a consumptive use entitlement - **Excess to Estimated Use** column indicates overrun/underrun of entitlement. Dash in this column indicates water user has a diversion entitlement.
- Water user with a diversion entitlement - **Excess to Approved Diversion** column indicates overrun/underrun of entitlement. Dash in this column indicates water user has a consumptive use entitlement.

NEVADA WATER USERS

FORECAST OF END OF YEAR CONSUMPTIVE USE

FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS

[Nevada Schedules and Approvals](#)
[Historic Use Records \(Water Accounting Reports\)](#)

	Use To Date CY 2020	Forecast Use CY 2020	Estimated Use CY 2020	Excess to Estimated Use CY 2020	Diversion To Date CY 2020	Forecast Diversion CY 2020	Approved Diversion CY 2020	Excess to Approved Diversion CY 2020
WATER USER								
ROBERT B. GRIFFITH WATER PROJECT (SNWS)	422,470	446,978		---	422,470	446,978		---
LAKE MEAD NRA, NV - Diversions from Lake Mead	490	577	1,500	---	490	577	1,500	-923
LAKE MEAD NRA, NV - Diversions from Lake Mohave	194	232	500	---	194	232	500	-268
BASIC MANAGEMENT INC.	4,681	5,315	8,208	---	4,681	5,315	8,208	-2,893
CITY OF HENDERSON (BMI DELIVERY)	17,663	20,090	15,878	---	17,663	20,090	15,878	4,212
NEVADA DEPARTMENT OF WILDLIFE	11	12	12	0	1,078	1,183	1,000	---
PACIFIC COAST BUILDING PRODUCTS INC.	905	989	928	---	905	989	928	61
BOULDER CANYON PROJECT	165	172	172	---	287	300	300	0
BIG BEND WATER DISTRICT	2,196	2,509	4,822	---	4,351	5,024	10,000	-4,976
FORT MOJAVE INDIAN TRIBE	2,440	2,578	4,020	---	3,643	3,849	6,000	-2,151
LAS VEGAS WASH RETURN FLOWS	-200,842	-220,763	-221,129	---				
TOTAL NEVADA	250,373	258,689	254,092	0	455,762	484,537	483,495	-6,938
SOUTHERN NEVADA WATER SYSTEM (SNWS)	221,628	226,215				446,978		
ALL OTHERS	28,745	32,474				37,559		
NEVADA USES ABOVE HOOVER	245,737	253,602				475,664		
NEVADA USES BELOW HOOVER	4,636	5,087				8,873		

Tributary Conservation Intentionally Created Surplus (ICS)

Southern Nevada Water Authority (SNWA) Creation of Tributary Conservation ICS (Approved) ¹

43,000

NEVADA ADJUSTED APPORTIONMENT CALCULATION

Nevada Basic Apportionment

300,000

SNWA Creation of Extraordinary Conservation (EC) ICS (Estimated) ²

(41,311)

Total State Adjusted Apportionment

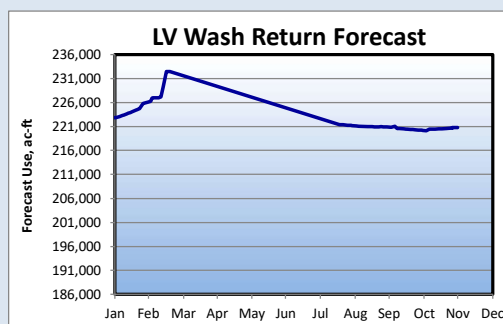
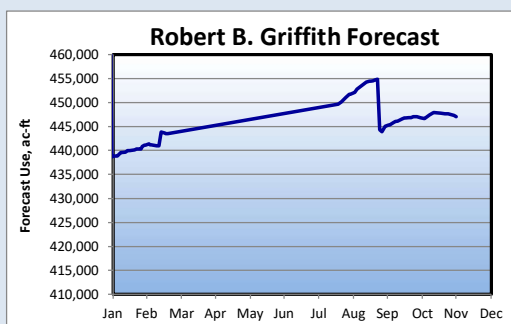
258,689

Excess to Total State Adjusted Apportionment

0

¹ SNWA has been approved to create up to 43,000 AF of TC ICS in 2020. The actual amount of TC ICS created by SNWA will be based on final accounting and verification.² SNWA has been approved to create up to 100,000 AF of EC ICS in 2020. The actual amount of EC ICS created by SNWA will be based on final accounting and verification.

NOTES: Click on Nevada Schedules and Approvals above for incoming diversion schedules and approvals.

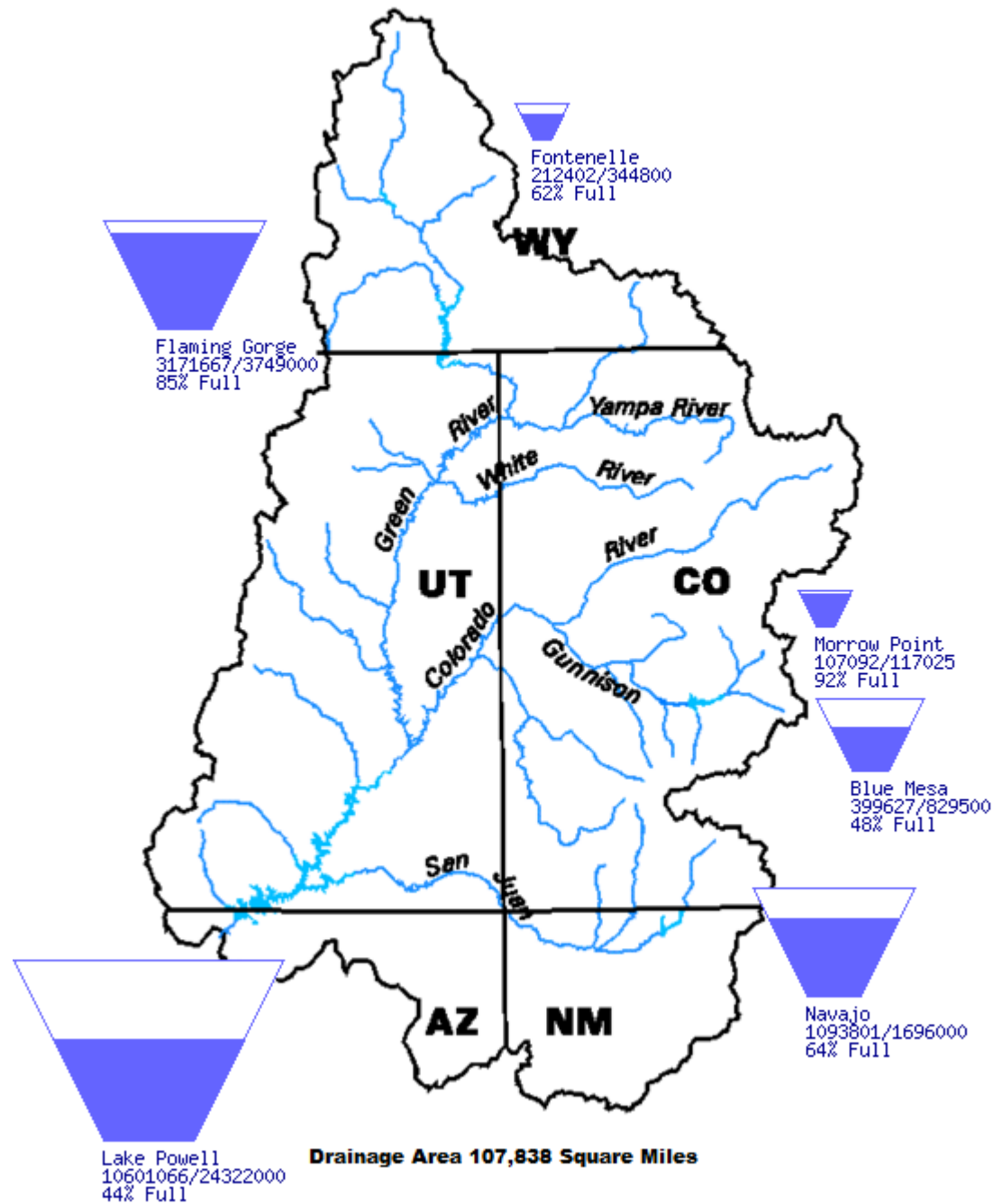


Upper Colorado Region Water Resources Group

River Basin Tea-Cup Diagrams

Data Current as of:
12/01/2020

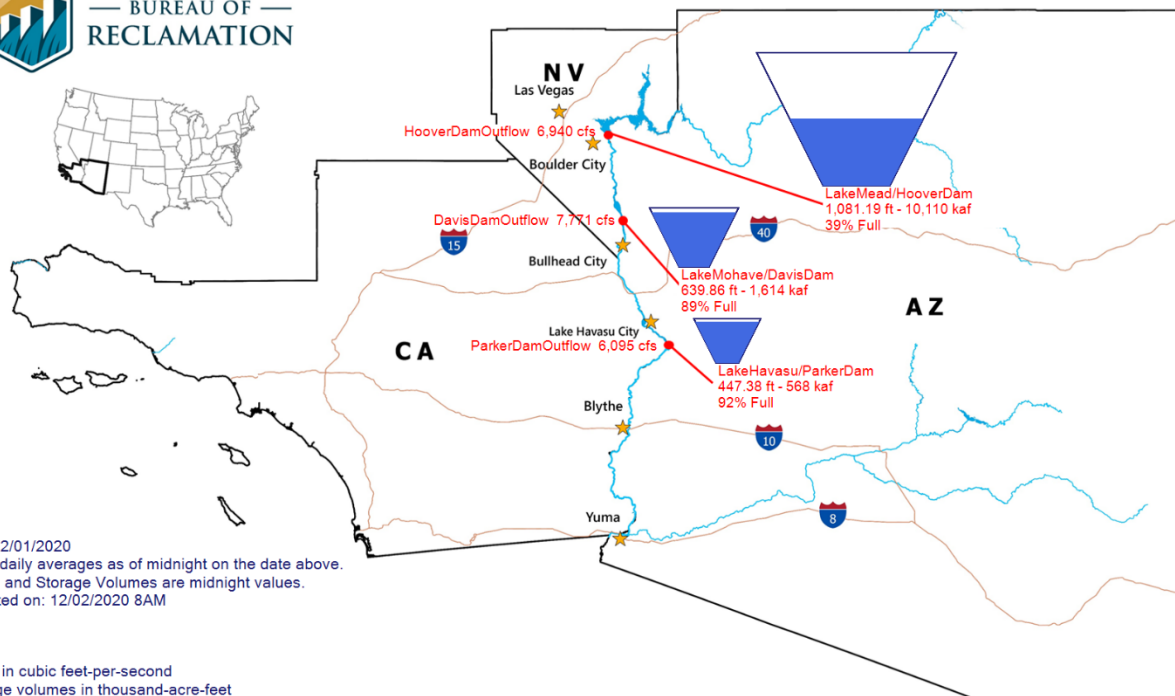
Upper Colorado River Drainage Basin



Lower Colorado River Teacup Diagram



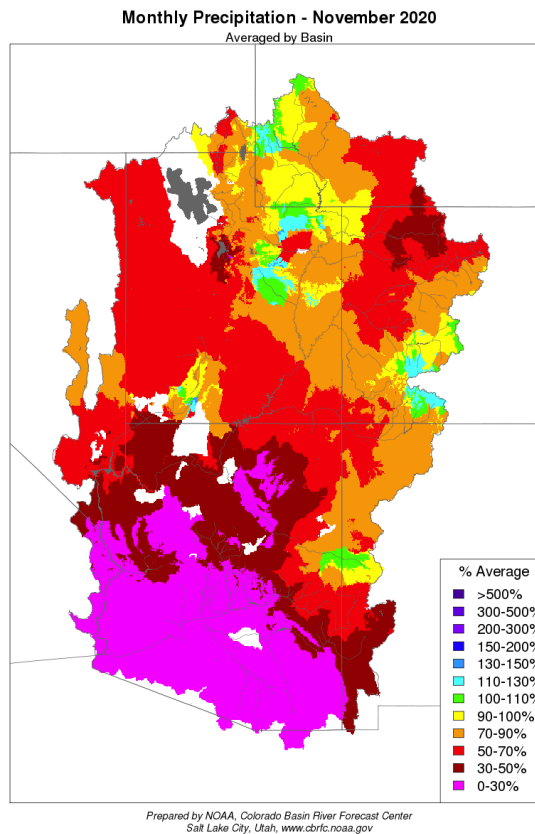
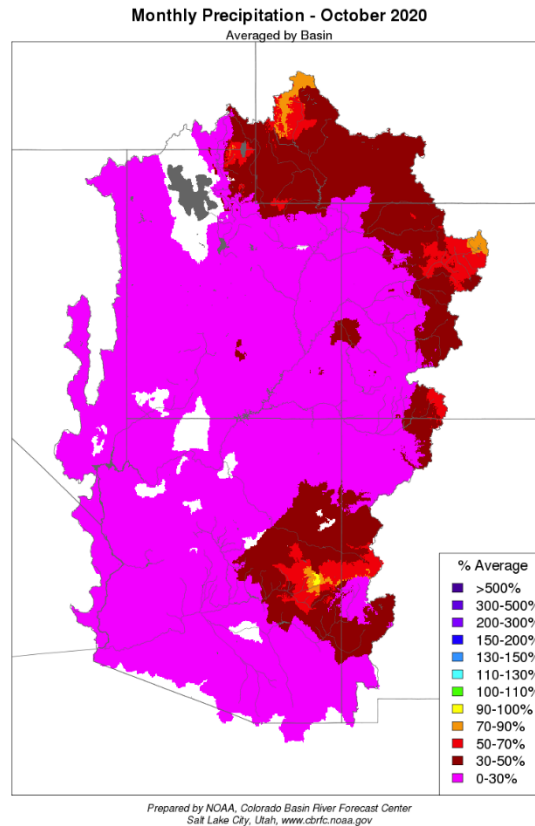
BUREAU OF
RECLAMATION



Data for: 12/01/2020
Flows are daily averages as of midnight on the date above.
Elevations and Storage Volumes are midnight values.
Last updated on: 12/02/2020 8AM

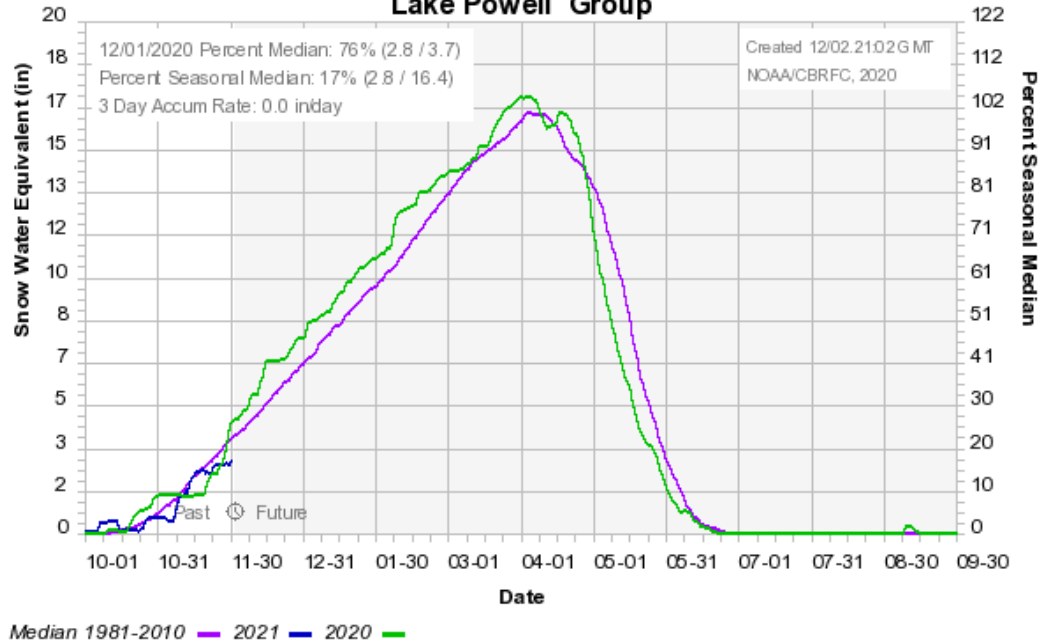
LEGEND:
cfs: Flows in cubic feet-per-second
kaf: Storage volumes in thousand-acre-feet
ft: Elevations in feet above mean-sea-level

NOAA National Weather Service Monthly Precipitation Map October and November 2020

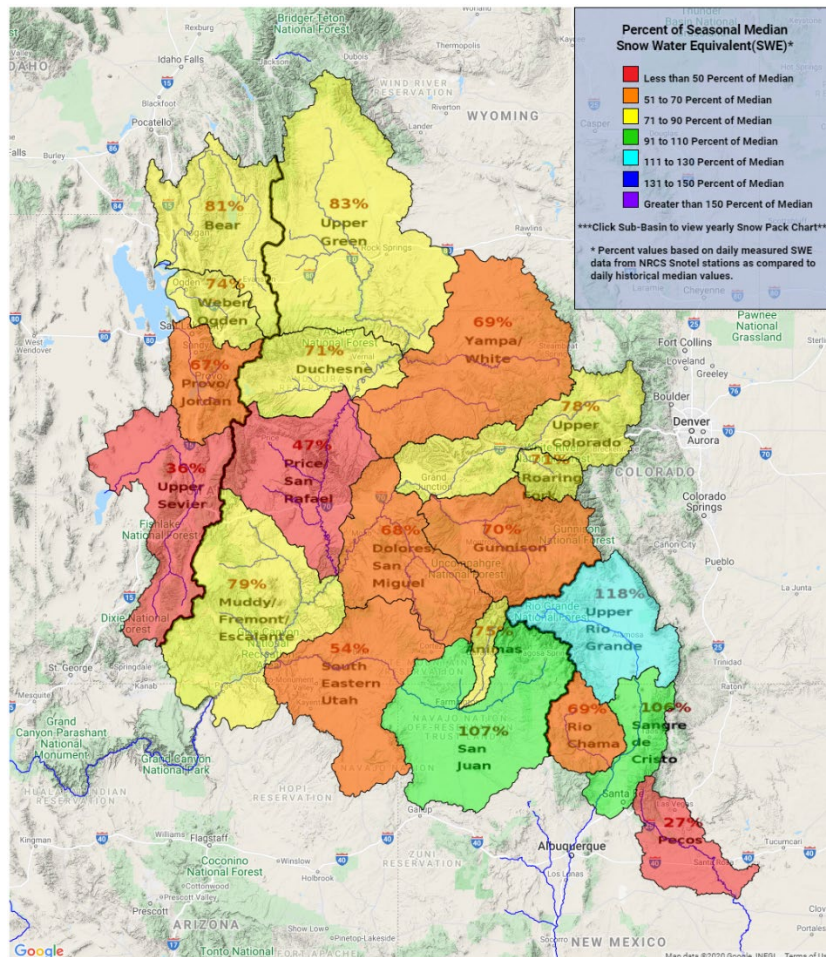


Colorado Basin River Forecast Center

Lake Powell Group

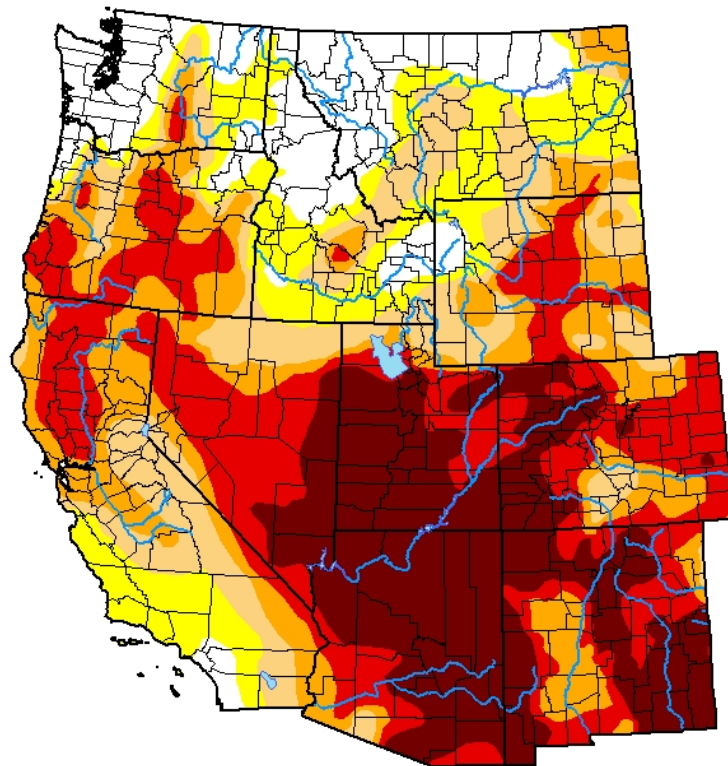


Snow Pack Conditions Map Upper Colorado Region



U.S. Drought Monitor West

December 1, 2020
(Released Thursday, Dec. 3, 2020)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	12.01	87.99	75.55	60.89	44.67	22.10
Last Week 11-24-2020	11.06	88.94	75.60	60.85	44.08	19.48
3 Months Ago 09-01-2020	14.82	85.18	67.60	49.49	18.03	0.03
Start of Calendar Year 12-31-2019	59.17	40.83	18.17	7.12	0.00	0.00
Start of Water Year 09-29-2020	8.51	91.49	76.07	54.55	33.11	2.31
One Year Ago 12-03-2019	46.52	53.48	17.44	9.08	0.00	0.00

Intensity:

None	D2 Severe Drought
D0 Abnormally Dry	D3 Extreme Drought
D1 Moderate Drought	D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Richard Heim
NCEI/NOAA

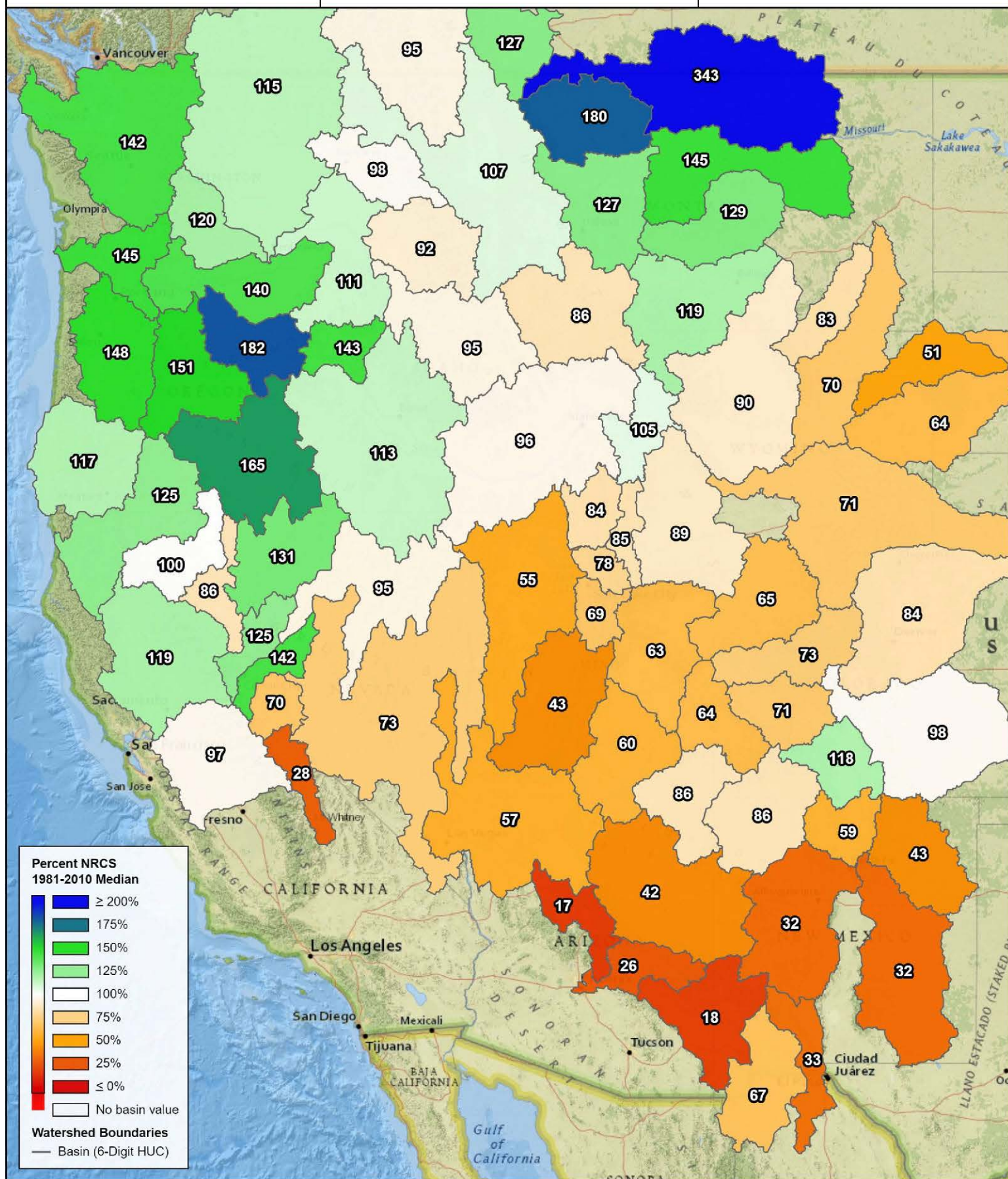


droughtmonitor.unl.edu

Snow Water Equivalent

Percent NRCS 1981-2010 Median

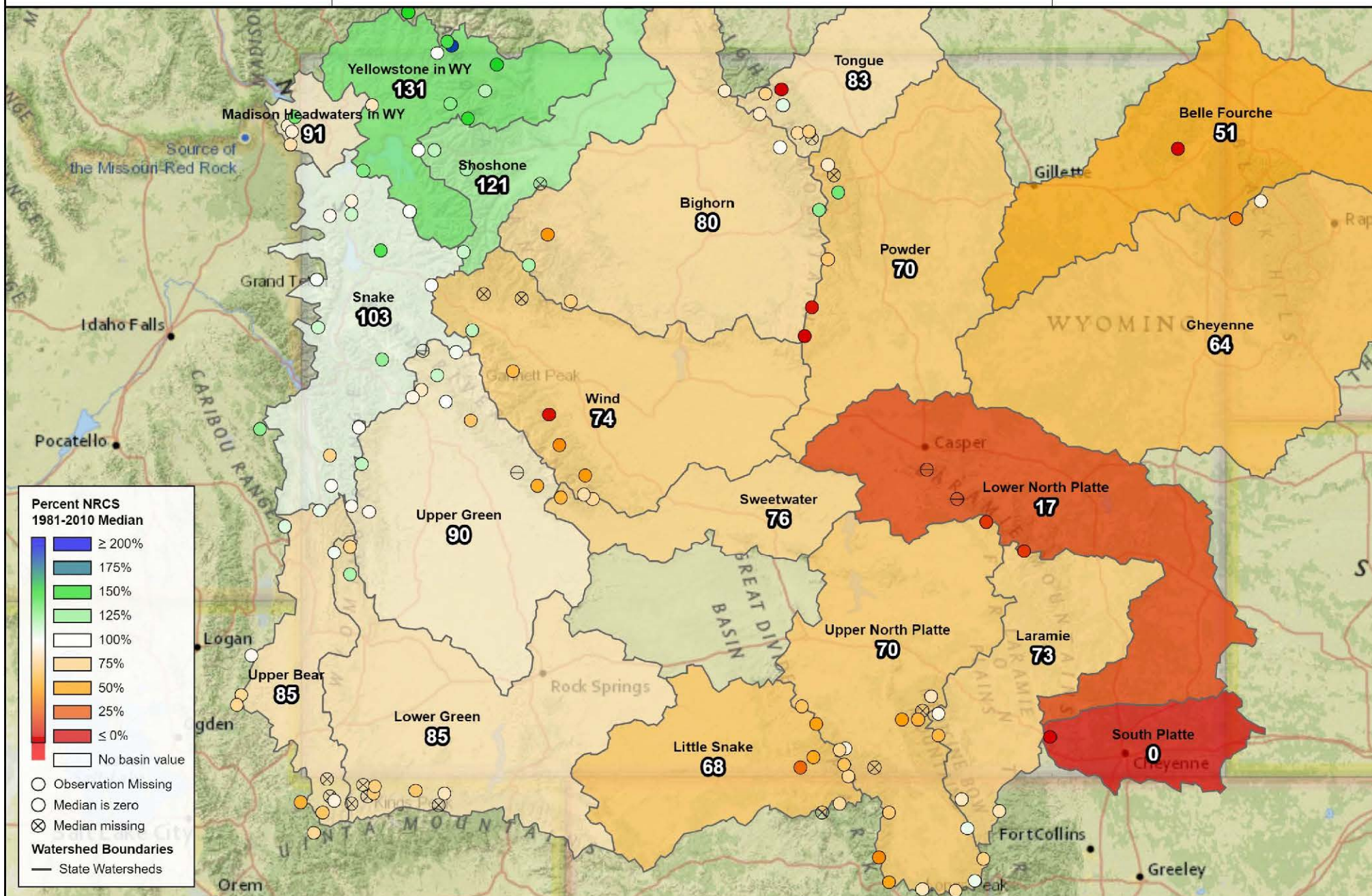
December 1st, 2020

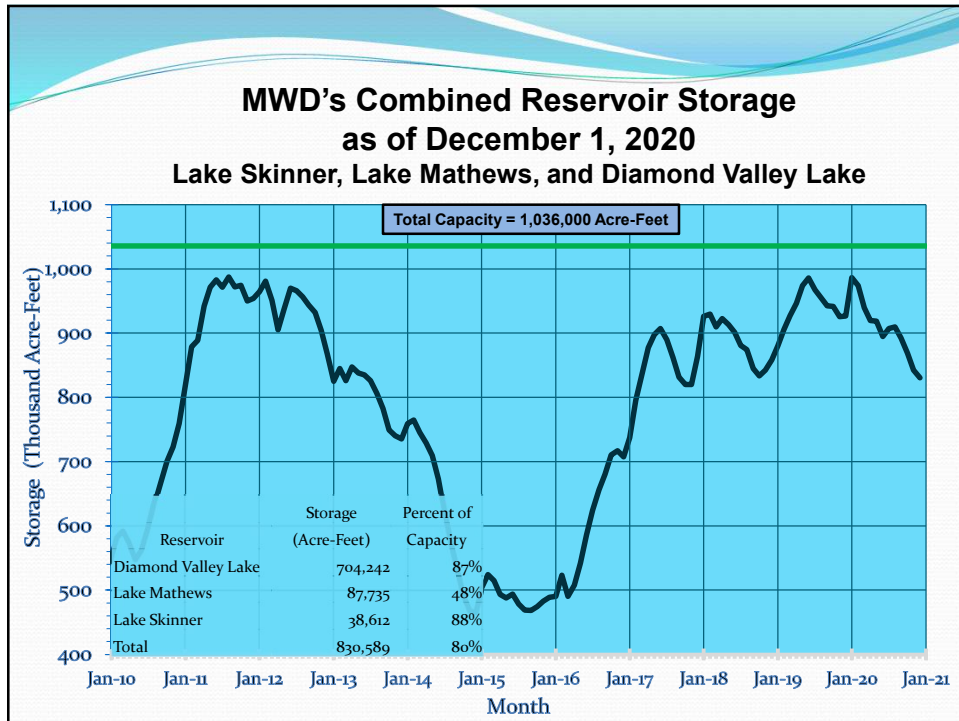


Snow Water Equivalent

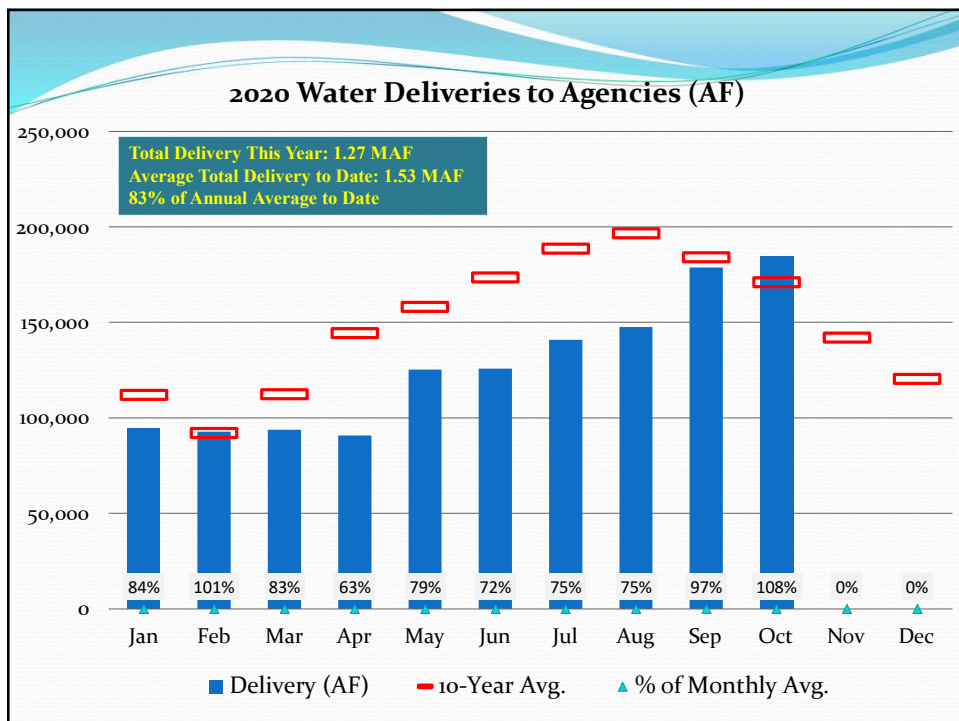
Percent NRCS 1981-2010 Median

December 1st, 2020



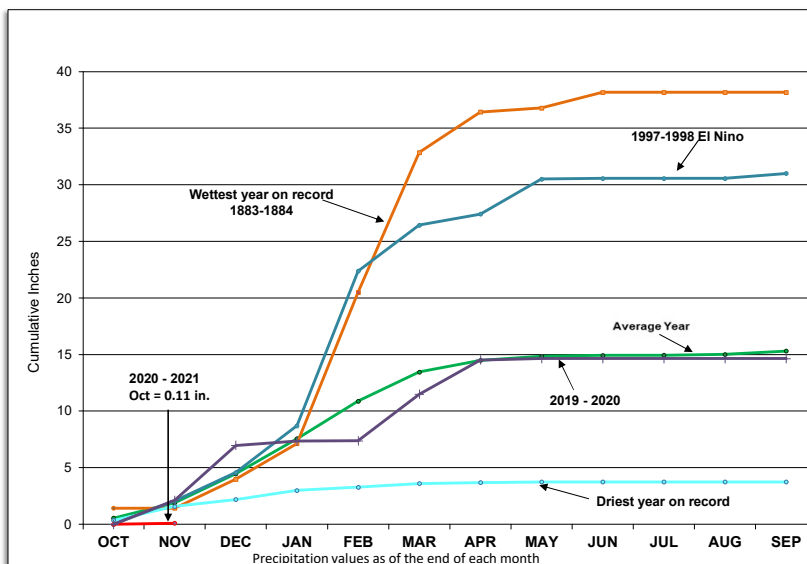


1



2

Los Angeles Civic Center Precipitation



1

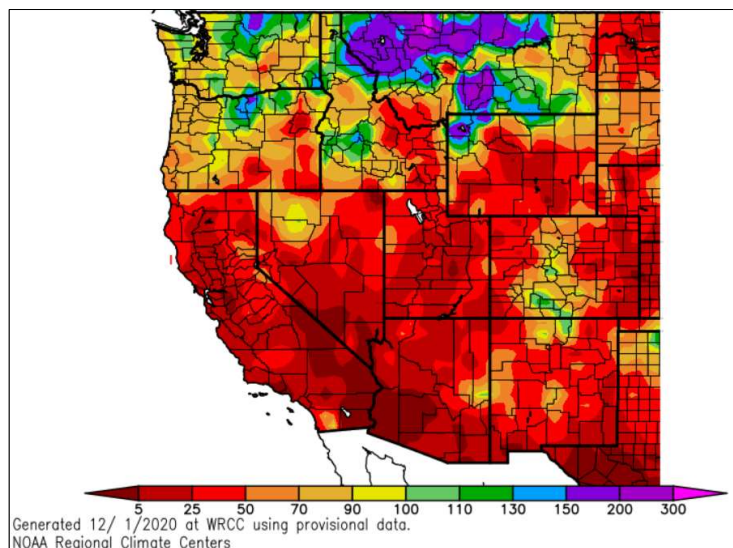
Precipitation at Six Major Stations in Southern California

From October 1, 2020 to November 30, 2020

Station	Precipitation in inches		Average to Date	Percent of Average
	Nov	Oct 1 to Nov 30		
San Luis Obispo	0.21	0.21	3.05	7%
Santa Barbara	0.05	0.05	2.19	2%
Los Angeles	0.11	0.11	1.88	6%
San Diego	0.26	0.26	1.48	18%
Blythe	0.00	0.00	0.54	0%
Imperial	0.00	0.00	0.45	0%

2

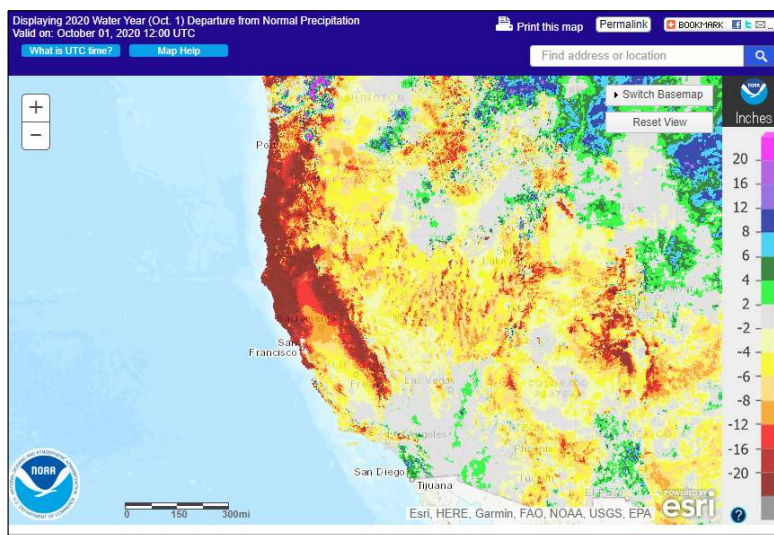
Percent of Average Precipitation (%) 10/1/2020 - 11/30/2020



Western Regional Climate Center
<https://wrcc.dri.edu/cgi-bin/anomimage.pl?wrcOctPpct.png>

3

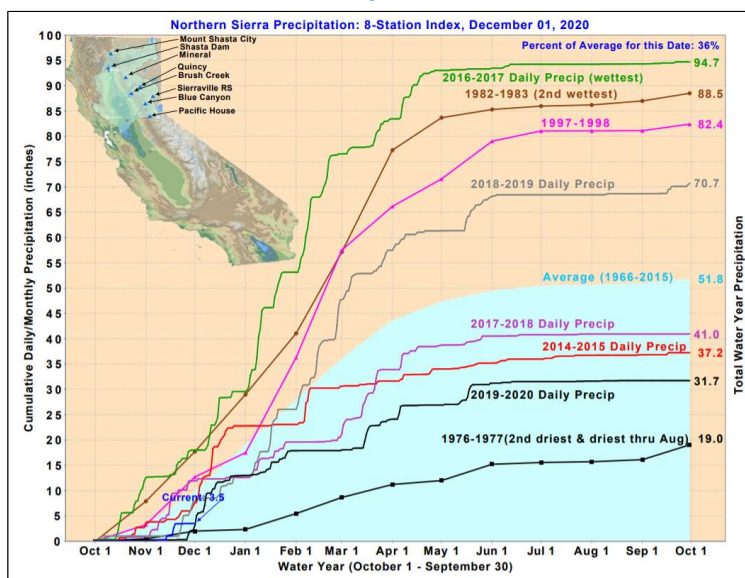
Departure From Normal Precipitation (inches) 10/1/2020 - 11/30/2020



NOAA - National Weather Service
<https://water.weather.gov/precip/>

4

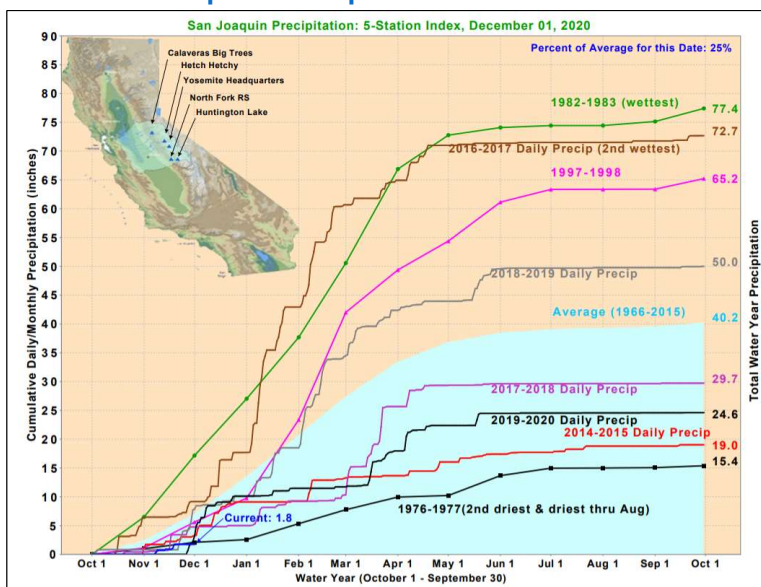
Northern Sierra Precipitation: 8 Station Index



California Data Exchange Center
http://cdec.water.ca.gov/cgi-progs/products/PLOT_ESI.pdf

5

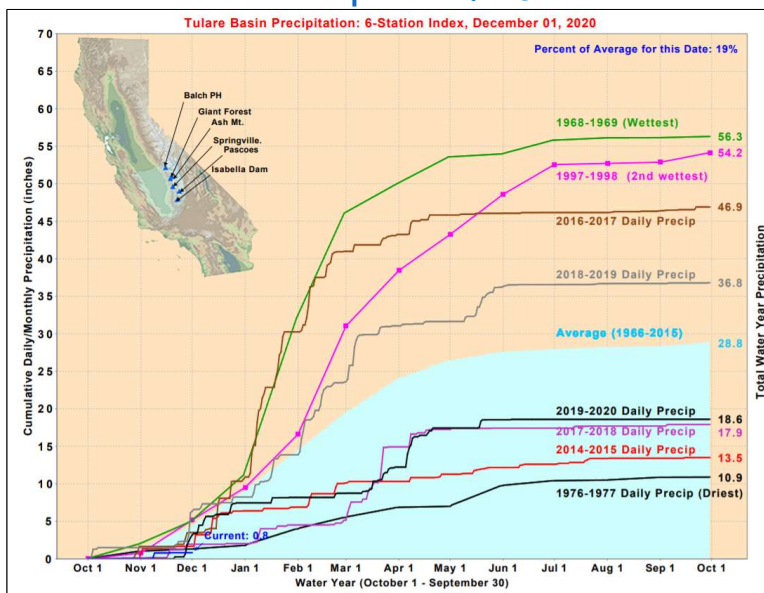
San Joaquin Precipitation: 5 Station Index



California Data Exchange Center
http://cdec.water.ca.gov/cgi-progs/products/PLOT_FSI.pdf

6

Tulare Basin Precipitation: 6 Station Index



California Data Exchange Center
http://cdec.water.ca.gov/cgi-progs/products/PLOT_TSI.pdf

7

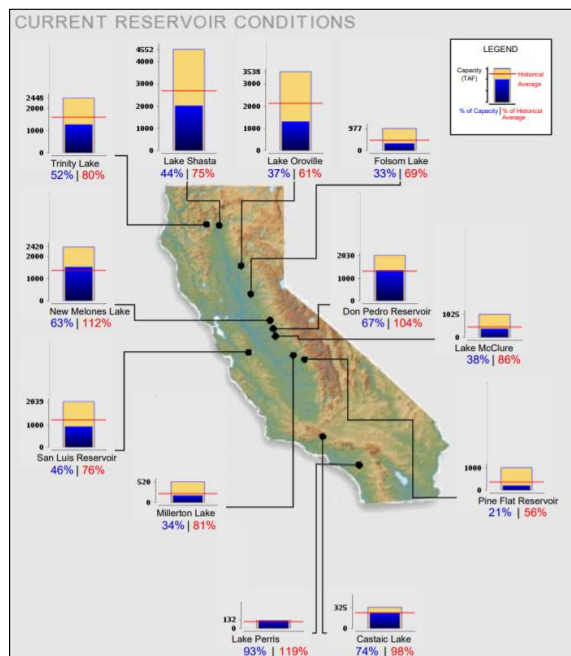
Comparison of SWP Water Storage

Reservoir	Capacity	2019 Storage (acre-feet)		2020 Storage (acre-feet)	
		As of Dec 1	% of Cap.	As of Dec 1	% of Cap.
Frenchman	55,475	44,484	80%	35,453	64%
Lake Davis	84,371	63,883	76%	51,703	61%
Antelope	22,564	16,889	75%	13,921	62%
Oroville	3,553,405	1,925,258	54%	1,304,053	37%
TOTAL North	3,715,815	2,050,514	55%	1,405,130	38%
Del Valle	39,914	25,753	65%	29,781	75%
San Luis	2,027,835	885,859	44%	933,271	46%
Pyramid	169,901	166,426	98%	167,204	98%
Castaic	319,247	250,816	79%	243,758	76%
Silverwood	74,970	61,855	83%	58,713	78%
Perris	132,614	59,049	47%	121,520	92%
TOTAL South	2,764,481	1,449,758	53%	1,554,247	56%

As of May 22, 2020, the Table A allocations for SWP contractors is 20%.

8

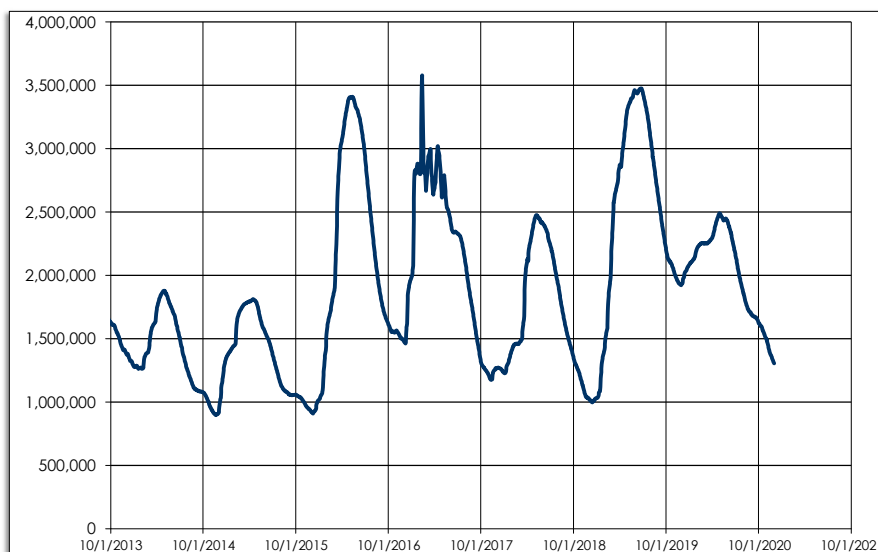
Reservoir Current Conditions



California Data Exchange Center
<https://cdec.water.ca.gov/reportapp/javareports?name=rescond.pdf>

9

Oroville Storage (acre-feet) October 1, 2013 - December 1, 2020



10