

February 28, 2019

**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, March 13, 2019
Time: 10:00 a.m.
Place: Orchid Room Sheraton Ontario Airport Hotel 429 North Vineyard Avenue Ontario, CA 91764 Tel: 909-937-8000

The Colorado River Board of California welcomes any comments from members of the public pertaining to items included on this agenda and related topics. Oral comments can be provided at the beginning of each Board meeting; while written comments may be sent to Mr. Peter Nelson, Chairperson, Colorado River Board of California, 770 Fairmont Avenue, Suite 100, Glendale, California, 91203-1068.

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, March 13, 2019
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.

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 February 13, 2019
(Action)

4. Water Supply and Operations Reports

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

5. Staff reports regarding Colorado River Basin Programs

- a. Status of Drought Contingency Planning Process
- b. Review and Approval of Seven Basin States Letter Submitting Proposed Federal DCP Legislation and Interstate Agreements Package to Congress and Authorization for Chairman to Sign **(Action)**
- c. Status of Salinity Control Program
- d. Status of the Glen Canyon Dam Adaptive Management Program
- e. Status of the Lower Colorado River Multi-Species Conservation Program
- f. General announcements

6. 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.

7. Other Business

8. Future Agenda Items

Next Board Meeting: April 10, 2019
10:00 a.m.
Orchid Room - Sheraton Ontario Airport Hotel
429 North Vineyard Avenue
Ontario, CA 91764
909-937-8000

Minutes of Meeting
COLORADO RIVER BOARD OF CALIFORNIA
Wednesday, February 13, 2019

A meeting of the Colorado River Board (Board) of California was held on Wednesday, February 13, 2019.

Committee Members and Alternates Present

David De Jesus (MWD Alternate)	Peter Nelson, Chairman (CVWD)
Dana B. Fisher, Jr. (PVID)	Glen D. Peterson (MWD)
James Hanks (IID)	David R. Pettijohn (LADWP)
Jeanine Jones (DWR Designee)	David Vigil (DFW Alternate)
Hank Kuiper (Public Member)	Mark Watton (SDCWA Alternate)
Nicole Neeman-Brady (Public Member)	

Committee Members and Alternates Absent

Evelyn Cortez-Davis (LADWP Alternate)	Jack Seiler (PVID Alternate)
Christopher Hayes (DFW Designee)	Norma Sierra Galindo (IID Alternate)
John Powell, Jr. (CVWD Alternate)	Doug Wilson (SDCWA)

Others Present

Steve Abbott	Jessica Neuwerth
Melissa Baum-Haley	Ivory Reyburn
Robert Cheng	Kelly Rodgers
Elsa Contreras	Shanti Rosset
Christopher Harris	Thang (Vic) Nguyen
Bill Hasencamp	Tom Ryan
Joanna Hoff	Tina Shields
Ned Hyduke	Gary Tavetian
Laura Lamdin	Alina Tishchenko
Tom Levy	Cherie Watte
Lindia Liu	Jerry Zimmerman
Henry Martinez	
Kara Mathews	

CALL TO ORDER

Chairman Nelson announced the presence of a quorum and called the meeting to order at 10:02 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 January 9, 2019 meeting minutes. Mr. Fisher moved that the minutes be approved, seconded by Mr. Kuiper. By roll-call vote the minutes were unanimously approved.

Chairman Nelson open up the discussion and asked for the Election of Officers of the Colorado River Board of California. Mr. Fisher nominated Mr. Nelson as a Chairman and Mr. Pettijohn as Vice Chairman. Mr. Fisher moved that the nominations be approved, seconded by Mr. Kuiper. By roll-call vote the nominations were adopted with unanimous consent.

Mr. Harris updated the Board on the Personnel Action which included two new employees that will be joining the Board soon: Office Technician and Principal Engineer.

COLORADO RIVER BASIN WATER REPORTS

Colorado River Basin Report

Mr. Harris reported that as February 4th, the water level at Lake Powell was 3,575.7 feet with 9.58 million-acre feet (MAF) of storage, or 39% of capacity. The water level at Lake Mead was 1,085.8 feet 10.50 million-acre feet (MAF) of storage, or 40% of capacity. As of February 4th, total system storage was 26.90 MAF, or 45% of capacity, which is about 4.95 MAF less than system storage at this same time last year.

Mr. Harris reported the forecasted Water Year-2019 inflow into Lake Powell is 7.70 MAF, or 71% of normal. The Forecasted April – July 2019 inflow into Lake Powell is 5.30 MAF, or 74% of normal. For Water Year-2019, the January observed inflow and February forecasted inflow into Lake Powell is 0.21 MAF (58% of normal) and 0.25 MAF (64% of normal), respectively. To date, the WY-2019 precipitation and the current basin snowpack are both 104% of normal.

Mr. Harris reported that the Upper Green River Basin has been a significant producer of precipitation in recent years, although this season's precipitation conditions in the subbasin are below average.

Mr. Harris reported that as of February 4th, the Upper Colorado River basin reservoirs, excluding Lake Powell, ranged from 42% of capacity at Fontenelle Reservoir in Wyoming; 85% of capacity at Flaming Gorge Reservoir in Wyoming and Utah; 91% of capacity at Morrow Point and 30% of capacity at Blue Mesa Reservoirs in Colorado; and 51% of capacity at Navajo Reservoir in New Mexico.

Mr. Harris reported that as of January 31st, Brock and Senator Wash Reservoirs captured 12,225 AF and 12,881 AF, respectively. He also reported that the excess deliveries to Mexico through February 3rd were 1,572 AF. As of February 11th, the total bypassed to the Cienega de Santa Clara in Mexico was 10,792 AF.

January 2019 MTOM/CRSS Results

Mr. Harris reported that the U.S. Bureau of Reclamation (Reclamation) released the results of latest Mid-Term Operations Model (MTOM) and Colorado River Simulation System (CRSS) projections for system operations over the next 5 years. Mr. Harris reported that the January 2019 MTOM/CRSS results show that the probability of shortage at any level in 2020 is 69% and increases to 82%, 81%, and 79% in 2021, 2022, and 2023, respectively. Mr. Harris noted that the results show an increase in probabilities compared to the August 2018 MTOM/CRSS results. In addition, the probabilities for 2nd tier (Lake Mead's elevation between 1,050 feet and 1,025 feet) and 3rd tier (Lake Mead's elevation between below 1,020) shortage conditions have also increased. Mr. Harris noted that the modeling results did not consider DCP implementation. Chairman Nelson remarked that at elevation 1,025, Lake Mead will contain close to 6 MAF, which is less than a year's supply of water for the Lower Basin States.

State and Local Report

Mr. Harris reported that despite the above average precipitation that the State has received, there are still areas that are abnormally dry. He also reported that the extreme drought conditions continue to plague areas of the Four Corners region, particularly in northwestern New Mexico and southwestern Colorado.

Ms. Jones, representing the California Department of Water Resources (DWR), reported reservoir storage conditions are doing well due to the above average precipitation that the State is receiving. She noted that there are some areas in California that are having difficulty recovering from the drought. Ms. Jones reported that the statewide snowpack is 130% of average, noting that the snowpack is greater in the southern Sierras than the northern Sierras.

Ms. Jones reported that DWR has recently activated its flood operations center. She noted that there are several areas that will reach a warning or watch stage due to the amount of precipitation the State is receiving. Ms. Jones noted that DWR is anticipating flooding in areas that are prone to flooding, such as the Russian River.

Ms. Jones reiterated that overall precipitation and reservoir storage conditions are doing well. She remarked that that areas that experienced depleted watersheds due to previous drought conditions, such as the central coast, are recovering well. She stated that an active weather pattern is expected in the following week that will bring additional precipitation to California.

Mr. Harris inquired about DWR's atmospheric river (AR) monitoring system. Ms. Jones discussed the importance of the AR observatories to track ARs, noting that the west coast experienced 64 ARs this winter season. Ms. Jones reported that the upcoming storm will have colder temperatures, which is important for accumulating snowpack. She noted that as the week progresses, the storm will become warmer and build less snow pack. Chairman Nelson inquired about the relationship between rain upon snow and snowmelt. Ms. Jones remarked that a rain on snow flood is a localized issue. She stated that the driving force of snowmelt is sunshine, known as albedo. She noted that a storm with a freezing elevation at 5,000-feet in January will have a different impact than a storm with a 5,000-foot freezing elevation in March because of the difference in albedo.

Mr. Nelson asked about the operations of Oroville reservoir during the State's recent storm activity. Ms. Jones responded that the reservoir is operating under the Corp of Engineers' rule curve stipulating the amount of water released.

Mr. Peterson, representing the Metropolitan Water District of Southern California (MWD), reported that MWD combined system storage is 87% of capacity. He noted that MWD has been putting water into its various storage accounts. He also noted that the Colorado Aqueduct is operating on a two-pump flow and as of February 3rd, water deliveries have been the lowest in MWD's history.

Mr. Pettijohn, representing the Los Angeles Department of Water and Power (LADWP), reported that the current snowpack condition for the Eastern Sierra is 146% of normal, noting that the snowpack is already a couple of inches above the annual average.

STATUS OF COLORADO RIVER BASIN PROGRAMS

Lower Basin Drought Contingency Plan

Mr. Harris reported that the Commissioner of Reclamation issued a federal register notice on February 1, 2019 stating that a fifteen-day comment period would be opened on March 4th if the DCP was not completed before that date. He explained the comment period will provide an

opportunity for the governors of the Seven Basin States to provide specific recommendations for Departmental action to reduce the risks the Basin is facing as it relates to declining reservoir levels.

Mr. Harris reported that Coachella Valley Water District, Palo Verde Water District and MWD have approved the interstate DCP package as well as the intrastate California ICS agreements. He noted that approval of new ICS exhibits and an appendix to the Lower Basin Operations (LBOps) document are still under development and awaiting approval. Mr. Harris noted that Arizona continues its efforts to finalize its DCP negotiations.

Mr. Harris reported that Imperial Irrigation District (IID) has approved the intrastate amended ICS agreement and has approved an agreement with MWD related to DCP contributions. Mr. Harris reported that IID has given conditional approval of the interstate DCP package while it continues to work on securing additional funding for Salton Sea management.

Mr. Harris added that Steven Hvinden from the Boulder Canyon Operations office is working with contractors participating in the DCP and the Lower Basin States to set up meetings to finalize the ICS exhibits and LBOps Appendix. He added that a Lower Basin States Principals meeting is scheduled for February 25th in Las Vegas, Nevada to discuss these documents.

Mr. Harris noted that if the DCP agreements are not complete by the March deadline, the Board needs to consider drafting a recommendation letter to Reclamation from Chairman Nelson as the California Commissioner. Mr. Harris explained to the Board that the DCP process will be complete once the participating agencies have approved the interstate agreements and the federal legislation and relevant documents can be considered and advanced to Congress. Further, Mr. Harris explained that it is important for there to be consensus among all participants, especially as it relates to advancing the federal legislation.

Mr. Harris stated Reclamation anticipates the California agencies completing its ICS exhibits by February 25th to meet the March deadline. He noted that meetings have been scheduled to discuss and move the ICS exhibits forward. Board Member Watton, representing the San Diego County Water Authority (SDWA) remarked that it is not a Section-5 contractor but has a great interest in reviewing the ICS exhibits.

The Board members discussed their recommendations for progressing the DCP agreements. Board member Hanks, representing the IID, expressed concerns with the language of the proposed federal legislation for the DCP and discussed with the other Board members how it should be clarified. Mr. Harris explained that the goal of the federal legislation is to allow California to access water from Lake Mead, above its 4.4 MAF apportionment once its elevation drops below 1,075 feet. He noted that the legislation alleviates the concern held by the other Basin States that California would be violating the language of the decree in *Arizona v. California*. Mr. Harris added that the federal legislation authorizes the Secretary of the Interior to implement the DCP with all the rules and regulations stipulated in the LBOps, as implemented through intrastate agreements approved by participating agencies. He noted that the legislation does not circumvent

NEPA, CEQA or the Endangered Species Act, adding that it is premised on a set of interstate and intrastate agreements that were constructed to avoid environmental impact. Mr. Zimmerman reiterated the importance of the federal legislation, noting that it strictly applies to the implementation of the DCP.

The Board discussed their concerns regarding the potential funding for Salton Sea restoration through the Farm Bill. Chairman Nelson reported that CVWD passed a resolution to support the Department of Agriculture's use of the Farm Bill to attain funds for Salton Sea restoration efforts. He also acknowledged IID's concerns for addressing potential DCP related Salton Sea impacts. Mr. Harris explained that IID and MWD carefully negotiated an agreement to utilize water that had been previously conserved by IID and either stored in Lake Mead or within MWD's system. Further, Mr. Harris stated that this agreement would not require any additional conservation activities beyond those being performed pursuant to their 2003 QSA obligations. In addition, IID's obligation is capped with respect to previously conserved supplies through this interim period that the DCP would be implemented. Mr. Harris concluded the discussion noting that additional meetings will be scheduled to continue the approval process of the various intrastate agreements.

In response to a question from Board member Ms. Neeman-Brady regarding the role of the City of Needles, Mr. Harris explained that the City of Needles's approval is required for the DCP ICS-related forbearance agreements. Mr. Harris discussed the City of Needle's present perfected water rights and management history of Reclamation's Lower Colorado Water Supply Project. Mr. Harris explained that the Lower Colorado Water Supply Project allows users along the mainstream of the Colorado River in California to divert Colorado water. He stated the diverters currently use between 300 and 400 AF of water. The entire project, once it is fully built out, will utilize 10,000 AF in 5,000 AF increments. Mr. Harris remarked that a similar program would be beneficial to Arizona to address the illegal diversion of water along the Colorado river in Arizona.

Status of the Salinity Control Forum

Mr. Harris reported that Reclamation has adjusted the Paradox Valley Unit EIS schedule to allow additional evaluation of information related to visual, cultural, and air quality resources at the request of BLM. The Record of Decision for the EIS is still scheduled for release in the summer or fall of 2020. The Forum and Advisory Council are planning to meet in June in Denver, Colorado.

ANNOUNCEMENTS

Mr. Harris reported that during the federal government shut down, tentative bipartisan

agreement was reached on a Border Security package, although it is unclear if this will satisfy the Administration. Mr. David Bernhardt was nominated to serve as the Secretary of the Interior; Andrew Wheeler's nomination to serve as EPA Administrator is moving to the full Senate for confirmation; and Kiel Weaver has been appointed to serve as deputy assistant Secretary for Water and Science at Interior. It is expected that the House Natural Resources and Senate Energy and & Natural Resources Committees could hold hearings on proposed DCP federal legislation in March 2019.

Finally, Mr. Harris noted that the next meeting of the Colorado River Board would be March 13th.

ADJOURNMENT

With no further items to be brought before the Board, Chairman Nelson adjourned the meeting at 11:36 a.m.

3/4/2019

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	38%	9,232	3,571.54	13,100
* LAKE MEAD	41%	10,702	1,088.20	8,700
LAKE MOHAVE	95%	1,719	643.74	9,600
LAKE HAVASU	92%	569	447.44	8,400
TOTAL SYSTEM CONTENTS **	45%	26,724		
As of 3/3/2019				
SYSTEM CONTENT LAST YEAR	53%	31,538		
* 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	66%	1,507		
Painted Rock Dam	0%	0	530.00	0
Alamo Dam	13%	134	1,117.58	25
Forecasted Water Use for Calendar Year 2019 (as of 3/4/2019) (values in kaf)				
NEVADA			292	
SOUTHERN NEVADA WATER SYSTEM				256
OTHERS				35
CALIFORNIA			4,179	
METROPOLITAN WATER DISTRICT OF CALIFORNIA				714
IRRIGATION DISTRICTS				3,450
OTHERS				16
ARIZONA			2,744	
CENTRAL ARIZONA PROJECT				1,551
OTHERS				1,192
TOTAL LOWER BASIN USE				7,214
DELIVERY TO MEXICO - 2019 (Mexico Scheduled Delivery + Preliminary Yearly Excess ¹)				1,524
OTHER SIGNIFICANT INFORMATION				
UNREGULATED INFLOW INTO LAKE POWELL - MARCH FINAL FORECAST DATED 3/4/2019				
		MILLION ACRE-FEET	% of Normal	
FORECASTED WATER YEAR 2019		9.751	90%	
FORECASTED APRIL-JULY 2019		7.300	102%	
FEBRUARY OBSERVED INFLOW		0.256	65%	
MARCH INFLOW FORECAST		0.460	69%	
		Upper Colorado Basin	Salt/Verde Basin	
WATER YEAR 2019 PRECIP TO DATE		117% (17.7")	128% (17.9")	
CURRENT BASIN SNOWPACK		123% (16.3")	104% (6.0")	

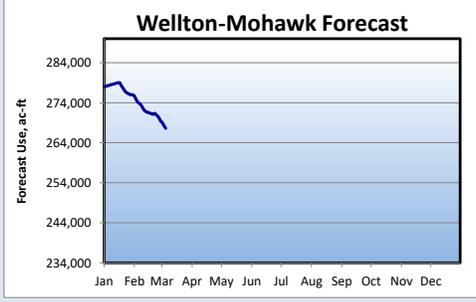
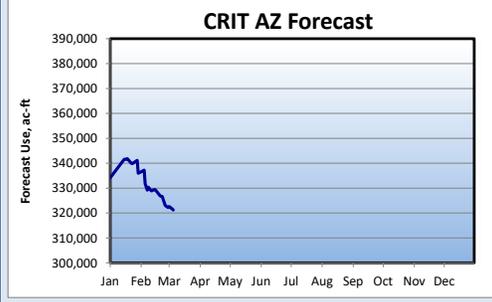
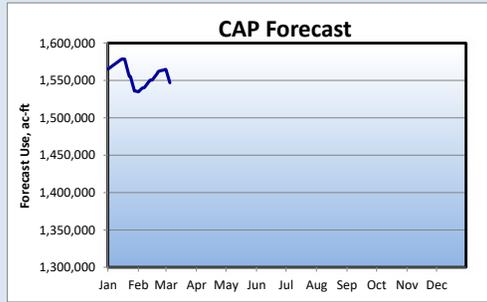
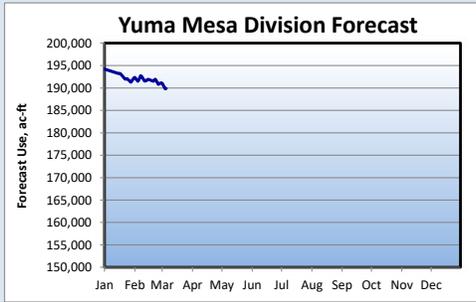
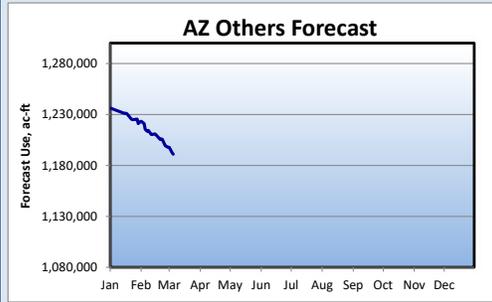
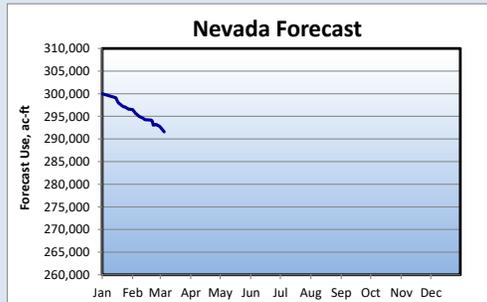
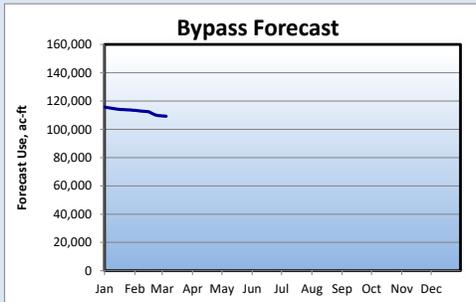
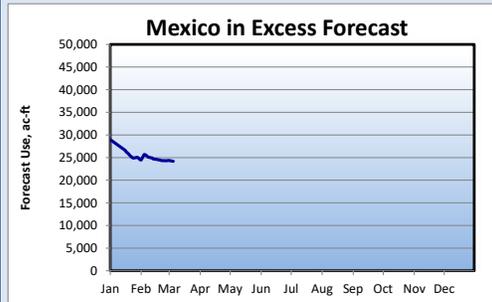
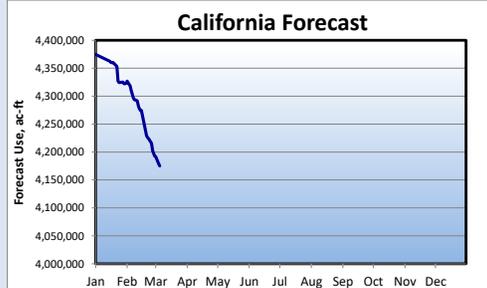
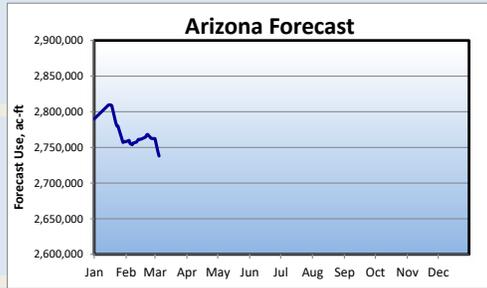
¹ Delivery to Mexico forecasted yearly excess calculated using year-to-date observed and projected excess.

**U.S. BUREAU OF RECLAMATION
LOWER COLORADO REGION
CY 2019**

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 CY2019	Forecast Use CY2019	Approved Use² CY2019	Excess to Approval CY2019
ARIZONA	324,061	2,738,000	2,789,843	-51,843
CALIFORNIA	420,875	4,175,129	4,374,692	-199,563
NEVADA	14,489	291,580	300,000	-8,420
STATES TOTAL³	759,425	7,204,709	7,464,535	-259,826
MEXICO IN SATISFACTION OF TREATY (Including downward delivery) TO MEXICO AS SCHEDULED	279,368 278,502	1,524,184 1,500,000	1,500,000	24,184
MEXICO IN EXCESS OF TREATY ⁴	866	24,184		
BYPASS PURSUANT TO MINUTE 242 ⁵	14,527	109,203		
TOTAL LOWER BASIN & MEXICO	1,053,320	8,838,096		

1/ Incorporates 80 daily reporting stations which may be revised after provisional data reports are distributed by the USGS. Use to date estimated for users reporting monthly and 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/ Mexico excess forecast is based on the 5-year average for the period 2013-2017.
 5/ Bypass forecast is based on the average for the period 1990-2017.



Graph notes: Jan 1 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 Robt.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.

**U.S. BUREAU OF RECLAMATION
LOWER COLORADO REGION
CY 2019**

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	Forecast	Estimated	Excess to	Diversion	Forecast	Approved	Excess to
	To Date CY2019	Use CY2019	Use CY2019	Estimated Use CY2019	To Date CY2019	Diversion CY2019	Diversion CY2019	Approved Diversion CY2019
ARIZONA PUMPERS	1,986	14,444	14,444	---	3,060	22,255	22,255	0
LAKE MEAD NRA, AZ - Diversions from Lake Mead	12	111	111	---	12	111	111	0
LAKE MEAD NRA, AZ - Diversions from Lake Mohave	20	185	185	---	20	185	185	0
DAVIS DAM PROJECT	0	2	2	---	3	20	20	0
BULLHEAD CITY	1,028	7,683	7,683	---	1,748	12,720	12,720	0
MOHAVE WATER CONSERVATION DISTRICT	87	632	632	---	130	944	944	0
BROOKE WATER LLC	43	315	315	---	65	475	475	0
MOHAVE VALLEY IDD	2,506	21,464	21,464	---	4,642	39,746	39,746	0
FORT MOJAVE INDIAN RESERVATION, AZ	2,175	42,187	44,550	---	4,027	78,124	82,500	-4,376
GOLDEN SHORES WATER CONSERVATION DISTRICT	37	268	268	---	55	402	402	0
HAVASU NATIONAL WILDLIFE REFUGE	87	3,350	3,563	---	723	39,032	41,820	-2,788
LAKE HAVASU CITY	1,197	8,928	8,928	---	1,931	14,400	14,400	0
CENTRAL ARIZONA PROJECT	247,860	1,546,984			247,860	1,546,984		
TOWN OF PARKER	41	430	430	---	112	933	933	0
COLORADO RIVER INDIAN RESERVATION, AZ	5,474	321,203	334,133	---	39,098	624,848	645,121	-20,273
EHRENBURG IMPROVEMENT ASSOCIATION	32	234	234	---	45	328	328	0
CIBOLA VALLEY ¹	2,153	15,661	15,661	---	3,010	21,891	21,891	0
CIBOLA NATIONAL WILDLIFE REFUGE	486	14,016	14,016	0	782	22,605	22,605	0
IMPERIAL NATIONAL WILDLIFE REFUGE	634	3,799	3,799	0	1,022	6,128	6,128	0
BLM PERMITEES (PARKER DAM to IMPERIAL DAM)	150	1,093	1,093		231	1,680	1,680	
CHA CHA, LLC	120	1,365	1,365	---	183	2,100	2,100	0
BEATTIE FARMS	63	724	724	---	96	1,110	1,110	0
YUMA PROVING GROUND	30	479	479	---	30	479	479	0
GILA MONSTER FARMS	471	4,963	5,254	---	869	8,671	9,156	-485
WELLTON-MOHAWK IDD	19,167	267,612	278,000	-10,388	34,565	393,025	412,965	-19,940
BLM PERMITEES (BELOW IMPERIAL DAM)	13	97	97	0	20	148	148	0
CITY OF YUMA	953	14,423	15,962	-1,539	2,431	24,669	26,700	-2,031
MARINE CORPS AIR STATION YUMA	136	1,305	1,359	---	136	1,305	1,359	-54
UNION PACIFIC RAILROAD	4	24	24	---	8	48	48	0
UNIVERSITY OF ARIZONA	63	888	888	---	63	888	888	0
YUMA UNION HIGH SCHOOL DISTRICT	10	151	151	---	12	200	200	0
DESERT LAWN MEMORIAL	2	17	17	---	3	23	23	0
NORTH GILA VALLEY IRRIGATION DISTRICT	585	11,839	12,141	---	4,207	42,865	44,200	-1,335
YUMA IRRIGATION DISTRICT	3,290	37,652	39,007	---	6,560	69,466	71,900	-2,434
YUMA MESA IDD	11,026	140,396	143,060	---	20,426	231,780	239,724	-7,944
UNIT "B" IRRIGATION DISTRICT	850	20,787	21,483	---	1,932	28,637	29,400	-763
FORT YUMA INDIAN RESERVATION	173	1,258	1,258	---	266	1,937	1,937	0
YUMA COUNTY WATER USERS' ASSOCIATION	20,813	229,180	230,166	---	38,293	356,290	360,400	-4,110
COCOPAH INDIAN RESERVATION	271	1,760	1,691	---	272	2,540	2,580	-40
RECLAMATION-YUMA AREA OFFICE	13	91	91	---	13	91	91	0
RETURN FROM SOUTH GILA WELLS								
TOTAL ARIZONA	324,061	2,738,000	2,789,843		418,961	3,600,083	3,684,787	
CAP	247,860	1,546,984				1,546,984		
ALL OTHERS	76,201	1,191,016	1,224,728			2,053,099	2,119,672	
YUMA MESA DIVISION, GILA PROJECT	14,901	189,887	171,610	18,277		344,111		

ARIZONA ADJUSTED APPORTIONMENT CALCULATION

Arizona Basic Apportionment	2,800,000
System Conservation Water - Pilot System Conservation Program ²	-10,157
Total State Adjusted Apportionment	2,789,843
Excess to Total State Adjusted Apportionment	-51,843
Estimated Allowable Use for CAP	1,598,683

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

² System Conservation Water to be conserved by Bullhead City and the Colorado River Indian Tribes pursuant to System Conservation Implementation Agreements executed under the Pilot System Conservation Program. This water will remain in Lake Mead to benefit system storage.

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

**U.S. BUREAU OF RECLAMATION
LOWER COLORADO REGION
CY 2019**

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	Forecast	Estimated	Excess to	Diversion	Forecast	Approved	Excess to
	To Date	Use	Use	Estimated	To Date	Diversion	Diversion	Approved
	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019
CALIFORNIA PUMPERS	251	1,824	1,824	---	454	3,300	3,300	0
FORT MOJAVE INDIAN RESERVATION, CA	282	7,955	8,996	---	525	14,787	16,720	-1,933
CITY OF NEEDLES (includes LCWSP use)	187	1,605	1,605	0	264	2,261	2,261	0
METROPOLITAN WATER DISTRICT	118,220	713,147	840,734	---	118,729	715,914	843,474	---
COLORADO RIVER INDIAN RESERVATION, CA	350	2,548	2,548	---	580	4,220	4,220	0
PALO VERDE IRRIGATION DISTRICT	21,516	414,863	422,468	---	82,528	845,496	856,000	-10,504
YUMA PROJECT RESERVATION DIVISION	1,830	47,432	50,616	---	7,447	94,833	98,928	-4,095
YUMA PROJECT RESERVATION DIVISION - INDIAN UNIT	---	---	---	---	3,561	44,321	46,128	-1,807
YUMA PROJECT RESERVATION DIVISION - BARD UNIT	---	---	---	---	3,886	50,512	52,800	-2,288
YUMA ISLAND PUMPERS	368	2,673	2,673	---	665	4,833	4,833	0
FORT YUMA INDIAN RESERVATION - RANCH 5	72	523	523	---	130	945	945	0
IMPERIAL IRRIGATION DISTRICT	240,178	2,601,309	2,652,800	-51,491	248,343	2,696,834	2,755,109	---
SALTON SEA SALINITY MANAGEMENT	0	0	0	0	0	0	0	---
COACHELLA VALLEY WATER DISTRICT	37,474	380,182	388,837	-8,655	38,810	395,087	404,914	---
OTHER LCWSP CONTRACTORS	114	829	829	---	178	1,296	1,296	0
CITY OF WINTERHAVEN	9	67	67	---	14	99	99	0
CHEMEHUEVI INDIAN RESERVATION	24	172	172	---	1,559	11,340	11,340	0

CALIFORNIA ADJUSTED APPORTIONMENT CALCULATION

California Basic Apportionment	4,400,000
System Conservation Water - Pilot System Conservation Program ¹	-308
Creation of Additional Conserved Water (IID) ²	-25,000
Creation of Extraordinary Conservation ICS (MWD) ³	-
Total State Adjusted Apportionment	4,374,692
Excess to Total State Adjusted Apportionment	-199,563

Estimated Allowable Use for MWD

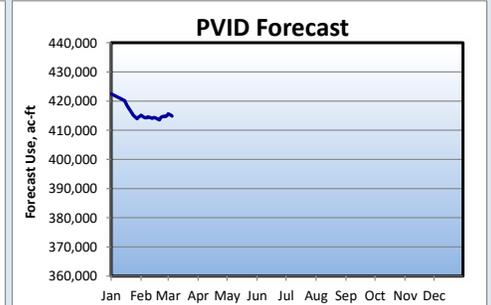
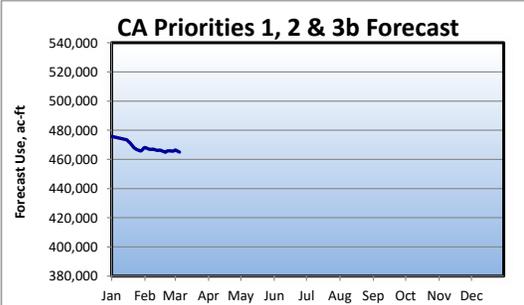
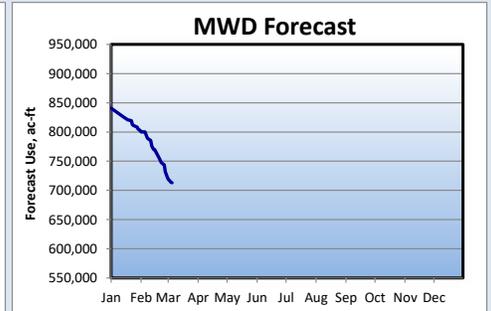
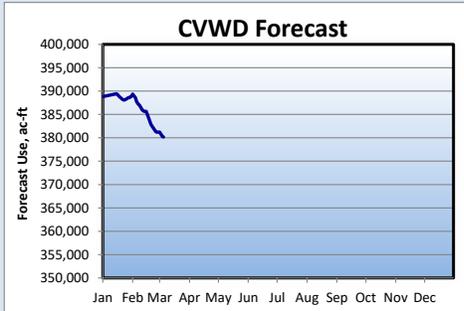
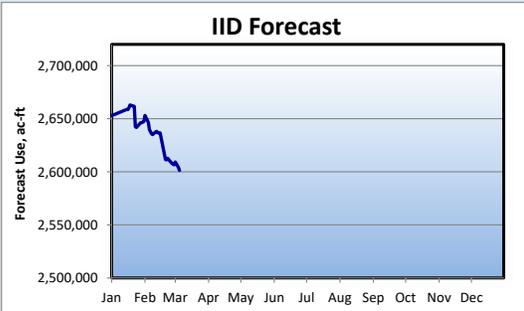
912,710

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

¹ System Conservation Water to be conserved by the City of Needles and the Coachella Valley Water District pursuant to System Conservation Implementation Agreements executed under the Pilot System Conservation Program. This water will remain in Lake Mead to benefit system storage.

² IID's CY 2019 water order incorporates an "Estimate of Additional Conserved Water" for purposes including, but not limited to, storage in The Metropolitan Water District of Southern California's system (with the written consent of MWD) or in Lake Mead as Intentionally Created Surplus (ICS). As of the date of this forecast, approval of IID's CY 2019 ICS Plan of Creation (Plan) is pending. Use by IID of Additional Conserved Water to create ICS for storage in Lake Mead is conditional upon Reclamation's approval of IID's CY 2019 Plan.

³ MWD's CY 2019 water order incorporates the creation of up to 299,300 AF of Extraordinary Conservation Intentionally Created Surplus (ICS). As of the date of this forecast, approval of MWD's CY 2019 ICS Plan of Creation (Plan) is pending; therefore the estimate of the amount of water available to MWD does not incorporate ICS creation by MWD. Upon approval of MWD's CY 2019 ICS Plan, Reclamation will revise MWD's water order approval accordingly.



**U.S. BUREAU OF RECLAMATION
LOWER COLORADO REGION
CY 2019**

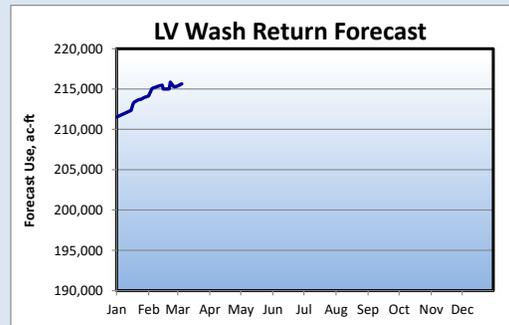
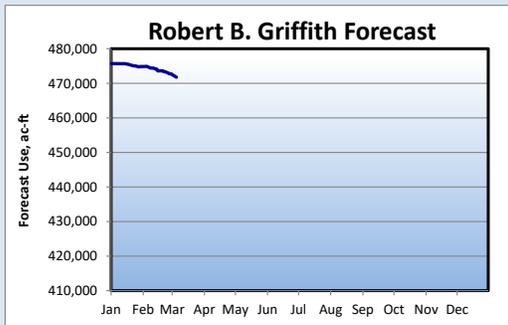
NOTE:
 • Diversions and uses that are pending approval are noted in *red italics*.
 • Water users with a consumptive use entitlement - **Excess to Estimated Use** column indicates overrun/underrun of entitlement. Dash in this column indicates water user has a diversion entitlement.
 • Water user with 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 \(Water Accounting Reports\)](#)

WATER USER	Use	Forecast	Estimated	Excess to	Diversion	Forecast	Approved	Excess to
	To Date	Use	Use	Estimated	To Date	Diversion	Diversion	Approved
	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019	CY2019
ROBERT B. GRIFFITH WATER PROJECT (SNWS)	54,193	471,755	475,686	-3,931	54,193	471,755	475,686	-3,931
LAKE MEAD NRA, NV - Diversions from Lake Mead	91	1,500	1,500	---	91	1,500	1,500	0
LAKE MEAD NRA, NV - Diversions from Lake Mohave	37	500	500	---	37	500	500	0
BASIC MANAGEMENT INC.	602	8,208	8,208	---	602	8,208	8,208	0
CITY OF HENDERSON (BMI DELIVERY)	1,222	15,878	15,878	---	1,222	15,878	15,878	0
NEVADA DEPARTMENT OF WILDLIFE	1	12	12	0	119	1,000	1,000	---
PACIFIC COAST BUILDING PRODUCTS INC.	88	928	928	---	88	928	928	0
BOULDER CANYON PROJECT	24	173	173	---	41	300	300	0
BIG BEND WATER DISTRICT	252	4,619	4,619	---	712	10,000	10,000	0
FORT MOJAVE INDIAN TRIBE	66	3,641	4,020	---	99	5,434	6,000	-566
LAS VEGAS WASH RETURN FLOWS	-42,087	-215,634	-211,524	---				
TOTAL NEVADA	14,489	291,580	300,000	-3,931	57,204	515,503	520,000	-4,497
SOUTHERN NEVADA WATER SYSTEM (SNWS)	12,106	256,121				471,755		
ALL OTHERS	2,383	35,459				43,748		
NEVADA USES ABOVE HOOVER	14,171	283,320				500,069		
NEVADA USES BELOW HOOVER	318	8,260				15,434		

Tributary Conservation & Imported Intentionally Created Surplus	
Total Requested Tributary Conservation Intentionally Created Surplus	42,000
Total Requested Imported Conservation Intentionally Created Surplus	0
5% System Assessment for Creation of Intentionally Created Surplus	-2,100
Total Intentionally Created Surplus Left in Lake Mead	39,900

NEVADA ADJUSTED APPORTIONMENT CALCULATION	
Nevada Basic Apportionment	300,000
Excess to Total State Adjusted Apportionment	-8,420



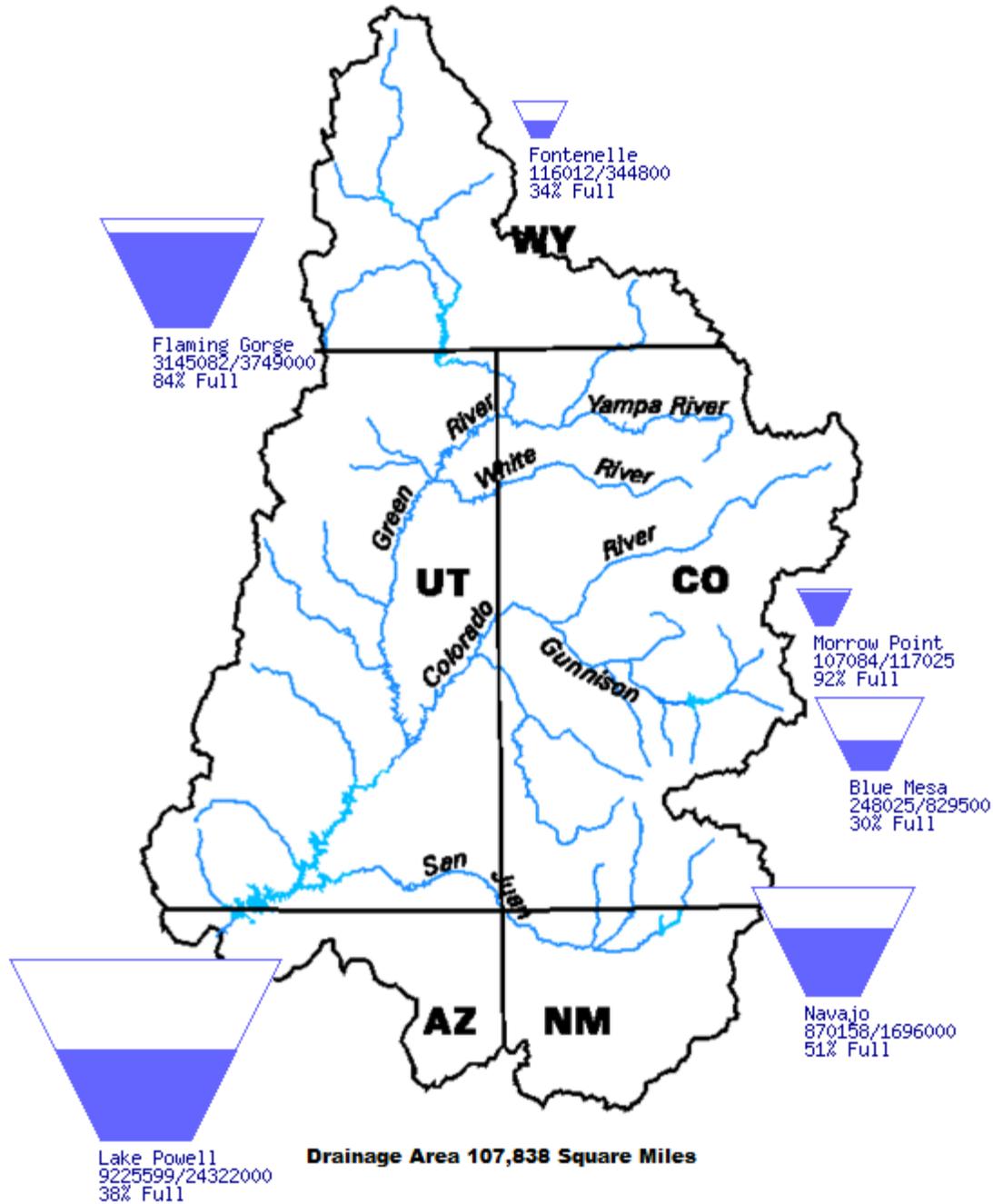
NOTES: Click on Nevada Schedules and Approvals above for incoming diversion schedules and approvals.

Upper Colorado Region Water Resources Group

River Basin Tea-Cup Diagrams

Data Current as of:
03/04/2019

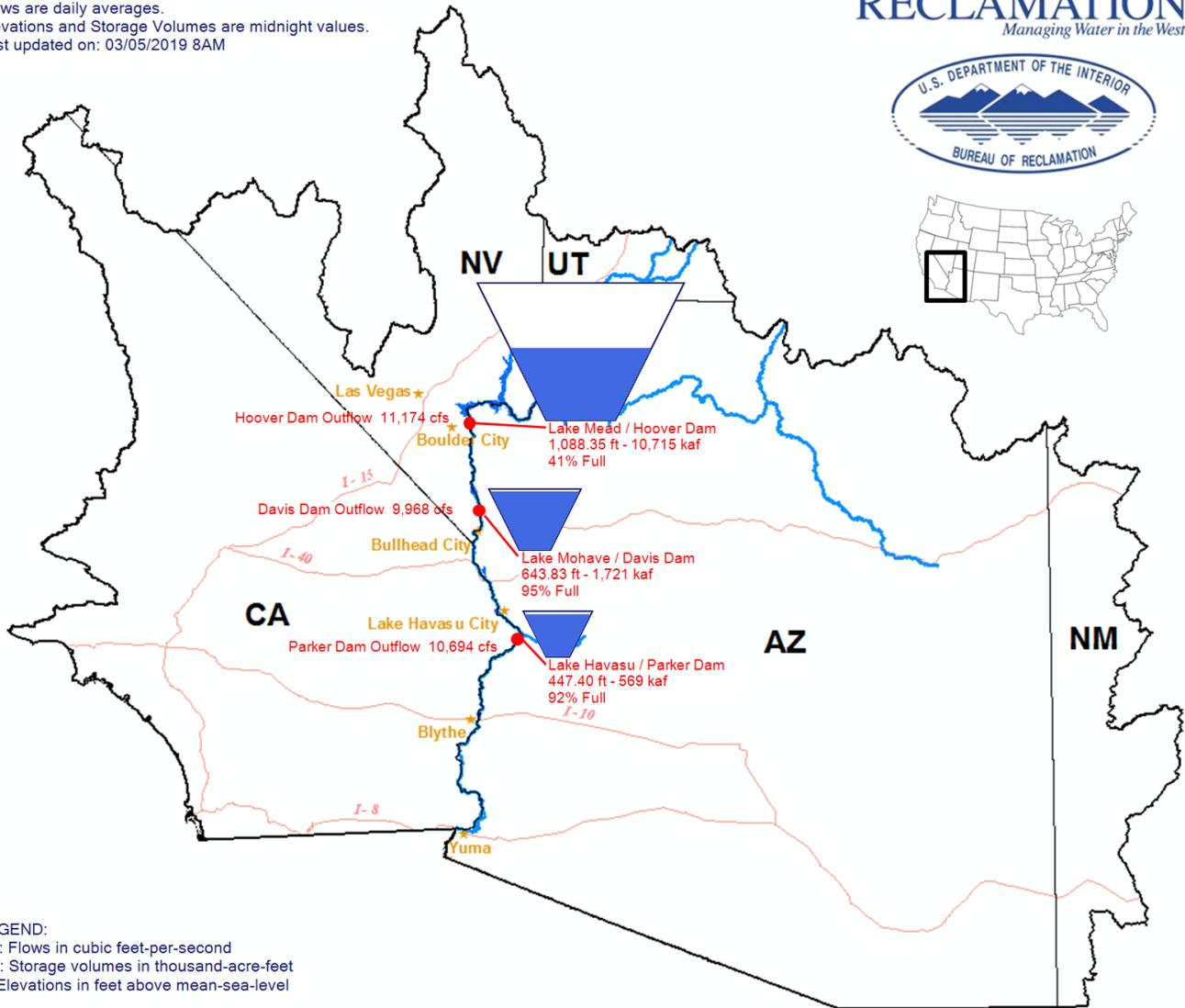
Upper Colorado River Drainage Basin



Lower Colorado River Teacup Diagram

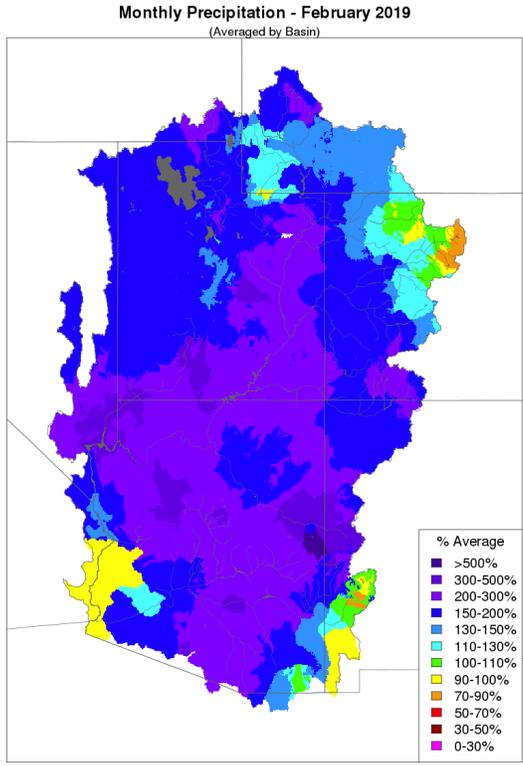
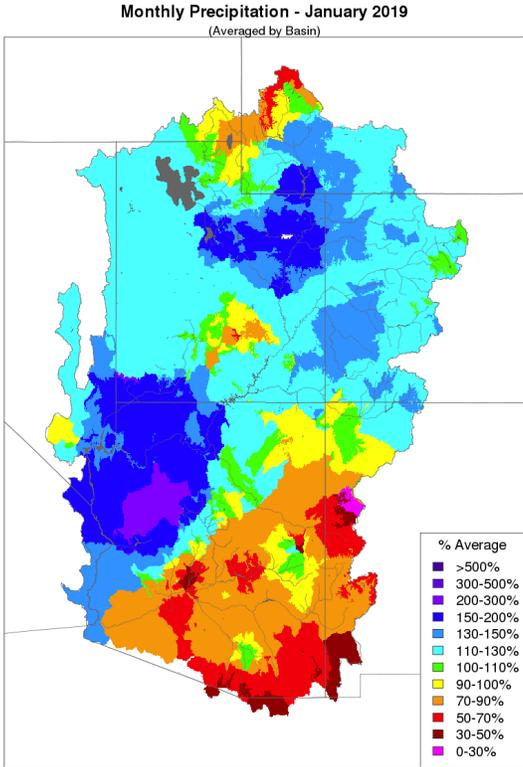
Data for: 03/04/2019
 Flows are daily averages.
 Elevations and Storage Volumes are midnight values.
 Last updated on: 03/05/2019 8AM

RECLAMATION
Managing Water in the West



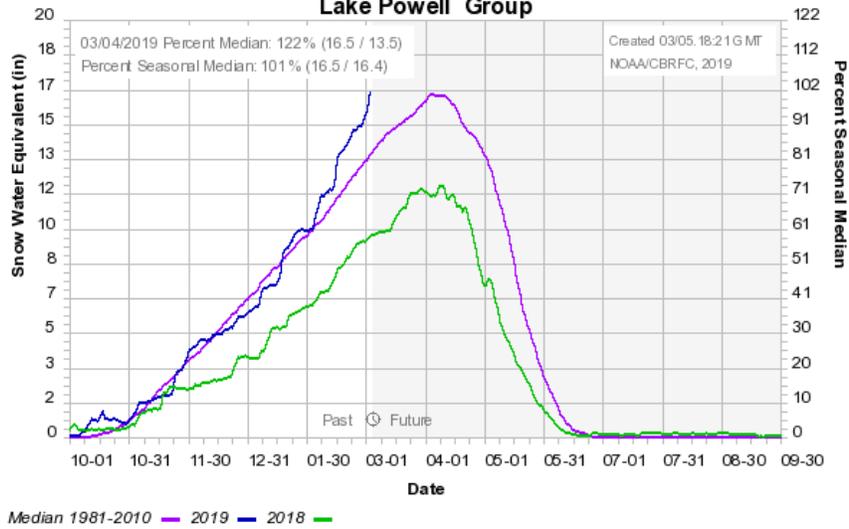
LEGEND:
 cfs: Flows in cubic feet-per-second
 kaf: Storage volumes in thousand-acre-feet
 ft: Elevations in feet above mean-sea-level

NOAA National Weather Service Monthly Precipitation Map January and February 2019

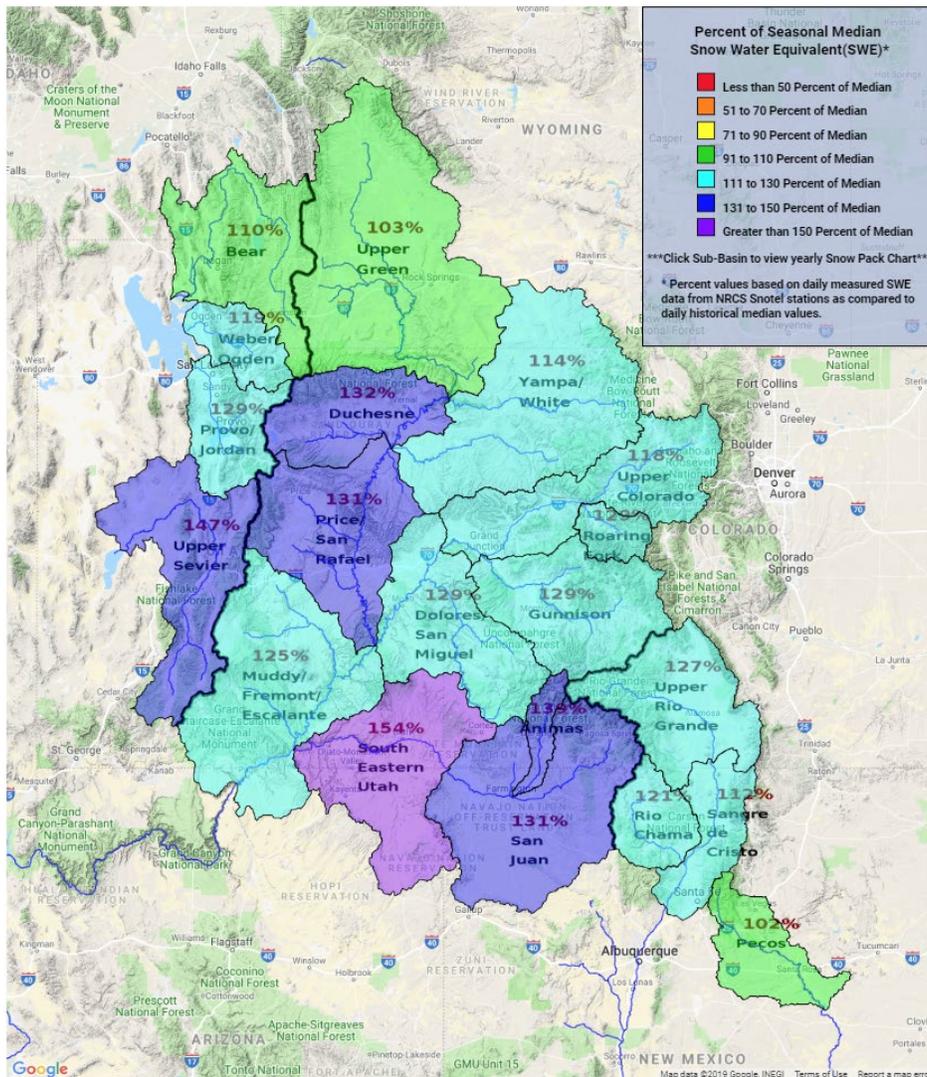


Colorado Basin River Forecast Center

Lake Powell Group

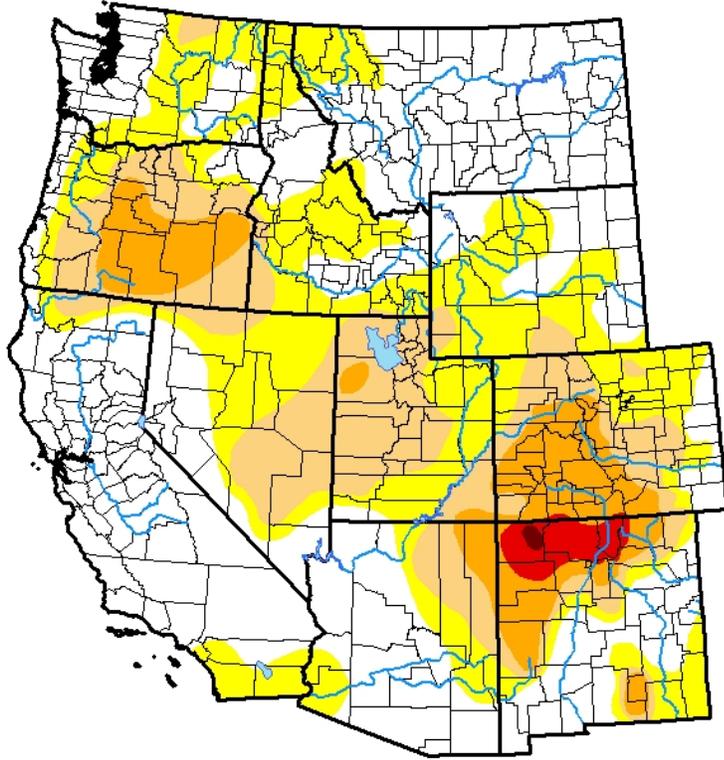


Snow Pack Conditions Map Upper Colorado Region



**U.S. Drought Monitor
West**

February 26, 2019
(Released Thursday, Feb. 28, 2019)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	47.01	52.99	26.50	9.76	1.40	0.09
Last Week <i>02-19-2019</i>	37.37	62.63	36.79	14.67	3.38	0.16
3 Months Ago <i>11-27-2018</i>	24.52	75.48	55.06	28.95	10.84	3.35
Start of Calendar Year <i>01-01-2019</i>	28.03	71.97	53.25	27.22	8.35	2.88
Start of Water Year <i>09-25-2018</i>	13.91	86.09	59.57	39.68	18.15	4.36
One Year Ago <i>02-27-2018</i>	28.13	71.87	45.57	25.09	3.01	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Brad Rippey
U.S. Department of Agriculture

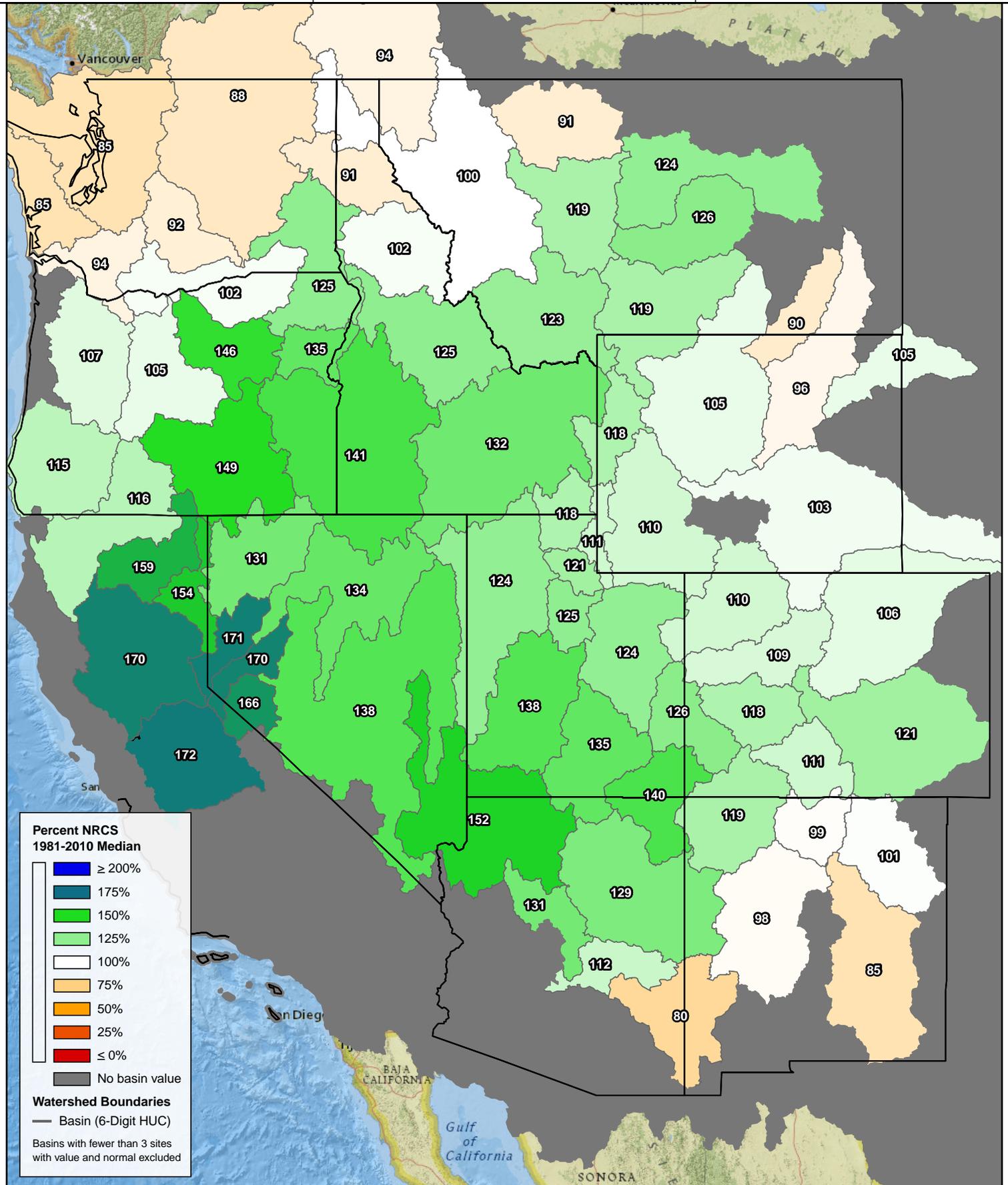


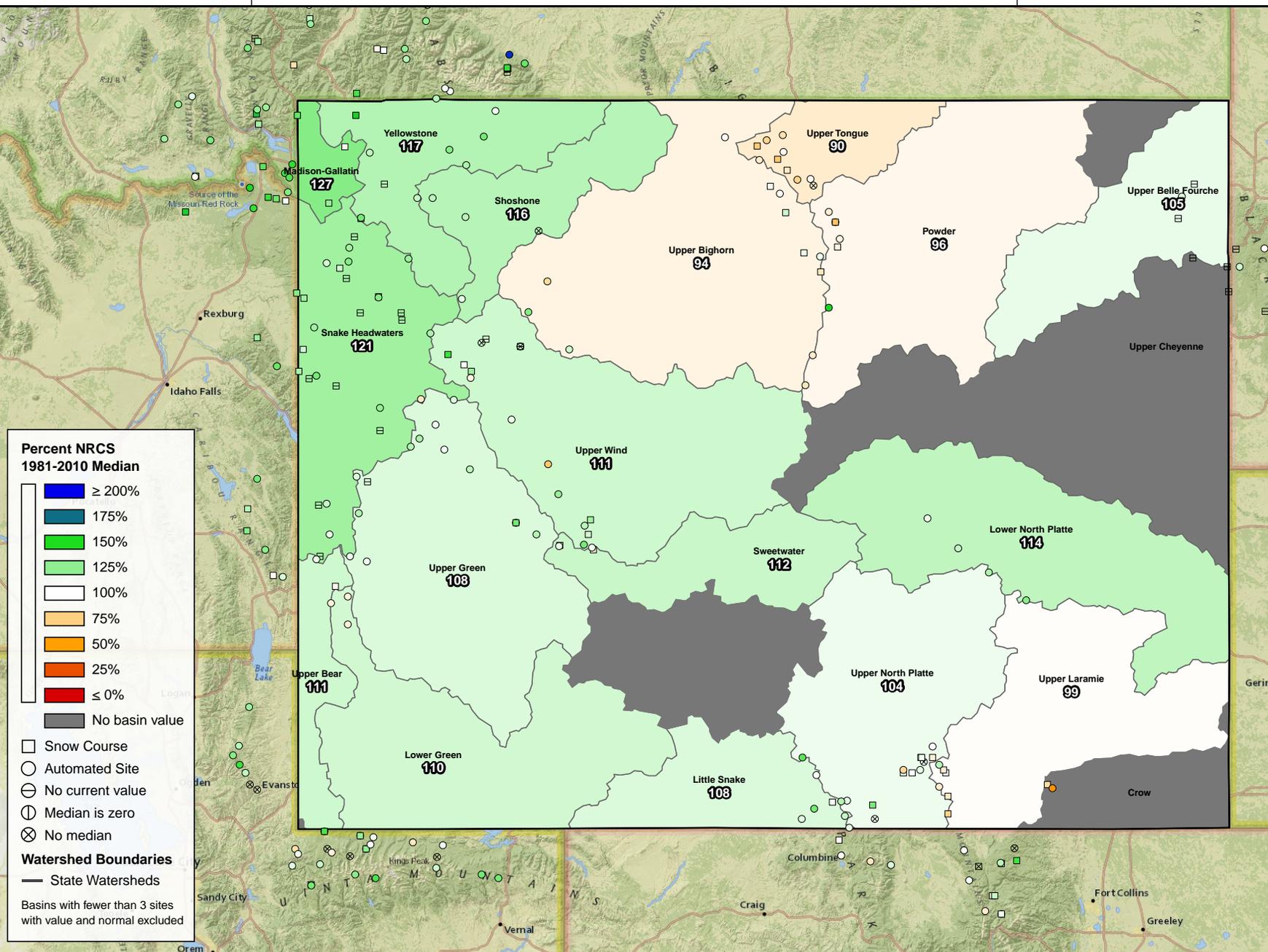
<http://droughtmonitor.unl.edu/>

Snow Water Equivalent

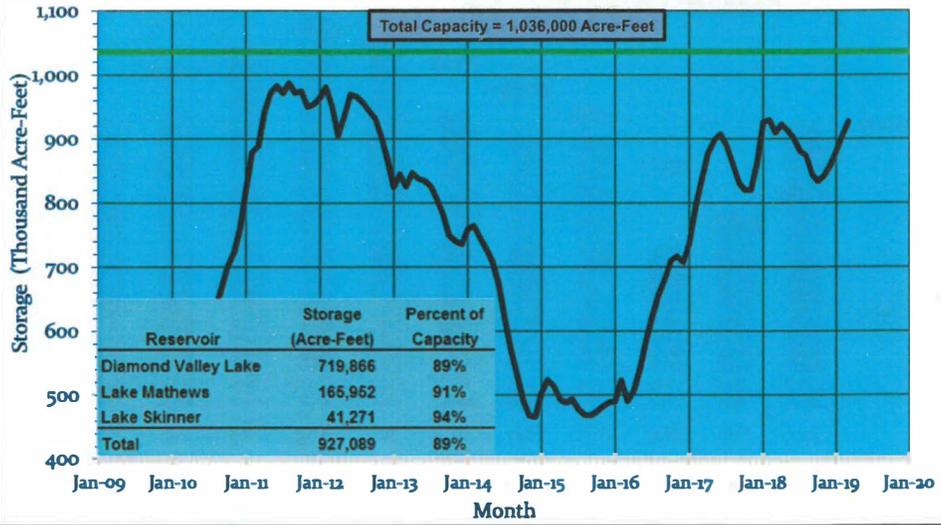
Percent NRCS 1981-2010 Median

March 1st, 2019

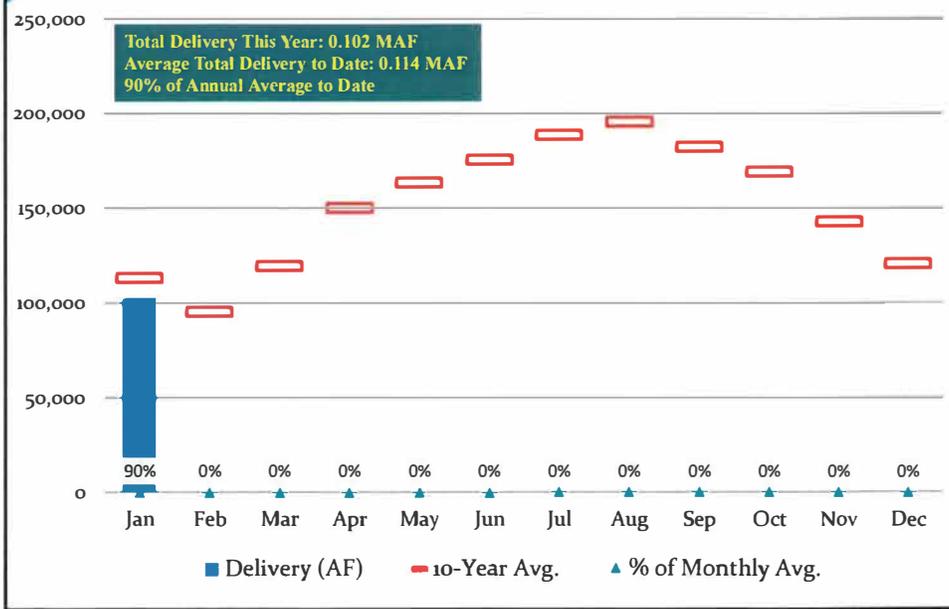


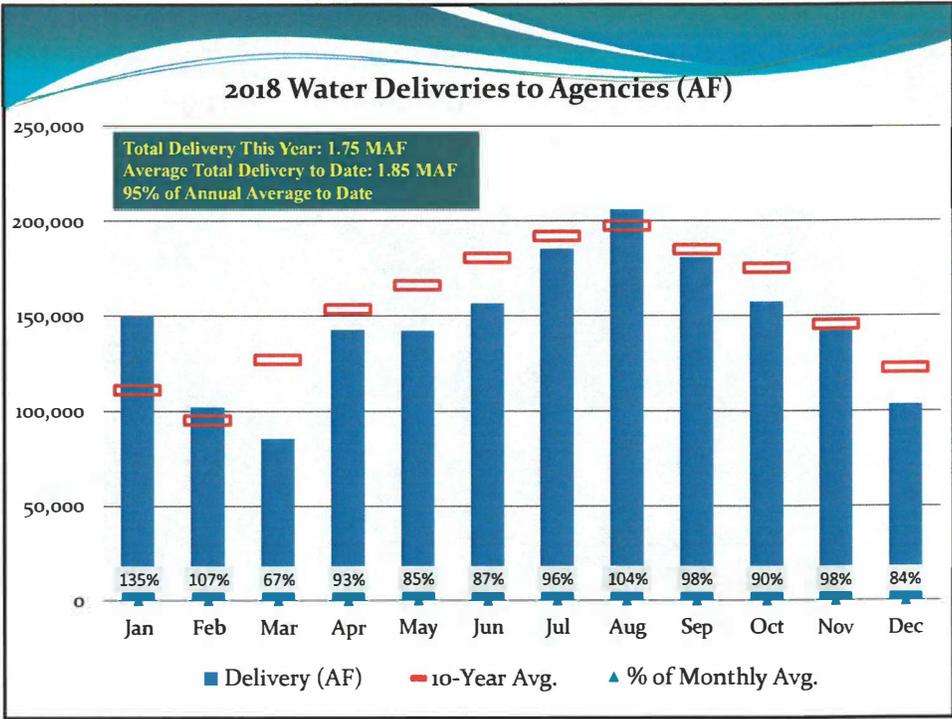


MWD's Combined Reservoir Storage as of March 1, 2019 Lake Skinner, Lake Mathews, and Diamond Valley Lake

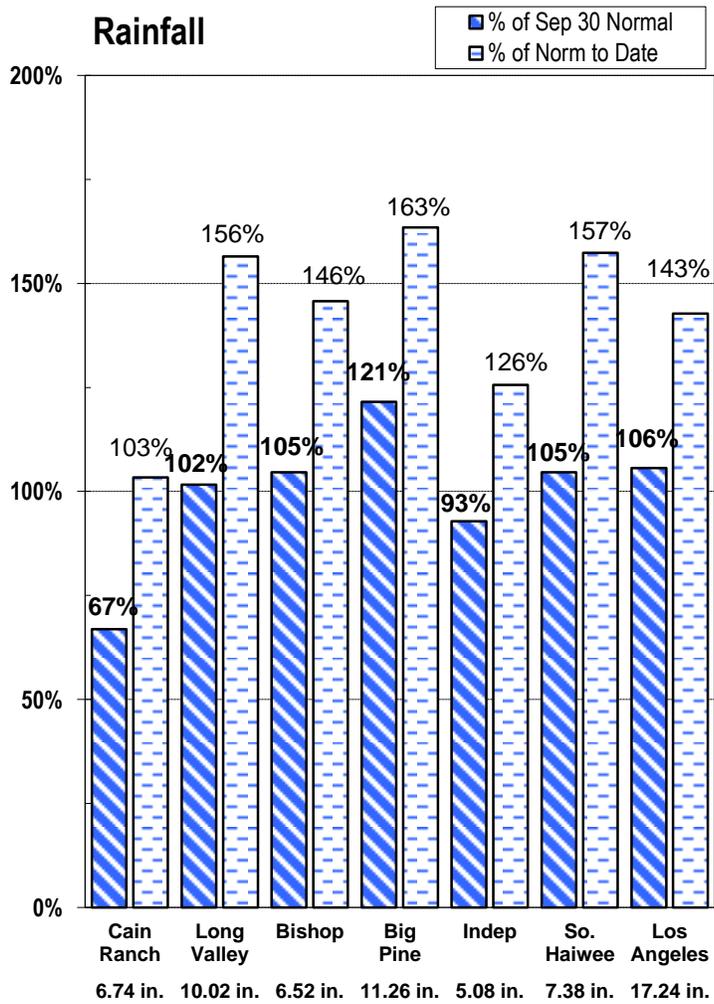
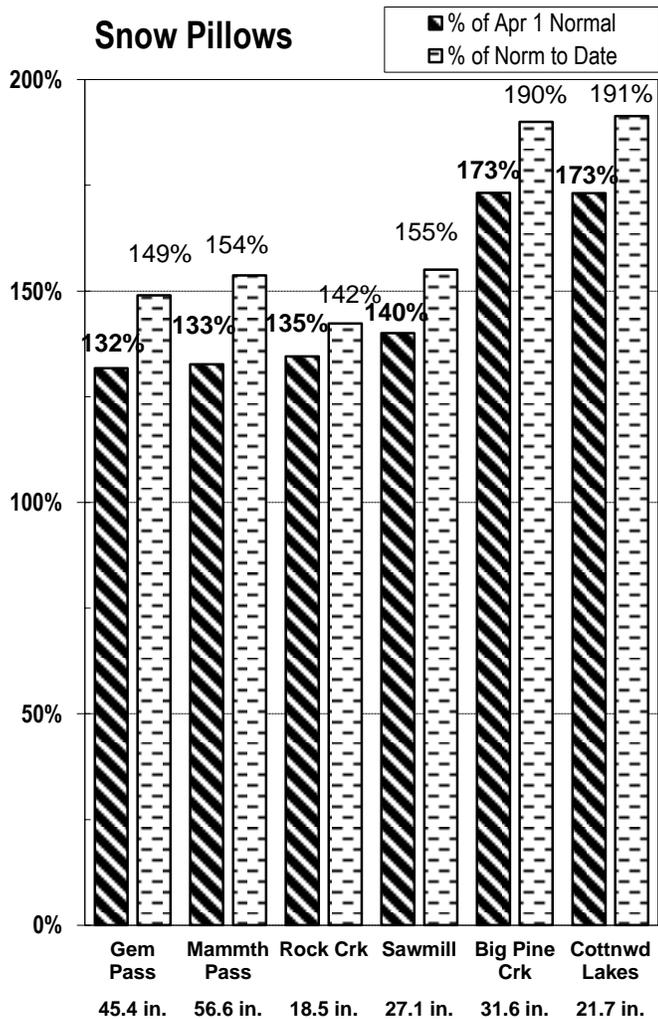
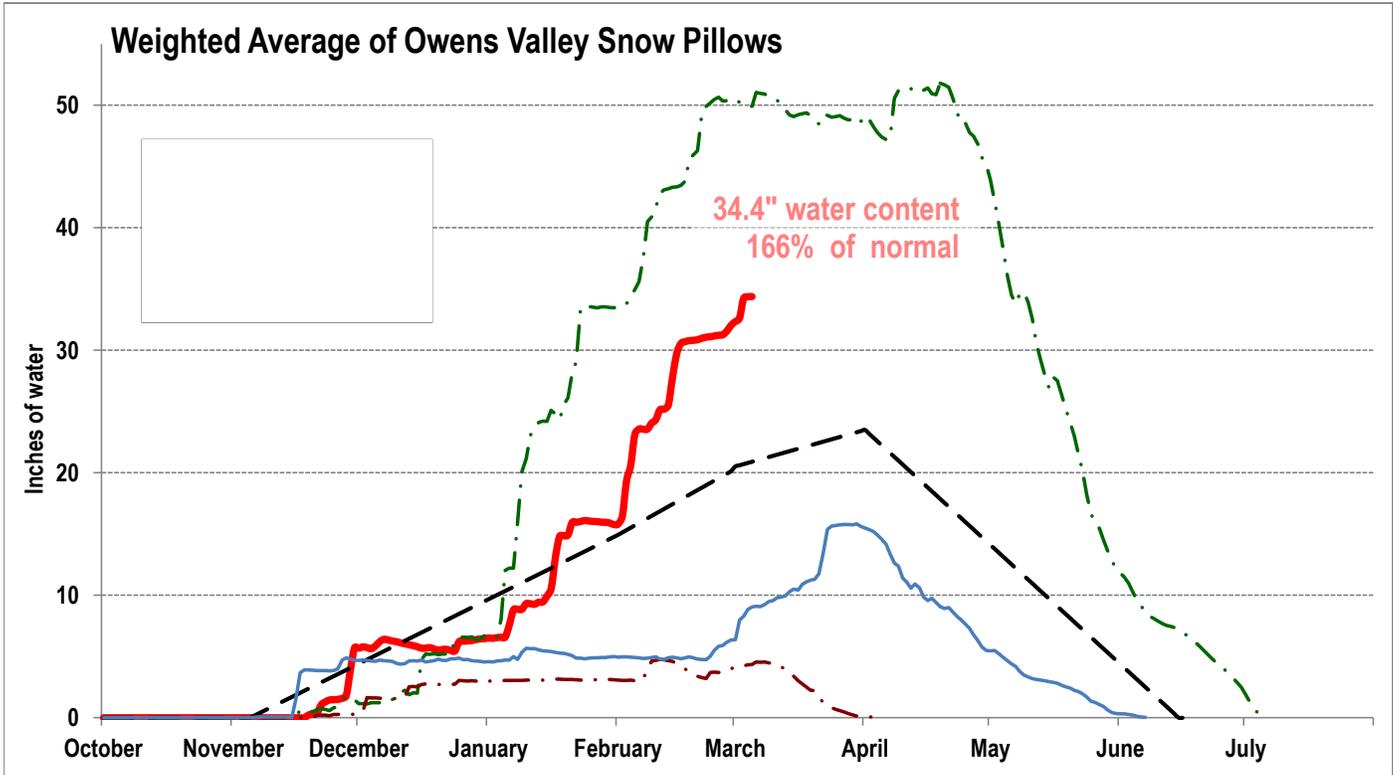


2019 Water Deliveries to Agencies (AF)

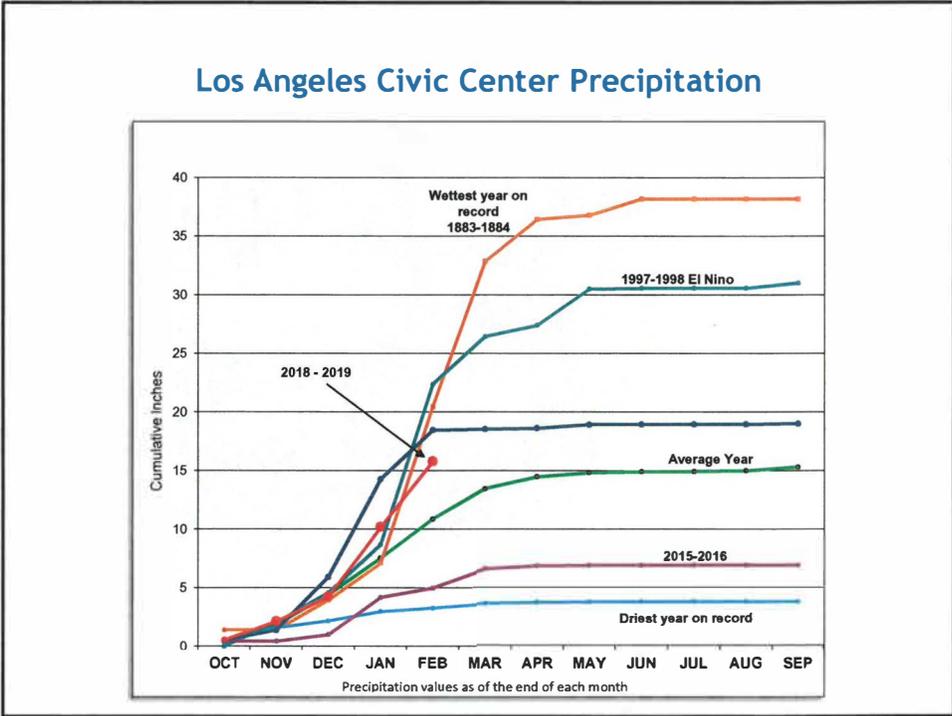




EASTERN SIERRA CURRENT PRECIPITATION CONDITIONS March 5, 2019



Measurement as Inches Water Content; Precipitation totals are cumulative for water year beginning Oct 1

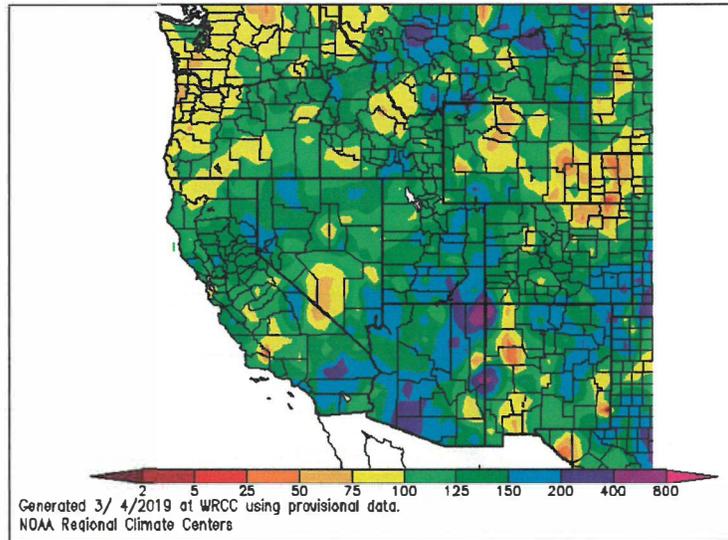


Precipitation at Six Major Stations in Southern California

From October 1, 2018 to February 28, 2019

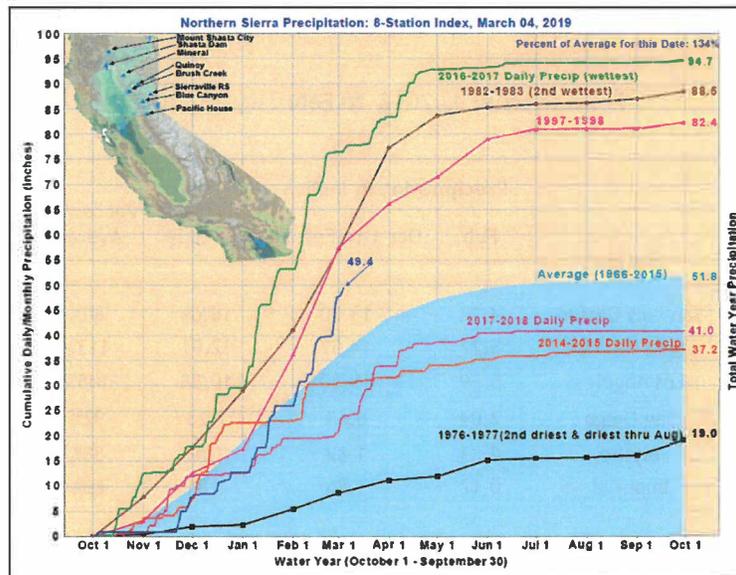
Station	Precipitation in inches		Average to Date	Percent of Average
	Feb	Oct 1 to Feb 28		
San Luis Obispo	4.92	13.30	16.69	80%
Santa Barbara	5.27	14.57	12.91	113%
Los Angeles	5.59	15.80	10.88	145%
San Diego	2.04	6.63	7.23	92%
Blythe	0.33	1.82	2.08	88%
Imperial	0.12	1.56	1.81	86%

Percent of Average Precipitation (%) 10/01/2018 - 03/04/2019



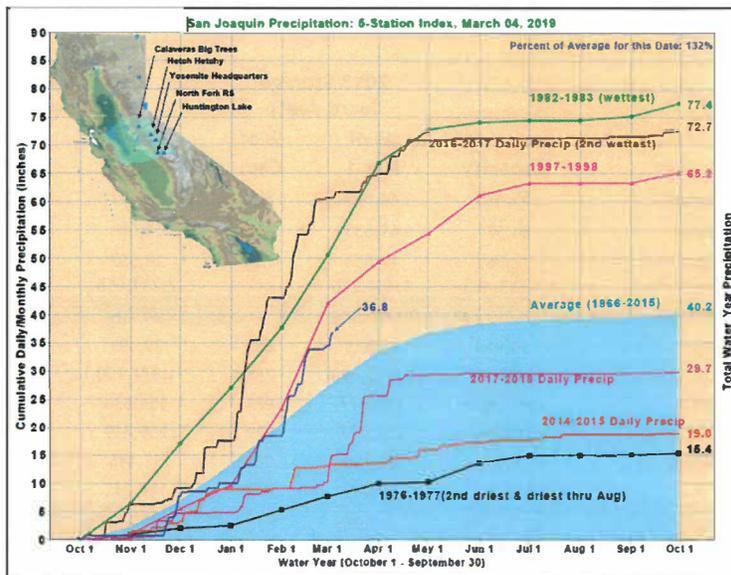
Western Regional Climate Center
<http://www.wrcc.dri.edu/cgi-bin/anomimage.pl?wrcOctPpct.gif>

Northern Sierra Precipitation: 8 Station Index



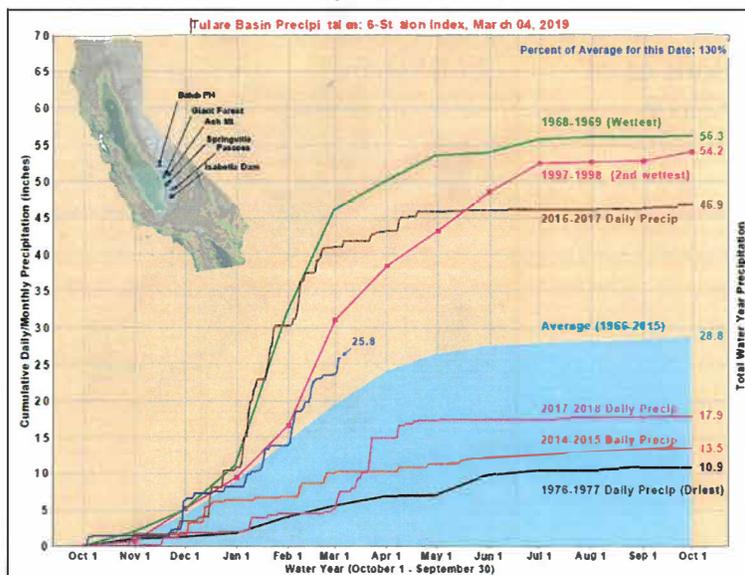
California Data Exchange Center
http://cdec.water.ca.gov/cgi-progs/products/PLOT_ESI.pdf

San Joaquin Precipitation: 5 Station Index



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

Tulare Basin Precipitation: 6 Station Index



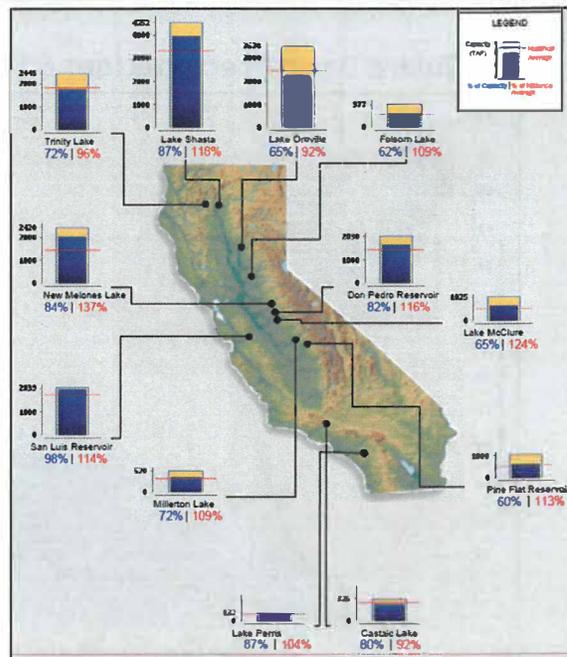
California Data Exchange Center
http://cdec.water.ca.gov/cgi-progs/products/PLOT_TSI.pdf

Comparison of SWP Water Storage

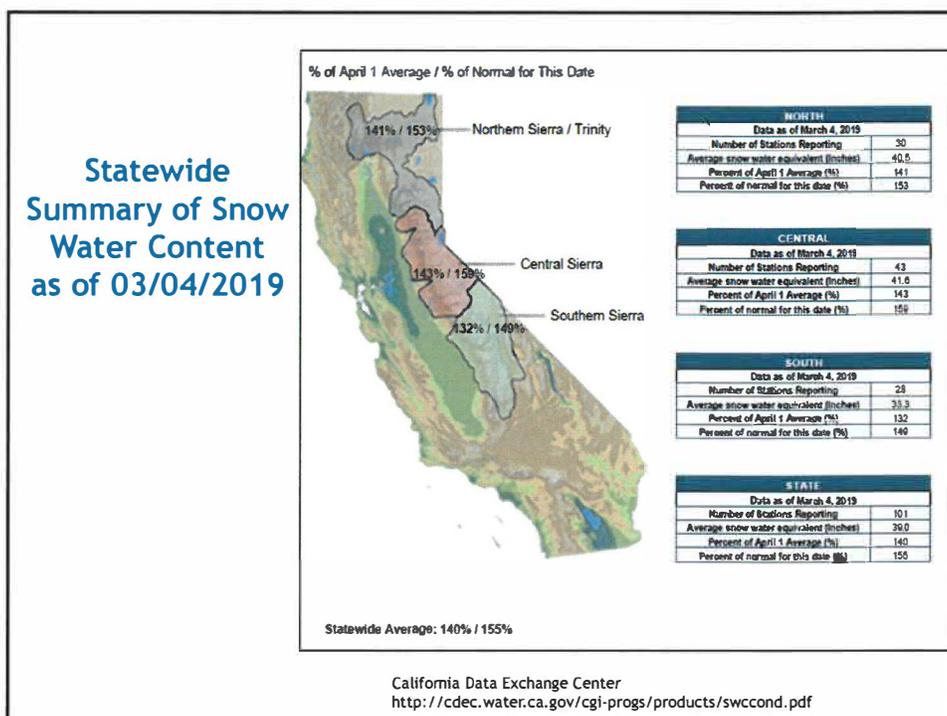
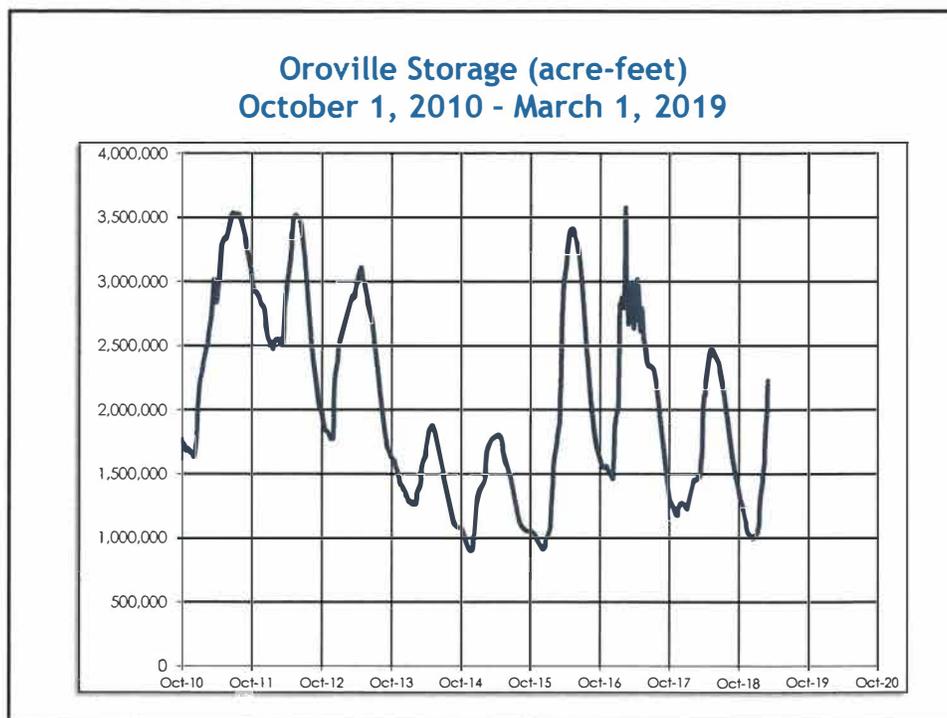
Reservoir	Capacity	2018 Storage (acre-feet)		2019 Storage (acre-feet)	
		As of Mar 1	% of Cap.	As of Mar 1	% of Cap.
Frenchman	55,475	44,609	80%	44,692	81%
Lake Davis	84,371	69,633	83%	68,080	81%
Antelope	22,564	17,556	78%	16,352	72%
Oroville	3,553,405	1,464,226	41%	2,231,018	63%
TOTAL North	3,715,815	1,596,024	43%	2,360,142	64%
Del Valle	39,914	25,886	65%	39,491	99%
San Luis	2,027,835	1,542,694	76%	1,987,190	98%
Pyramid	169,901	165,777	98%	154,636	91%
Castaic	319,247	262,777	82%	259,419	81%
Silverwood	74,970	71,768	96%	62,446	83%
Perris	126,841	59,049	47%	114,012	90%
TOTAL South	2,758,708	2,127,951	77%	2,617,194	95%
TOTAL SWP	6,474,523	3,723,975	58%	4,977,336	77%

As of February 20, 2019, the Table A allocations for SWP contractors is 35%.

Reservoir Current Conditions as of 03/04/2019



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



Dear _____

The designated representatives of the seven States of the Colorado River Basin collectively seek your support in promptly securing legislation to implement necessary actions in the Colorado River Basin in order to respond to the historic drought and ongoing dry conditions in the Basin.

The Colorado River provides water to approximately 40 million people and 5.5 million acres of irrigated agriculture in the Upper Basin (Colorado, New Mexico, Utah and Wyoming) and Lower Basin (Arizona, California and Nevada). Since 2000, the Basin has experienced historically dry conditions and combined storage in Lakes Powell and Mead has reached its lowest level since Lake Powell initially began filling in the 1960s. Last year's runoff into the Colorado River was the second lowest since 2000 and there is no sign that the dry conditions will end any time soon. Lakes Powell and Mead could reach critically low levels as early as 2021 if conditions do not significantly improve. Declining reservoirs threaten water supplies that are essential to the economy, environment, and health of the Southwestern United States.

Working together, the seven Basin States have developed drought contingency plans that are reflected in the agreements attached to this letter. It is our hope that federal legislation can be finalized as soon as possible allowing the attached agreements to be executed as written and implemented in 2019. To that end, the seven Basin States respectfully seek your support in adopting the following federal legislation (below and attached) that would authorize and direct the Secretary of the Interior to sign and implement the agreements upon execution by the non-federal parties:

SEC. ___ COLORADO RIVER BASIN DROUGHT CONTINGENCY PLANS

(a) Notwithstanding any other provision of law, upon execution of the February 4, 2019, versions of the Agreement Concerning Colorado River Drought Contingency Management and Operations and the agreements attached thereto as Attachments A1, A2 and B, by all of the non-federal parties thereto, the Secretary of the Interior shall, without delay, execute such agreements and is directed and authorized to carry out the provisions of such agreements and operate applicable Colorado River system reservoirs accordingly.

This legislation, allowing the implementation of the agreements, will assist in reducing the probability that Lakes Powell and Mead will decline to critically low elevations, and will simultaneously mitigate the risk of intra- or interstate litigation that could lead to years of destabilizing conflict in the most arid part of our Nation. Adoption of federal legislation and subsequent implementation of the agreements would ensure that prompt action is taken to enhance conservation of Colorado River water and provide us with water management tools necessary to address a looming crisis.

Given the urgent need for action, we are seeking your support to adopt federal legislation as soon as possible, so that the agreements can be executed and implemented as soon as the respective authorized officials and governing bodies in the Basin States have acted. Our goal is to have authorizing legislation in place such that the seven Basin States can execute the drought contingency plan agreements no later than April 1, 2019.

Over the past quarter century, the seven Basin States have worked together to better manage and share the waters of the Colorado River. We stand ready to provide additional information and background on the need for and the benefits of the drought contingency plan agreements, and to further explain the need for immediate legislative action.

We appreciate your support in advancing this federal legislation and request your prompt action in this critical effort.

Respectfully,



Colorado River Basin SALINITY CONTROL FORUM

GOVERNORS

Doug Ducey, AZ
Gavin Newsom, CA
Jared Polis, CO
Steve Sisolak, NV
Michelle Lujan Grisham, NM
Gary R. Herbert, UT
Mark Gordon, WY

FORUM MEMBERS

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Clint Chandler
Krista Osterberg
Suzanne Ticknor

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Tanya Trujillo

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Rebecca Mitchell
Pat Pfaltzgraff
David W. Robbins

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John J. Entsminger
Jayne Harkins
Jason King

New Mexico

Tom Blaine
Trais Kliphuis

Utah

James Harris
Eric Millis, Chair
Gawain Snow

Wyoming

Chad Espenscheid
Patrick T. Tyrrell
David Waterstreet

MEMORANDUM 2019-06

TO: Forum Members

FROM: Don A. Barnett, Executive Director

SUBJECT: Paradox Earthquake - March 4, 2019

DATE: March 6, 2019

For those of you who didn't know otherwise, on Monday morning Paradox had a 4.1 magnitude earthquake. (It was initially thought to be higher than this.) The epicenter was fairly close to the brine injection well. At the time that the earthquake occurred, the injection well was down for maintenance. Following their procedures, Reclamation will now leave the well off for a period of time while they make an evaluation of the earthquake and determine if, and if so, under what injection rate and schedule operations should resume.

Attached hereto is a press release from Reclamation regarding the earthquake. Obviously, this heightens our anxiousness to complete the EIS process and select and implement a replacement brine disposal alternative. The Work Group will be meeting next month and will hear additional reports, and I am sure that Paradox will be an important topic on the June Forum meeting agenda.

We will provide you updates as information becomes available.

Attachment

cc: Work Group, Federal Salinity Coordinators

EXECUTIVE DIRECTOR

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News & Multimedia

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NEWS & MULTIMEDIA

Earthquake reported at the Paradox Valley Salinity Control Facility

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For Release: March 04, 2019

GRAND JUNCTION, COLO. – The U.S. Geological Survey reported that an earthquake occurred at 10:22 a.m. MST, on Monday, March 4, 2019, near Reclamation’s Paradox Valley Salinity Control Facility near Bedrock, Colorado. Reclamation maintains a comprehensive network of seismic monitoring instruments in the area, which indicated a preliminary magnitude 4.1 for this earthquake. The quake was felt by employees at the Reclamation facility and residents in surrounding areas.

The Paradox Valley Salinity Control Facility injects highly pressurized, concentrated salt water (brine) into a 16,000-foot-deep well, preventing the brine from entering the Dolores River. The well was not operating at the time of the earthquake due to routine maintenance. Operations will not resume until Reclamation completes a thorough assessment of the situation.

High-pressure brine injection has been known to trigger small earthquakes in the past, and today's event was within the range of previously induced earthquakes. Reclamation's seismic network in the area monitors the location, magnitude and frequency around the Paradox Valley Salinity Control Facility. Reclamation will continue using that network to monitor earthquakes in the area.

The Paradox Valley Salinity Control Facility substantially benefits downstream water quality in the Colorado River Basin, and helps the United States meet treaty obligations with Mexico for allowable salinity levels in the river. Historically, the Dolores River picked up an estimated 205,000 tons of salt annually as it passed through the Paradox Valley. Since the mid-1990s much of this salt has been collected by the Paradox Valley Salinity Control Unit in shallow wells along the Dolores River and then injected into deep subsurface geologic formations. The deep well injection program removes about 95,000 tons of salt annually from the Dolores and Colorado rivers.

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