

December 30, 2015

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

**NOTICE IS HEREBY GIVEN** pursuant to the call of the Chairperson, Dana B. Fisher, Jr., 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, January 13, 2016  
Time: 10:00 am  
Place: Vineyard Room  
Holiday Inn Ontario Airport  
2155 Convention Center Way  
Ontario, CA 91764  
Tel: (909) 212-8000

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. Dana B. Fisher, Jr., Chairperson, Colorado River Board of California, 770 Fairmont Avenue, Suite 100, Glendale, California, 91203-1068.

An Executive Session may be held in accordance with 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 in accordance with 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.

Requests for additional information may be directed to: Ms. Tanya M. Trujillo, 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](http://www.crb.ca.gov).

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

attachment: Agenda

Tanya M. Trujillo  
Executive Director

Regular Meeting  
COLORADO RIVER BOARD OF CALIFORNIA  
Wednesday, January 13, 2016  
10:00 a.m.

Vineyard Room  
Holiday Inn Ontario Airport  
2155 Convention Center Way  
Ontario, CA 91764

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 as required by Government Code, Section 54954.3(a) (limited to 5 minutes)
3. Administration
  - a. Consideration and approval of the Minutes of the meetings held on December 16, 2015 (**Action**)
4. Colorado River Basin Water Reports
  - a. Reports on current reservoir storage, reservoir releases, projected water use, and forecasted river flows
  - b. State and Local Water Reports
5. Update regarding the California Drought
6. Staff Reports regarding the Colorado River Basin Programs
  - a. Review status of the Basin States Drought Contingency Programs
    - Presentation regarding ongoing Basin States discussions
  - b. Review status of the Colorado River Basin Water Supply and Demand Study
    - Presentation regarding Southern California area Basin Studies
  - c. Review status of the implementation of Minute 319 and preparation for Minute 32x
  - d. Review status of the Salinity Control Forum, Workgroup, and Advisory Council
  - e. Review status of the Glen Canyon Dam Adaptive Management Work Group and Long-Term Experimental and Management Plan EIS
  - f. Review Status of the Lower Colorado River Multi-Species Conservation Program
7. Announcements/Notices
8. 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.

9. Other Business

a. Next Board Meeting:

February 10, 2016

10:00 a.m.

Coachella Valley Water District

Steve Robbins Administration Building

Board Room

75-515 Hovley Lane East

Palm Desert, CA 92211

(760) 398-2651

Minutes of Meeting  
COLORADO RIVER BOARD OF CALIFORNIA  
Wednesday, December 16, 2015

A meeting of the Colorado River Board of California was held on Wednesday, December 16, 2015, in Las Vegas, Nevada.

Board Members and Alternates Present

Dana Bart Fisher, Jr., Chairman	Jack Seiler
Stephen Benson	Michael Touhey
Brian Brady	Doug Wilson
Henry Kuiper	Chris Hayes and David Vigil, Designees
Peter Nelson	Department of Fish and Wildlife
Glen Peterson	Jeanine Jones, Designee
David Pettijohn	Department of Water Resources
John Powell, Jr.	

Board Members and Alternates Absent

James Hanks	Henry Kuiper
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Others Present

Steve Abbott	Larry Fleming	Mike Pacheco
Don Barnett	Christopher Harris	Larry Purcell
Connie Beshears	Bill Hasencamp	Randy Record
James Bodnar	Michael Hughes	Elsa Saxod
Vikki Dee Bradshaw	Ned Hyduke	Augie Scalzitti
Daniel Bunk	David De Jesus	Joel Scalzitti
John Carter	Ted Kowalski	Marcia Scully
Robert Cheng	Robert Krieger	Rob Skordas
Michael Clinton	Ramsey Kropf	Rodney Smith
Michael Cohen	Estevan Lopez	Tanya Trujillo
Dan Denham	Jan Matusak	Jack Vessey
Ron Derma	Jennifer McCloskey	Meena Westford
Karen Donovan	John Morris	Mark Weston
Craig Elmore	Jessica Neuwerth	Michael Yu
John Fleck	Vic Nguyen	Dee Zinke

**CALL TO ORDER**

Chairman Fisher announced the presence of a quorum and called the meeting to order at 3:10 pm.

**OPPORTUNITY FOR THE PUBLIC TO ADDRESS THE BOARD**

Chairman Fisher introduced Department of the Interior Assistant Secretary for Water and Science, Ms. Jennifer Gimbel, and Bureau of Reclamation Commissioner, Mr. Estevan Lopez, and asked if they would like to make any remarks to the Board.

Assistant Secretary Gimbel remarked that it has been a very busy year in the Colorado River Basin. She indicated that Deputy Secretary of Interior, Mike Connor, was going to highlight much of the work that had been accomplished during his keynote address on Friday. She pointed out that the Department and the Basin States continue to work diligently on the system conservation program, binational issues with Mexico, as well as the on-going California drought and Salton Sea issues.

Ms. Gimbel indicated that the Department recently created the National Resources Finance Center. The center is intended to provide financial expertise help with the development of water projects and related infrastructure, as well as rehabilitation and maintenance.

Reclamation Commissioner Estevan Lopez reported that Reclamation continues to work closely with the Basin States in managing the Colorado River System in light of the on-going drought. He highlighted the excellent cooperation and collaboration among the states in the context of the system conservation pilot program, the on-going Minute 32x binational discussions, as well as the difficult challenges in California with the Bay-Delta, the drought, and the Salton Sea. Commissioner Lopez stated that Reclamation looks forward to continuing its excellent relationship with California water users in addressing these challenges in the next year.

## **ADMINISTRATION**

### Consideration and Approval of the Minutes

Mr. Peterson moved that the November 18, 2015 meeting minutes be approved, seconded by Ms. Jones. Upon receipt of clarifications to Board comments, the November 18, 2015 meeting minutes were approved.

### Consideration 2016 Board Meeting Schedule

Chairman Fisher reviewed the proposed 2016 Board meeting schedule to periodically travel to various agency venues through 2016. Ms. Trujillo noted that Board staff will be working with the Los Angeles Department of Water and Power on a tour of the Department's Owens Valley facilities in conjunction with the Board's monthly meeting. Mr. Wilson moved that the 2016 Board Meeting schedule be adopted, and Mr. Pettijohn seconded the motion. By unanimous support, the 2016 Board Meeting Schedule was adopted.

## **COLORADO RIVER BASIN "YEAR IN REVIEW" WATER REPORTS**

### Colorado River Basin Water Reports and State and Local Water Reports

Executive Director Trujillo gave a brief overview of hydrology for Water Year 2015. She pointed out that it had been unique in that the fall and winter months in the Colorado River Basin were well below normal, from a precipitation perspective, but that the late-Spring was well above normal, with some areas in the Basin receiving between 200-400% of normal amounts of precipitation. The end result was that the inflow into Lake Powell reached about 94% of average by the end of the Water Year.

Ms. Trujillo briefly reviewed the status of the combined reservoir system over the past 15 years, with system being essentially full in 2000, and by 2015, the contents of Lake Mead were at the lowest levels since Hoover Dam was constructed. Ms. Trujillo also reported, based upon the 2007

Guidelines, that there would be no Lower Basin shortage in 2016, but there is an 18% chance of the first tier of shortage in 2017. Vice-Chair Wilson asked if these probability projections included the potential influences of a strong El Nino winter period. Ms. Trujillo indicated that the Colorado Basin River Forecast Center and Reclamation utilize available climatic and hydrologic data and projections in developing forecasts and in modeling analyses.

Ms. Trujillo provided an overview of the current water supply and hydrologic conditions in the Basin. She reported that as of December 7, 2015, the water level at Lake Mead was at 1,078.87 feet with 9.92 million acre-feet of storage, or 38% of capacity. The water level at Lake Powell was at 3,604.67 feet with 12.20 million acre-feet of storage, or 51% of capacity. As of December 6, 2015, the total system storage was at 29.86 million acre-feet, or 50% of capacity, which is 142,000 acre-feet more than this time last year. As of December 6, 2015, the Upper Colorado River Basin reservoirs, other than Lake Powell, ranged from 63% of capacity at Fontenelle Reservoir to 88% of capacity at Flaming Gorge Reservoir in Wyoming, 79% of capacity at Blue Mesa in Colorado and 82% of capacity at Navajo in New Mexico. The observed unregulated inflow into Lake Powell for October and November has been 94% of average, and Upper Basin snowpack is currently estimated to be 89% of average.

Ms. Trujillo indicated that Lower Basin water use forecasts continue to reflect decreased water uses by irrigation districts in California and Arizona, and all three states are projected to use a total of 7.3 million acre-feet out of a normal apportionment of 7.5 million acre-feet. Pursuant to the System Conservation Pilot Program, approximately 17,000 acre-feet of water from Arizona (7,000 from Yuma Mesa and 10,080 from the Tohono O'Odham Nation and approximately 7,500 acre-feet of water from Nevada is scheduled to be left in Lake Mead for 2015.

With respect Treaty deliveries and regulatory storage, Ms. Trujillo reported that as of December 7, 2015, deliveries to Mexico are forecast to be 16,335 acre-feet above the 1.5 million acre-feet Treaty obligation, and the amount of water forecasted to be conveyed to Mexico through the Wellton-Mohawk bypass drain pursuant to Minute 242 is 138,232 acre-feet. As of December 4, 2015, storage at Brock Reservoir had been 132,866 acre-feet and there had been 105,060 acre-feet of storage in Senator Wash Reservoir.

Ms. Trujillo reported that the Colorado River Basin Forecast Center held a webinar on December 10 to discuss the "2016 Water Supply – Early Season" forecast. Although it is still early in the season, the snowpack is currently below average. The Forecast Center outlined changes to its reporting process that will be utilized for the remainder of the season. The next briefing will be held on January 7, 2016 with follow up sessions scheduled monthly through May.

Ms. Trujillo provided the Board with an update on the current status of the California drought. She presented the latest National Drought Monitor map indicating that as of December 1, 2015, 44% of the State continues to be in the "exceptional drought" category of drought and that reservoir levels continue to be well below average. In December 2015, 55% of the State was in the exceptional drought category.

Ms. Trujillo also reported that on December 7, 2015, the State Water Resources Control Board held a workshop to receive input on how to improve the implementation of the Governor's 25% urban conservation mandate. The current conservation requirements were set to expire on February 13, 2016, but the Governor's November 13, Executive Order has extended the mandatory water use reductions through October 31, 2016 depending on precipitation and other factors. Some suggested changes to the current conservation rules included: adjusting the 2013 baseline water use to account for recent population growth; giving agencies "credit for drought-resilient water supplies", such as desalination or

potable reuse; introduction of voluntary programs allowing agencies to work together to target and achieve conservation goals; and adjusting conservation targets in response to recycled water use.

Jeanine Jones provided a brief overview of the State's hydrologic conditions and indicated the State is planning for above average precipitation events throughout much of the State. Ms. Jones indicated that the typical El Nino pattern tends to shift much of the winter precipitation into the latter portion of the season. Ms. Jones reported that there is close coordination between the State and Federal water projects to ensure that water conditions for salmonid species can be maintained. She noted that the Department had set an initial State Water Project allocation of 10%.

Mr. Peterson, of the Metropolitan Water District of Southern California, indicated that Lake Mathews is nearly full, and that the Colorado River Aqueduct is currently on a seven-pump flow. He also reported that due to the recent warm weather, the amount of conservation has declined slightly, but now that it is becoming cooler MWD anticipates that trend will reverse somewhat. Mr. Peterson noted the recent acquisition of significant acreage within the Palo Verde Irrigation District, and stated that MWD continues to work diligently on being a collaborative partner, and looks forward to maintaining that relationship in the future.

Board Member Pettijohn provided an overview of the 2015 Water Year for the City of Los Angeles, which was essentially the driest year of record. He indicated that while the season is early, it looks like the current precipitation in the Eastern Sierra seems to be tracking the El Nino year of 1997-1998. Mr. Pettijohn reported that the City has had a mandated conservation goal of 16% and that the City has met that goal each month, with the exception of last month where it was slightly under the goal. He reported that the City is preparing a recommendation for the City Council to reduce outside watering to two days per week, at 8 minutes per station. Mr. Pettijohn reported that the City, through its turf replacement program, has removed 27 million square feet of turf within Los Angeles, which is more than half of the total amount of turf removal requested by Governor Brown statewide. Mr. Pettijohn indicated that the current total gallons-per-capita-per-day water use in the City has declined to 180 gpcd; and that strictly residential use is down to 73 gpcd.

Board Member Wilson, reporting on behalf of the San Diego County Water Authority, indicated that the new Poseidon Carlsbad Desalination Plant was dedicated and opened on December 14. The plant at full operation will be able to produce 50,000 acre-feet annually and can meet approximately 8-10% of the County's water supply needs. He reported that the County conservation goal is 20%, but that the County continues to do better than that and is at about 24% currently. Mr. Wilson also indicated that raising San Vicente Dam has been an important component in the County's ability to store additional water supplies.

Chairman Fisher reported on activities in the Palo Verde Irrigation District. He indicated that General Manager Ned Hyduke replaced Mr. Ed Smith upon Mr. Smith's retirement. He also acknowledged the recent MWD land purchase in the Palo Verde Valley. Chairman Fisher also stated that currently MWD is following the maximum amount of district lands under the terms of the agreement at 29%, providing MWD with more than 100,000 acre-feet of Colorado River water. Chairman Fisher also reported that PVID has acquired the title to the diversion dam from the Bureau of Reclamation and stated that PVID is in the process of replacing the three large radial gates on the diversion dam which are more than 40 years old and could fail if not replaced.

Board Member Peter Nelson, representing the Coachella Valley Water District, reported that CVWD continues to work toward meeting the state-mandated Chromium-6 standard of no more than 10 parts-per-billion in its water supplies. He indicated that it may end up costing CVWD's rate-payers about \$250 million to meet this water quality standard. Mr. Nelson also stated that

CVWD was continuing to develop its system conservation program proposals and that although CVWD has not yet been able to meet the state conservation goal of 36%, it is doing better than the Governor's overall statewide goal of 25%. He reported that the tiered rate structure, in place since 2009, has been of great assistance in helping to reduce overall water use throughout the district. Mr. Nelson stated that CVWD's turf removal program has resulted in the removal of more than 6 million square feet of turf within the district.

Board Member Stephen Benson, Board President of the Imperial Irrigation District, thanked the Colorado River Board for coming to the Imperial Valley for its November Board meeting. Mr. Benson reported that IID has over-conserved approximately 45,000 acre-feet through its fallowing program, and is looking to store that conserved water in either Lake Mead or MWD's system. He stated that IID may pre-deliver water to Salton Sea this year. Mr. Benson described IID's current on-farm efficiency conservation program, and indicated that there are over 1,000 applications for participation in the program. Mr. Benson noted the progress in developing a Salton Sea management solution and indicated that the significant geothermal resources in and around the Salton Sea may be a significant catalyst to developing, implementing, and helping to fund long-term management at the Salton Sea. He reported that there are approximately 10,000 acres of solar energy development in the Imperial Valley, and over 20,000 acres of solar energy development across Imperial County.

Mr. Benson reported that Mr. Bruce Wilcox is now the Salton Sea Manager for the Natural Resources Agency, and that he has been tasked with coordinating all of the efforts to develop both short- and long-term management options for the Salton Sea. Mr. Benson stated that the State has put together a Salton Sea taskforce that continues to meet with stakeholders.

Board Member Jeanine Jones, of the Department of Water Resources, reported that there have been numerous Emergency Proclamations and Executive Orders related to the on-going drought, the comprehensive groundwater management legislation was enacted in 2014, and the new water bond is going forward. She noted the significant work that continues with respect to a long-term management plan for the Bay-Delta.

Board Member Christopher Hayes, with the California Department of Fish and Wildlife, reported that the Department continues to work closely with Reclamation and the California LCR MSCP participants in identifying and acquiring appropriate land parcels for habitat restoration through the LCR MSCP. He also indicated that the drought has led to a significant increase in "nuisance wildlife encounters" with people and in more urban areas. Mr. Hayes reported that the Department has been working to help streamline various environmental compliance obligations which can allow various jurisdictions to respond more quickly with emergency or infrastructure repairs during not only the drought but also during periods of flooding.

## **"YEAR IN REVIEW" UPDATES REGARDING COLORADO RIVER BASIN PROGRAMS**

### Review Status of the Basin States Drought Contingency Programs

Ms. Trujillo reported to the Board about the ongoing drought contingency planning efforts that focus on voluntary contributions of water to be stored in Lake Mead and started in 2013 based on seeing two years of the worst hydrology on record within the Colorado River Basin. At that time, the then new Secretary of the Interior, Sally Jewell, asked the Basin States to think about drought contingency planning efforts and to pull together additional tools that could build off of the existing, successful programs already in place within the Basin. Those discussions have continued for three years, and resulted in the Memorandum of Understanding being finalized in the Lower Basin last

December. During the past year, the discussions have continued and have focused on additional measures that might be able to build Lake Mead elevations. An issue for California has been to identify what the operational rules will be if we see low reservoir elevations reached, including the rules for recovery of Intentionally Created Surplus water that had been conserved out of a prior year's allocation. Ms. Trujillo emphasized that the discussions among the states were still very preliminary and that no decisions had been made regarding any specific actions. Chairman Fisher noted that the negotiations for the 2007 Interim Guidelines did not include details relating to low reservoir levels, but as the hydrology has progressed since then, there is a worry that the reservoir levels could drop very quickly, so it makes sense to start discussions with the other states about how to prevent Lake Mead from reaching the critically low elevations that could result in insufficient supplies available to meet Lower Basin demands.

The drought contingency planning efforts also include the System Conservation Program initiated last year that currently is targeted to generate up to 30,000 acre-feet of system water, efforts to reduce the amount of bypass flows to Mexico that the US does not get credit for under the 1944 Treaty delivery obligations, and other efforts Reclamation can take to conserve approximately 100,000 acre-feet of water annually. Ms. Trujillo noted that the Weather Modification Program is another example of a multistate project that is designed to generate system water. Ms. Trujillo added that the program demonstrates good coordination amongst the two Basins and within the Lower Basin.

#### Review Status of the Colorado River Basin Water Supply and Demand Study

Ms. Trujillo reported that Reclamation released the Phase 1 report of Moving Forward effort in April 2015. Phase 2 of the Moving Forward effort is anticipated to include the selection and development of a few pilot projects. Ms. Trujillo noted that the program demonstrates good collaboration amongst the Basin States, NGO's and Reclamation. Ms. Trujillo noted that a Tribal Basin Study is underway as well. Mr. Benson asked whether climate change hydrology had been included in the Basin Study's analysis, and Ms. Trujillo explained that the Basin Study analyzed a range of hydrology and included climate change scenarios in addition to the historical hundred-year look back-type of modeling that has been done in the past. She noted that the study included various assumptions on both the demand and supply sides of the analysis and that the conditions were always changing.

Mr. Nelson reported that the Southwest California Regional Basin Study was released in early December and that the report evaluates the supply and demand in Borrego, Coachella and Imperial Valleys.

#### Review Status of the implementation of Minute 319 & 32X

Ms. Trujillo reported that a workgroup process is underway to evaluate the implementation of Minute 319, which is a five-year pilot program, and to determine what elements of the Minute may be able to be extended or duplicated through a subsequent Minute. The three primary workgroups cover projects, environmental flows and salinity. The projects group looks at potential projects in Mexico to conserve water either for the system or through a funding agency relationship. The environmental flows workgroup had a tour in March of some of the restoration areas and high salinity, which is the same issue that U.S. also deals with as well. Ms. Trujillo reported that the Mexican Delegation's perspectives on the negotiations would be presented during the CRWUA Program on Friday.

#### Review Status of the Salinity Control Forum, Workgroup, and Advisory Council

Ms. Trujillo noted that Don Barnett gave an overview of the Paradox EIS process and other activities with the Salinity Control Forum at the previous December meeting and we could plan for another similar report for December 2016. Ms. Trujillo is currently the Vice Chair of the Salinity Control Program and will be moving into the President/Chair role for the next two years. Ms. Trujillo stated she appreciates the importance of this program for the California water users' perspective and looks forward to working with Don and the other Basin States, and the Bureau of Reclamation and the USGS folks on the various science elements that keep the program running successfully.

Ms. Trujillo noted some of the ongoing issues that are being addressed through the program, including the potential cost-share funding imbalance, which will have to be addressed through a legislative fix. Ms. Trujillo noted that, in addition to the on-farm programs that have been the focus in the Upper Basin, the Pah Tempe Springs location in Utah is a potential point-source area that could be developed to control salinity in a manner similar to the Paradox project.

#### Review Status of the Glen Canyon Dam Adaptive Management Work Group and Long-Term Experimental and Management Plan EIS

Ms. Trujillo reported that the public draft of the Long-Term Experimental and Management Plan EIS is expected to be released on January 8 which will be carefully reviewed and will be an opportunity to examine the balancing that happens within the Grand Canyon reach of the river among various management priorities. As was previously reported, the Department of the Interior did not hold a High Flow Experiment (HFE) in 2015 due to concerns over an invasive green sunfish population that had recently established below Glen Canyon Dam. Ms. Trujillo noted that USGS has reported that the population is believed to have been eliminated as a result of electrofishing or poisoning.

#### Review Status of the Lower Colorado River Multi-Species Conservation Program

Ms. Trujillo reported that the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) had celebrated its ten year anniversary in April, 2015 and continues to be an excellent example of a successful multi-state, multi-species conservation program.

Deputy Director Harris reported that LCR MSCP partners are working to complete the identification and potential acquisition of lands needed in California in satisfaction of the CESA 2081 permit. Mr. Harris also acknowledged Mr. Larry Purcell, of the San Diego County Water Authority who would be retiring at the end of the month after 25 years and thanked Mr. Purcell for his many important contributions to the LCR MSCP.

#### Additional 2015 Colorado River Board Highlights

Ms. Trujillo reported that over the last year, the Board had heard several presentations on issues of importance in the Basin, including presentations from Reclamation managers regarding the invasive quagga mussels and hydropower issues at Hoover Dam. Ms. Trujillo reported that Board staff continues to monitor the progress of the Californian Desert Renewable Energy Conservation EIS, which includes the potential development of solar projects that may seek to be served with Colorado River water from the Colorado River Water Supply Project. The Board has also heard updates regarding water quality issues such as the recent Gold King Mine spill in southeastern Colorado. Mr. Benson inquired whether there was data available on Colorado River water quality that could address concerns raised by the Gold King Mine spill. Ms. Trujillo noted that Reclamation finalized a report on the impacts of the spill, but that more information on general water quality could be developed for a future Board meeting.

Ms. Trujillo reported that continued collaboration among stakeholders on matters such as the QSA implementation and 2007 Interim Guidelines implementation would be critical. Ms. Trujillo noted that Congressional issues had been raised in 2015 that required coordination with California's Congressional delegation and the other Basin States based on advocacy from Arizona's Senator Jeff Flake. Senator Flake had proposed legislative language that would alter the Supreme Court decree in *Arizona v. California* and other elements of the long-standing Law of the River without having the support of the other Basin States, which was contrary to the standard practice within the Basin of developing a consensus among the States prior to asking for legislative adjustments.

## **ANNOUNCEMENTS**

Ms. Trujillo reported that the State Water Resources Control Board will hold a workshop on January 5 relating to Salton Sea issues, and will accept comments regarding the workshop through December 30. The workshop will include reports from various agencies on Salton Sea-related activities. Ms. Trujillo reiterated many of the highlights noted by Mr. Benson regarding the progress that has occurred on Salton Sea issues over the past year.

Mr. Wilson thanked Reclamation Commissioner Lopez for his recent visit to the Padre Dam Advanced Water Purification Project.

## **ADJOURNMENT**

With no further items to be brought before the Board, Chairman Fisher asked for a motion to adjourn the meeting. Upon the motion of Mr. Nelson, seconded by Mr. Pettijohn, and unanimously carried, the meeting was adjourned at 4:57 pm.



Jan 05, 2016

## LOWER COLORADO WATER SUPPLY REPORT

River Operations  
Bureau of Reclamation

Questions: [BCOOWaterops@usbr.gov](mailto: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	48%	11,760	3600.10	14,400
* LAKE MEAD	39%	10,116	1081.26	10,100
LAKE MOHAVE	88%	1,584	638.75	8,900
LAKE HAVASU	92%	568	447.39	3,200
TOTAL SYSTEM CONTENTS **	50%	29,579		
As of 01/04/2016				
SYSTEM CONTENT LAST YEAR	50%	29,579		
* Percent based on capacity of 26,120 kaf or elevation 1219.6 feet.				
** TOTAL SYSTEM CONTENTS includes Upper & Lower Colorado River Reservoirs, less Lake Mead exclusive flood control space.				
Salt/Verde System	51%	1,160		
Painted Rock Dam	0%	0	535.13	0
Alamo Dam	5%	52	1,087.62	10
Estimated Actual Water Use for Calendar Year 2015 (as of 01/04/2016) (values in kaf)				
NEVADA			222	
SOUTHERN NEVADA WATER SYSTEM				197
OTHERS				26
CALIFORNIA			4,585	
METROPOLITAN WATER DISTRICT OF CALIFORNIA				1,175
IRRIGATION DISTRICTS				3,272
OTHERS				138
ARIZONA			2,618	
CENTRAL ARIZONA PROJECT				1,514
OTHERS				1,104
TOTAL LOWER BASIN USE				7,426
DELIVERY TO MEXICO - 2015 (Mexico Scheduled Delivery + Preliminary Yearly Excess <sup>1</sup> )				1,515
OTHER SIGNIFICANT INFORMATION				
UNREGULATED INFLOW INTO LAKE POWELL - JANUARY FINAL FORECAST DATED 01/05/2016				
		MILLION ACRE-FEET	% of Normal	
FORECASTED WATER YEAR 2016		9.648	89%	
FORECASTED APRIL-JULY 2016		6.400	89%	
DECEMBER OBSERVED INFLOW		0.294	81%	
JANUARY INFLOW FORECAST		0.310	86%	
		Upper Colorado Basin	Salt/Verde Basin	
WATER YEAR 2016 PRECIP TO DATE		104% (9.5")	121% (9.3")	
CURRENT BASIN SNOWPACK		107% (7.5")	90% (2.6")	

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

**U.S. BUREAU OF RECLAMATION  
LOWER COLORADO REGION  
CY 2015**

ARIZONA, CALIFORNIA, NEVADA, MEXICO  
FORECAST OF END OF YEAR CONSUMPTIVE USE  
FORECAST BASED ON USE TO DATE AND APPROVED ANNUAL WATER ORDERS<sup>1</sup>  
(ACRE-FEET)

**WATER USE SUMMARY**

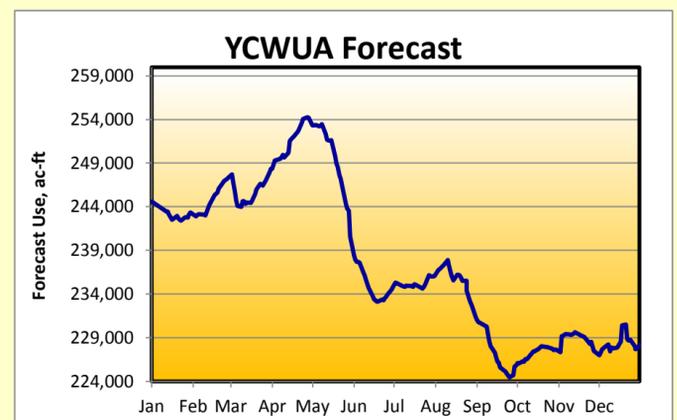
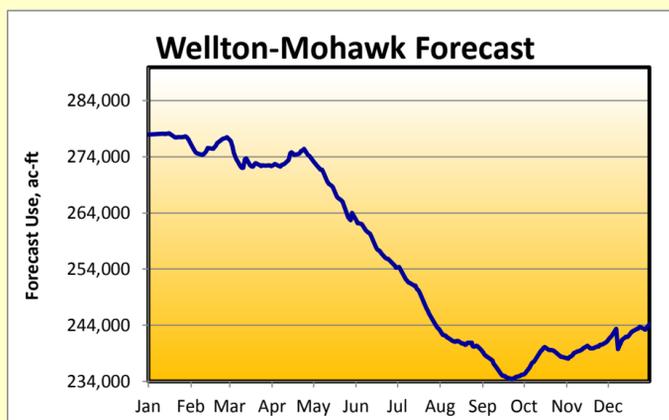
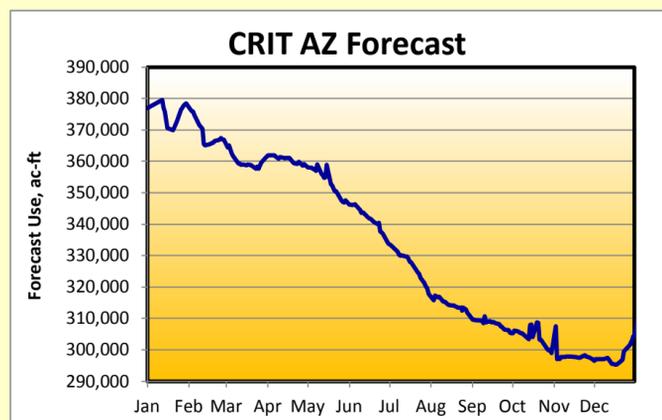
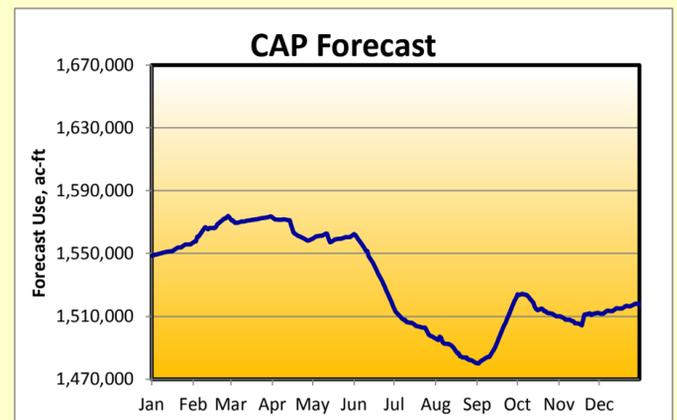
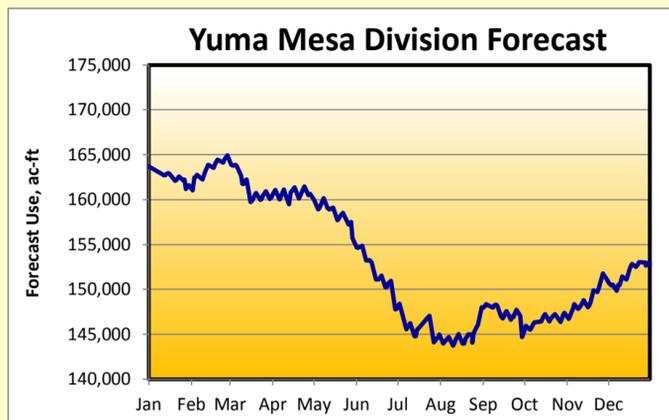
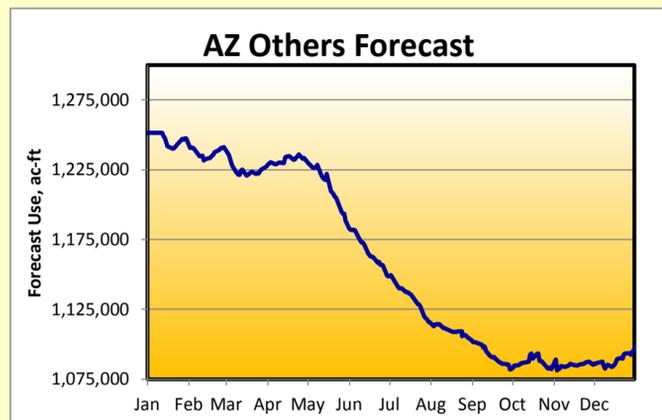
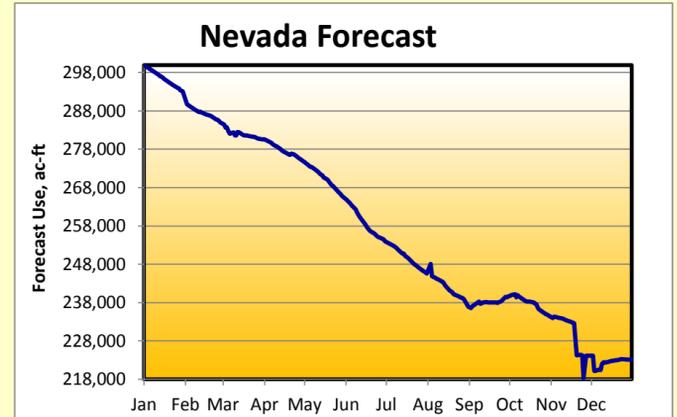
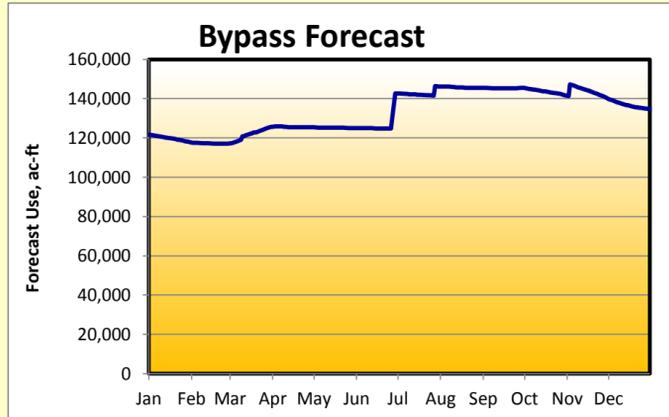
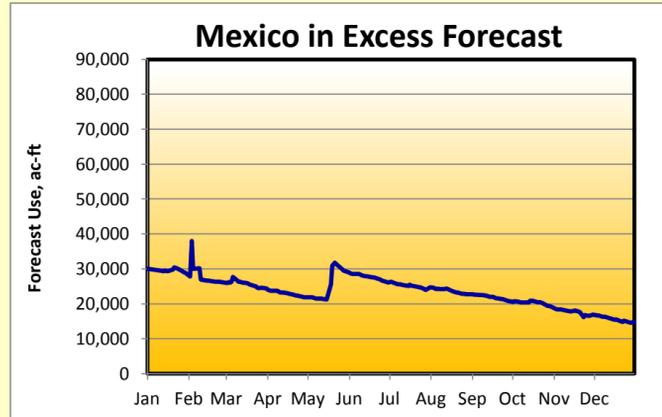
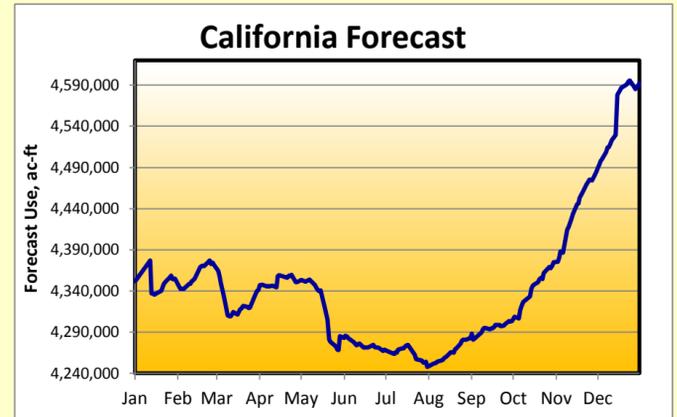
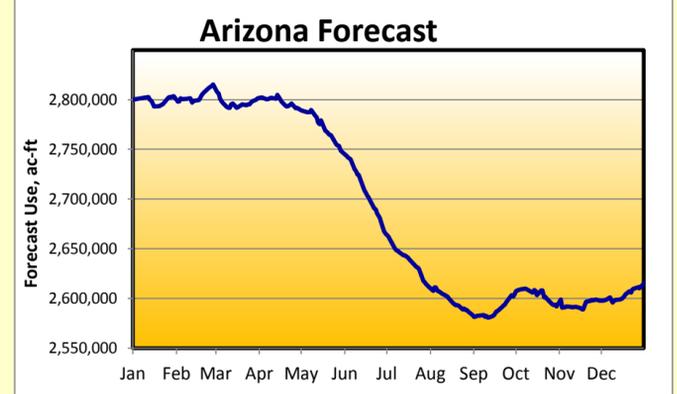
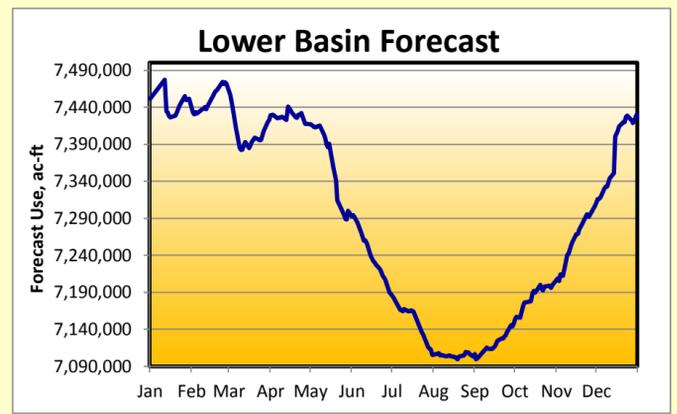
	Use To Date CY2015	Forecast Use CY2015	Approved Use <sup>2</sup> CY2015	Excess to Approval CY2015
ARIZONA	2,617,856	2,617,856	2,782,755	-164,899
CALIFORNIA	4,615,420	4,585,252	4,585,252	0
NEVADA	222,424	222,424	375,000	-152,576
<b>STATES TOTAL<sup>3</sup></b>	<b>7,455,700</b>	<b>7,425,532</b>	<b>7,743,007</b>	<b>-317,475</b>
MEXICO IN SATISFACTION OF TREATY (Including downward delivery) TO MEXICO AS SCHEDULED	1,514,846 1,500,004	1,514,922 1,500,000	1,500,000	<b>14,922</b>
MEXICO IN EXCESS OF TREATY BYPASS PURSUANT TO MINUTE 242	14,842 134,244	14,922 134,652		
<b>TOTAL LOWER BASIN &amp; MEXICO</b>	<b>9,104,790</b>	<b>9,075,106</b>		

1/ Incorporates Jan-Nov USGS monthly data and 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.

NOTE: Use to date values have been updated with November USGS Provisional data as well as monthly reported data. [12-28-2015]



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 2015**

**NOTE:**  
 • Diversions and uses that are pending approval are noted in *red italics*.  
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 • 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
	CY2015	CY2015	CY2015	CY2015	CY2015	CY2015	CY2015	CY2015
CALIFORNIA PUMPERS	1,680	1,680	1,680	---	3,047	3,047	3,047	0
FORT MOJAVE INDIAN RESERVATION, CA	8,277	8,277	8,996	---	15,387	15,387	16,720	-1,333
CITY OF NEEDLES (includes LCWSP use)	1,931	1,931	1,931	0	2,720	2,720	2,720	0
METROPOLITAN WATER DISTRICT	1,175,116	1,175,116	1,175,759	---	1,177,937	1,177,937	1,178,850	---
COLORADO RIVER INDIAN RESERVATION, CA	3,246	3,246	3,246	---	5,378	5,378	5,378	0
PALO VERDE IRRIGATION DISTRICT	400,410	400,410	395,806	---	866,840	866,840	874,000	-7,160
YUMA PROJECT RESERVATION DIVISION	46,641	46,641	48,586	---	95,259	95,259	104,200	-8,941
YUMA PROJECT RESERVATION DIVISION - INDIAN UNIT	---	---	---	---	46,561	46,561	50,200	-3,639
YUMA PROJECT RESERVATION DIVISION - BARD UNIT	---	---	---	---	48,698	48,698	54,000	-5,302
YUMA ISLAND PUMPERS	4,665	4,665	4,665	---	8,452	8,452	8,452	0
FORT YUMA INDIAN RESERVATION - RANCH 5	675	675	675	---	1,221	1,221	1,221	0
IMPERIAL IRRIGATION DISTRICT	2,477,407	2,477,407	2,602,481	-125,074	2,458,805	2,458,805	2,706,070	---
SALTON SEA SALINITY MANAGEMENT	151,804	121,636	121,636	0	160,398	160,398	126,826	---
COACHELLA VALLEY WATER DISTRICT	342,727	342,727	357,000	-14,273	359,199	359,199	371,671	---
OTHER LCWSP CONTRACTORS	671	671	671	---	1,066	1,066	1,066	0
CITY OF WINTERHAVEN	68	68	68	---	103	103	103	0
CHEMEHUEVI INDIAN RESERVATION	102	102	102	---	11,340	11,340	11,340	0
<b>TOTAL CALIFORNIA</b>	<b>4,615,420</b>	<b>4,585,252</b>			<b>5,167,152</b>	<b>5,167,152</b>	<b>5,411,664</b>	

**CALIFORNIA ADJUSTED APPORTIONMENT CALCULATION**

California Basic Apportionment	4,400,000
Conservation for Salton Sea Restoration - 2010 <sup>1</sup>	-23,273
Creation of Extraordinary Conservation ICS (IID)	-25,000
Storage of State of Nevada Unused Apportionment	150,000
Delivery of ICS (MWD)	83,525
<b>Total State Adjusted Apportionment</b>	<b>4,585,252</b>
Excess to Total State Adjusted Apportionment	0

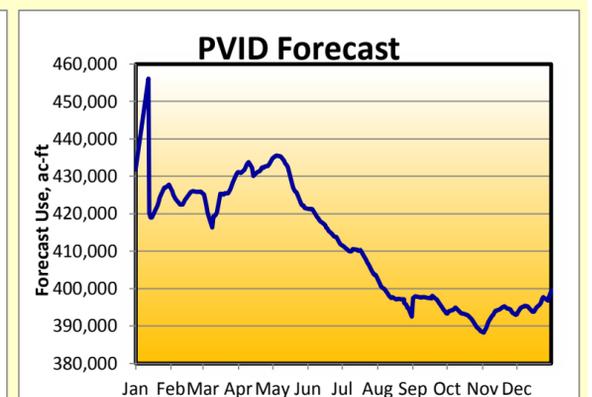
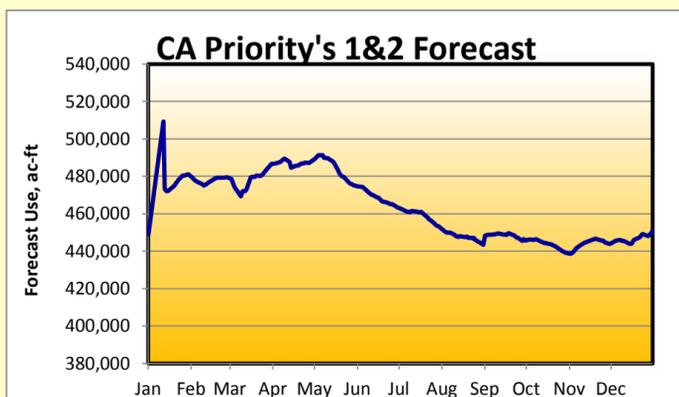
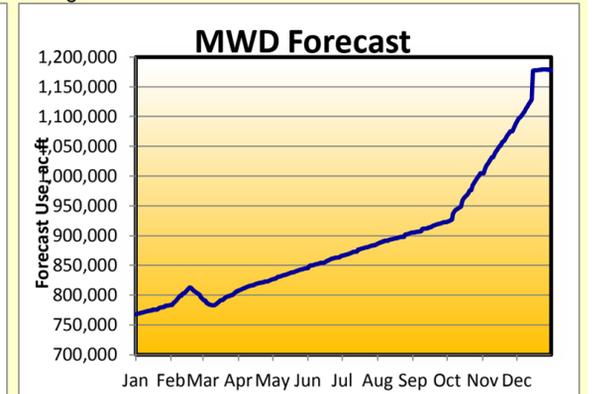
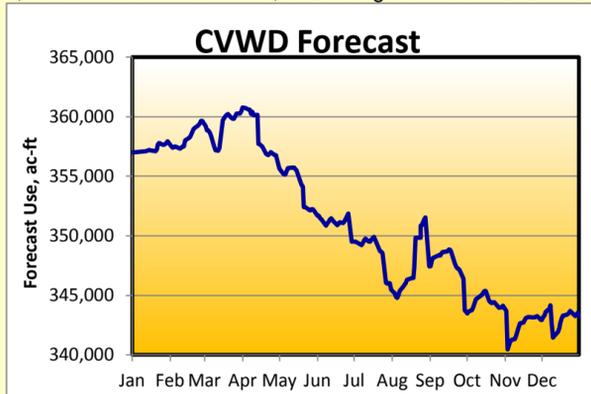
**ISG ANNUAL TARGET COMPARISON CALCULATION**

Priorities 1, 2, 3b Use (PVID+YPRD+Island+PVID Mesa)	451,716
MWD Adjustment	-31,716
Total California Agricultural Use (PVID+YPRD+Island+IID+CVWD)	3,271,850
California Agricultural Paybacks	0
Misc. PPRs Covered by IID and CVWD	14,500
California ICS Creation (IID ICS)	25,000
Total Use for Target Comparison <sup>2</sup>	3,279,634
ISG Annual Target (Exhibit B)	3,448,000
Amount over/(under) ISG Annual Target	-168,366

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

1/ Pending approval by Imperial Irrigation District's Board of Directors.

2/ Includes MWD Adjustment, California Agricultural Use and Paybacks, IID-CVWD covered PPRs, and taking out the MWD-CVWD Exchange



**U.S. BUREAU OF RECLAMATION  
LOWER COLORADO REGION  
CY 2015**

**NOTE:**  
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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 \(Water Accounting Reports\)](#)

<b>WATER USER</b>	<b>Use To Date CY2015</b>	<b>Forecast Use CY2015</b>	<b>Estimated Use CY2015</b>	<b>Excess to Estimated Use CY2015</b>	<b>Diversion To Date CY2015</b>	<b>Forecast Diversion CY2015</b>	<b>Approved Diversion CY2015</b>	<b>Excess to Approved Diversion CY2015</b>
ARIZONA PUMPERS	17,515	17,515	17,515	---	27,115	27,115	27,115	0
LAKE MEAD NRA, AZ - Diversions from Lake Mead	145	145	145	---	145	145	145	0
LAKE MEAD NRA, AZ - Diversions from Lake Mohave	180	180	180	---	180	180	180	0
DAVIS DAM PROJECT	2	2	2	---	75	75	75	0
BULLHEAD CITY	6,626	6,626	8,523	---	9,889	9,889	12,720	-2,831
MOHAVE WATER CONSERVATION	556	556	556	---	831	831	831	0
BROOKE WATER LLC	207	207	207	---	311	311	311	0
MOHAVE VALLEY IDD	17,456	17,456	22,260	---	32,326	32,326	41,220	-8,894
FORT MOJAVE INDIAN RESERVATION, AZ	37,216	37,216	42,390	---	68,919	68,919	78,500	-9,581
GOLDEN SHORES WATER CONSERVATION DISTRICT	316	316	316	---	473	473	473	0
HAVASU NATIONAL WILDLIFE REFUGE	4,160	4,160	3,563	---	30,099	30,099	41,820	-11,721
LAKE HAVASU CITY	7,241	7,241	8,928	---	11,680	11,680	14,400	-2,720
CENTRAL ARIZONA PROJECT	1,513,952	1,513,952	---	---	1,513,952	1,513,952	---	---
TOWN OF PARKER	371	371	352	---	850	850	920	-70
COLORADO RIVER INDIAN RESERVATION, AZ	313,020	313,020	376,964	---	597,053	597,053	662,402	-65,349
EHRENBURG IMPROVEMENT ASSOCIATION	256	256	256	---	361	361	361	0
CIBOLA VALLEY IRRIGATION DISTRICT	16,951	16,951	16,951	---	23,707	23,707	23,707	0
CIBOLA NATIONAL WILDLIFE REFUGE	12,741	12,741	12,741	0	20,550	20,550	20,550	0
IMPERIAL NATIONAL WILDLIFE REFUGE	2,616	2,616	2,616	0	4,224	4,224	4,224	0
YUMA PROVING GROUND	496	496	550	---	496	496	550	-54
GILA MONSTER FARMS	3,489	3,489	5,244	---	6,156	6,156	9,156	-3,000
WELLTON-MOHAWK IDD	243,657	243,657	278,000	-34,343	369,181	369,181	424,350	---
CITY OF YUMA	13,832	13,832	17,051	-3,219	24,067	24,067	27,318	-3,251
MARINE CORPS AIR STATION YUMA	1,336	1,336	1,500	---	1,336	1,336	1,500	-164
UNION PACIFIC RAILROAD	24	24	24	---	48	48	48	0
UNIVERSITY OF ARIZONA	813	813	813	---	813	813	813	0
YUMA UNION HIGH SCHOOL DISTRICT	118	118	151	---	159	159	200	-41
DESERT LAWN MEMORIAL	91	91	91	---	129	129	129	0
NORTH GILA VALLEY IDD	12,396	12,396	11,437	---	43,960	43,960	44,200	-240
YUMA IRRIGATION DISTRICT	38,540	38,540	42,581	---	69,219	69,219	75,900	-6,681
YUMA MESA IDD	101,831	101,831	111,022	---	181,008	181,008	204,904	-23,896
UNIT "B" IRRIGATION DISTRICT	19,570	19,570	17,503	---	28,223	28,223	28,550	-327
FORT YUMA INDIAN RESERVATION	1,396	1,396	1,396	---	2,149	2,149	2,149	0
YUMA COUNTY WATER USERS' ASSOCIATION	227,911	227,911	244,599	---	358,267	358,267	388,000	-29,733
COCOPA INDIAN RESERVATION	713	713	6,457	---	822	822	9,840	-9,018
RECLAMATION-YUMA AREA OFFICE	116	116	116	---	116	116	116	0
RETURN FROM SOUTH GILA WELLS	---	---	---	---	---	---	---	---
<b>TOTAL ARIZONA</b>	<b>2,617,856</b>	<b>2,617,856</b>	<b>2,798,553</b>		<b>3,428,889</b>	<b>3,428,889</b>	<b>3,693,230</b>	
CAP	1,513,952	1,513,952	---		---	1,513,952	---	---
ALL OTHERS	1,103,904	1,103,904	1,253,000		---	1,914,937	2,147,677	---
YUMA MESA DIVISION, GILA PROJECT	152,767	152,767	350,000	-197,233	---	294,187	---	---

**ARIZONA ADJUSTED APPORTIONMENT CALCULATION**

Arizona Basic Apportionment	2,800,000
Payback of IOPP overruns - (Cocopah and Beattie)	-165
CAWCD/YMIDD Pilot Conservation Program <sup>1</sup>	-7,000
System Conservation Water - Left in Lake Mead <sup>2</sup>	-10,080
Total State Adjusted Apportionment	2,782,755
Excess to Total State Adjusted Apportionment	-164,899
Estimated Allowable Use for CAP	1,682,493

<sup>1/</sup> in 2013 CAWCD and YMIDD entered into a Pilot Following Agreement. In 2015, it is estimated that 7,000 AF of water will be conserved by the program and that volume of water will remain in Lake Mead to benefit system storage.

<sup>2/</sup> On September 15, 2015, Reclamation and the Tohono O'Odham Nation (Nation) entered into a System Conservation Implementation Agreement under the Pilot System Conservation Program in which the Nation agreed to reduce its delivery of its CAP water entitlement by 10,080 AF to create System Conservation Water. In accordance with Letter Agreement No. 15-XX-30-W0585. CAWCD agreed to not request delivery of this System Conservation Water and will allow it to 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 2015**

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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 \(Water Accounting Reports\)](#)

<b>WATER USER</b>	<b>Use To Date CY2015</b>	<b>Forecast Use CY2015</b>	<b>Estimated Use CY2015</b>	<b>Excess to Estimated Use CY2015</b>	<b>Diversion To Date CY2015</b>	<b>Forecast Diversion CY2015</b>	<b>Approved Diversion CY2015</b>	<b>Excess to Approved Diversion CY2015</b>
ROBERT B. GRIFFITH WATER PROJECT (SNWS)	415,120	415,120	415,120	0	415,120	415,120	415,120	0
LAKE MEAD NRA, NV - Diversions from Lake Mead	380	380	422	---	380	380	422	-42
LAKE MEAD NRA, NV - Diversions from Lake Mohave	174	174	174	---	174	174	174	0
BASIC MANAGEMENT INC.	5,772	5,772	8,211	---	5,772	5,772	8,211	-2,439
CITY OF HENDERSON (BMI DELIVERY)	13,777	13,777	15,878	---	13,777	13,777	15,878	-2,101
NEVADA STATE DEPT. OF FISH & GAME	11	11	12	-1	509	509	363	---
PACIFIC COAST BUILDING PRODUCTS INC.	918	918	923	---	918	918	923	-5
BOULDER CANYON PROJECT	174	174	174	---	302	302	302	0
BIG BEND WATER DISTRICT	1,872	1,872	4,061	---	4,230	4,230	10,000	-5,770
FORT MOJAVE INDIAN TRIBE	2,643	2,643	3,886	---	3,948	3,948	5,800	-1,852
LAS VEGAS WASH RETURN FLOWS	-218,417	-218,417	-213,145	---				
<b>TOTAL NEVADA</b>	<b>222,424</b>	<b>222,424</b>	<b>235,716</b>	<b>-1</b>	<b>445,130</b>	<b>445,130</b>	<b>457,193</b>	<b>-12,209</b>
SOUTHERN NEVADA WATER SYSTEM (SNWS)	196,703	196,703				415,120		
ALL OTHERS	25,721	25,721				30,010		
NEVADA USES ABOVE HOOVER	217,909	217,909				436,952		
NEVADA USES BELOW HOOVER	4,515	4,515				8,178		

**Tributary Conservation & Imported Intentionally Created Surplus**

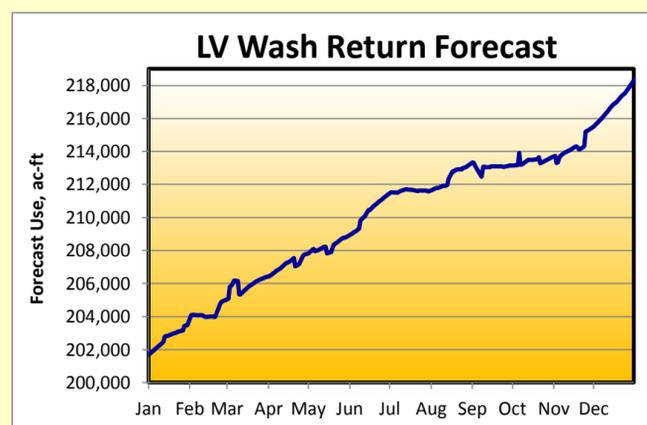
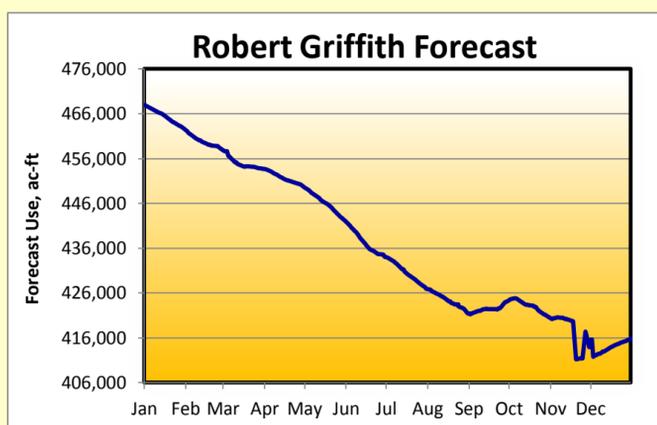
Total Requested Tributary Conservation Intentionally Created Surplus	29,500
Total Requested Imported Conservation Intentionally Created Surplus	9,000
5% System Cut for Creation of Intentionally Created Surplus	-1,925
<b>Total Intentionally Created Surplus Left in Lake Mead</b>	<b>36,575</b>

**Pilot System Conservation Program**

Tributary Conservation - Left in Lake Mead <sup>1</sup>	7,500
---	-------

**NEVADA ADJUSTED APPORTIONMENT CALCULATION**

Nevada Basic Apportionment	300,000
Delivery of EC ICS	75,000
<b>Total State Adjusted Apportionment</b>	<b>375,000</b>
Excess to Total State Adjusted Apportionment	-152,576
State of Nevada Unused to be Stored with MWD	150,000
<b>State of Nevada Unused to remain in Lake Mead</b>	<b>-2,576</b>



<sup>1/</sup> On June 4, 2015, Reclamation and SNWA entered into a System Conservation Implementation Agreement in which SNWA agreed to conserve 7.500 AF of Colorado River water from its Tributary Conservation projects to create System Conservation Water.

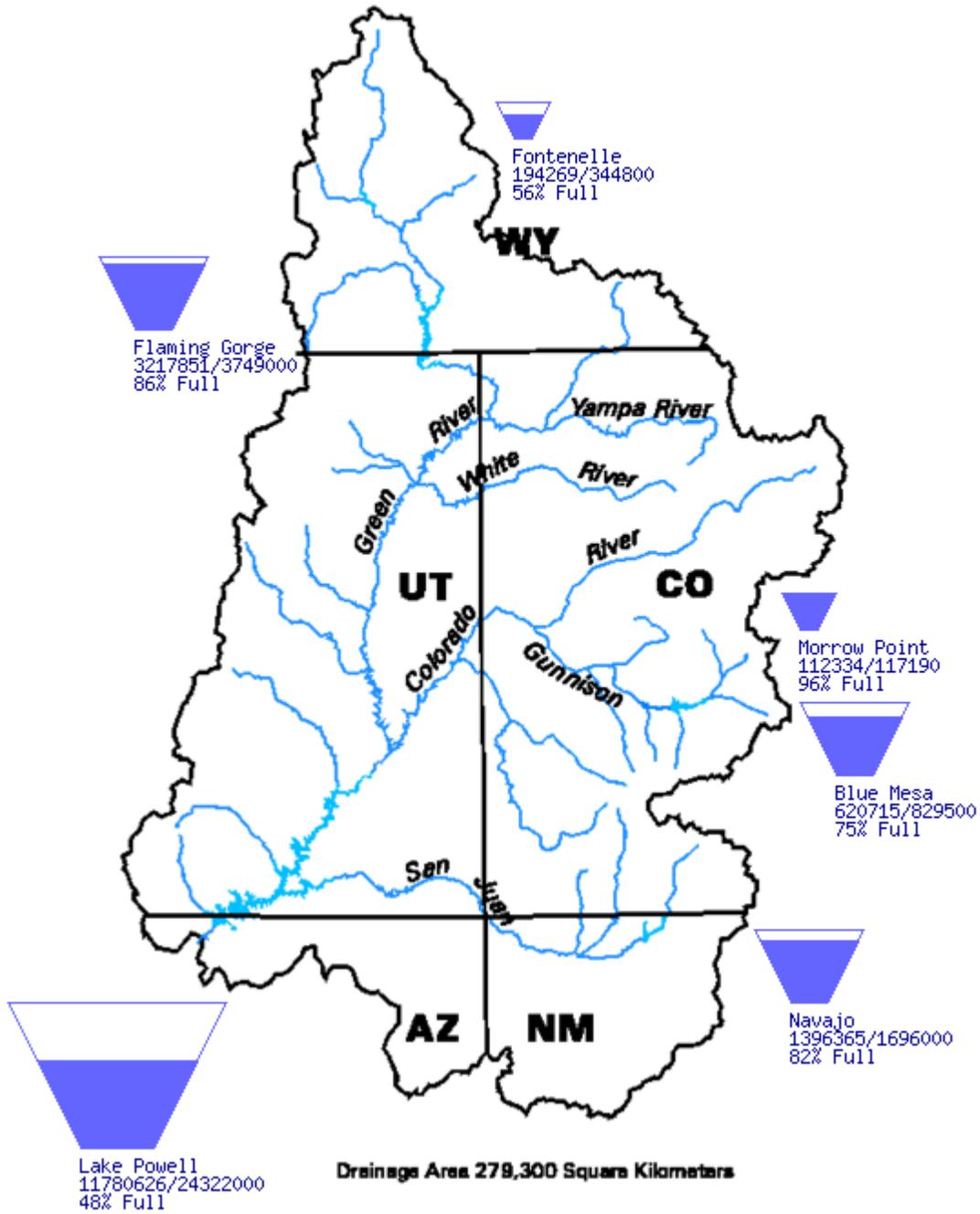
NOTES: Click on Nevada Schedules and Approvals above for incoming diversion schedules and approvals.

# Upper Colorado Region Water Resources Group

## River Basin Tea-Cup Diagrams

Data Current as of:  
01/03/2016

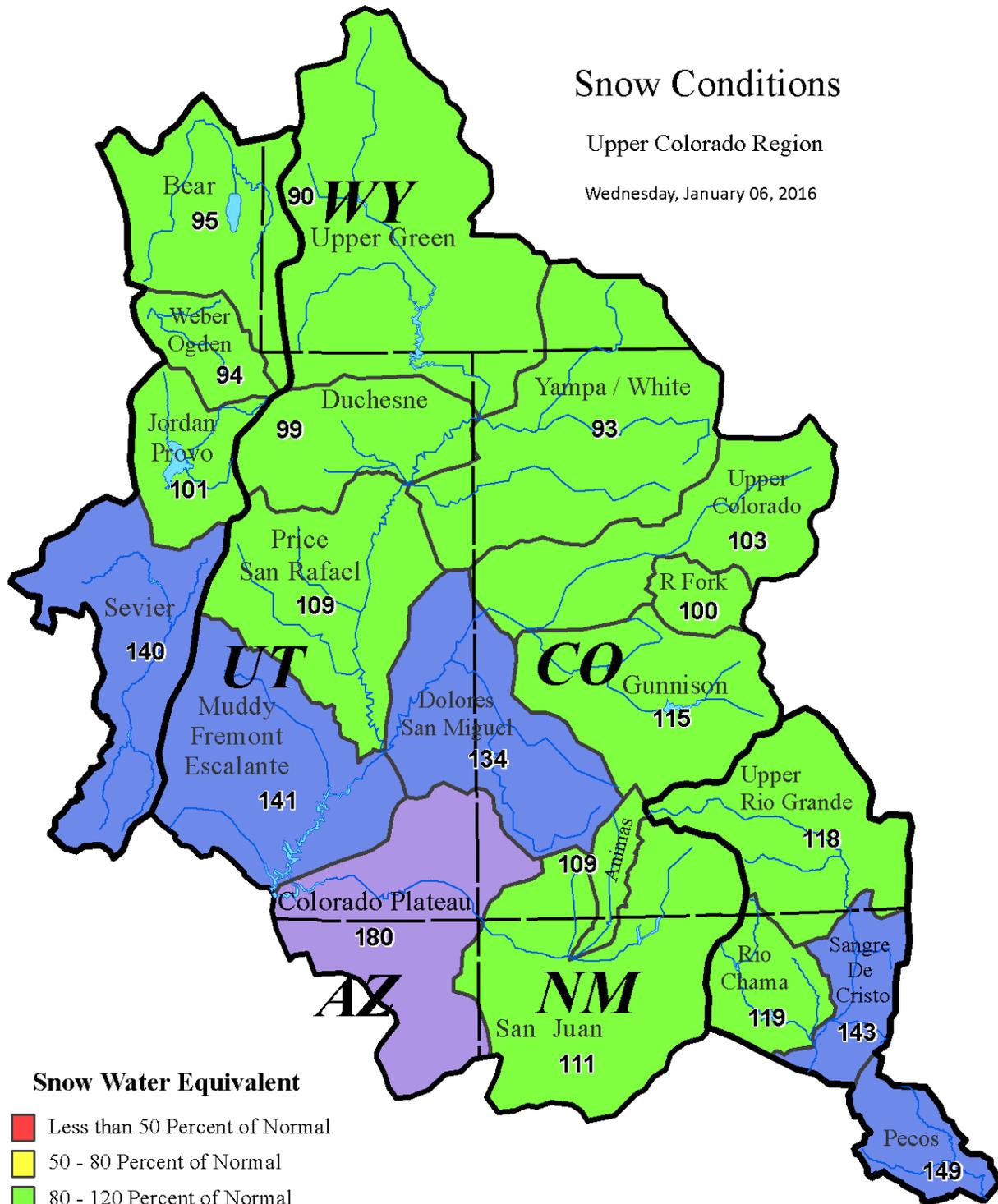
### Upper Colorado River Drainage Basin



# Snow Conditions

Upper Colorado Region

Wednesday, January 06, 2016



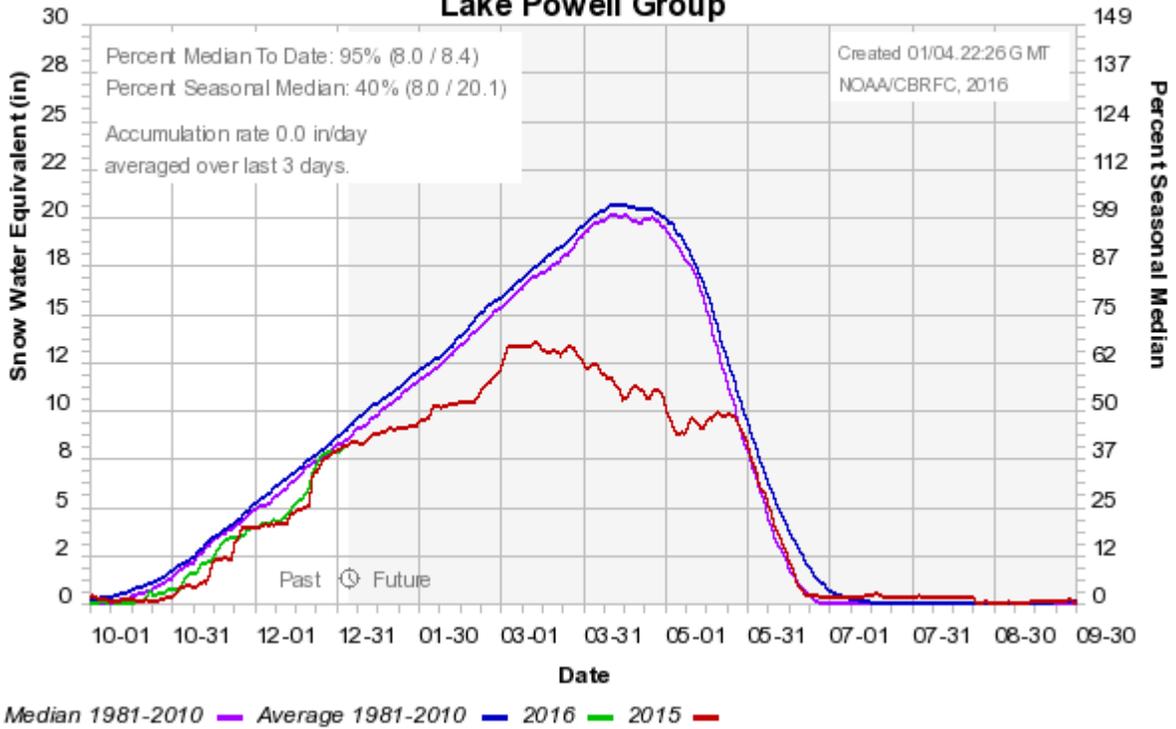
## Snow Water Equivalent

- Less than 50 Percent of Normal
- 50 - 80 Percent of Normal
- 80 - 120 Percent of Normal
- 120 - 150 Percent of Normal
- Greater than 150 Percent of Normal

Data Provided by the Natural Resource Conservation Service

Upper Colorado  
**GIS**  
Region

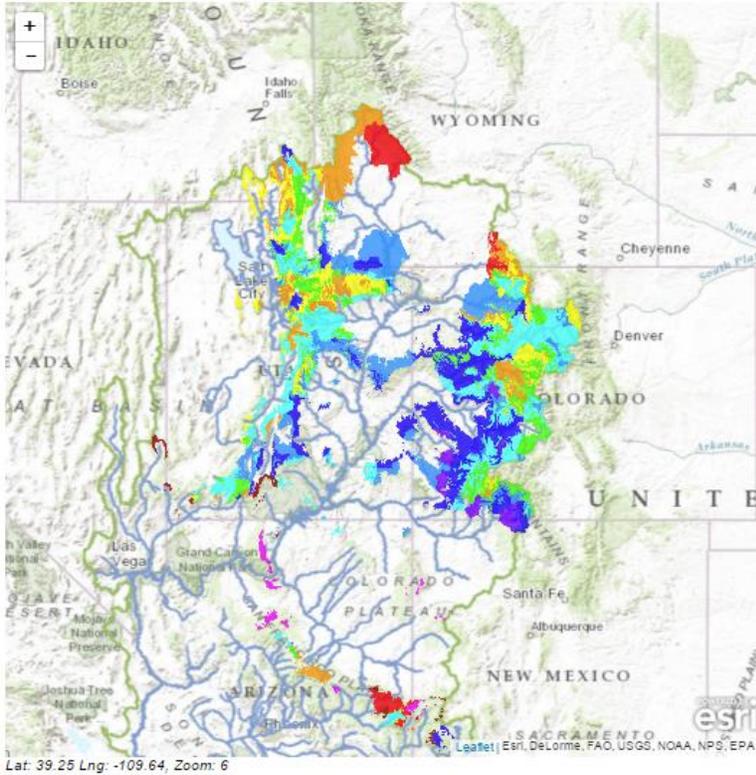
# Colorado Basin River Forecast Center Lake Powell Group



# NOAA Colorado Basin River Forecast Center – Snow Conditions Map

## Conditions Map

[Help](#)



- River Conditions
- Snow Conditions

**Points** | **Grids**

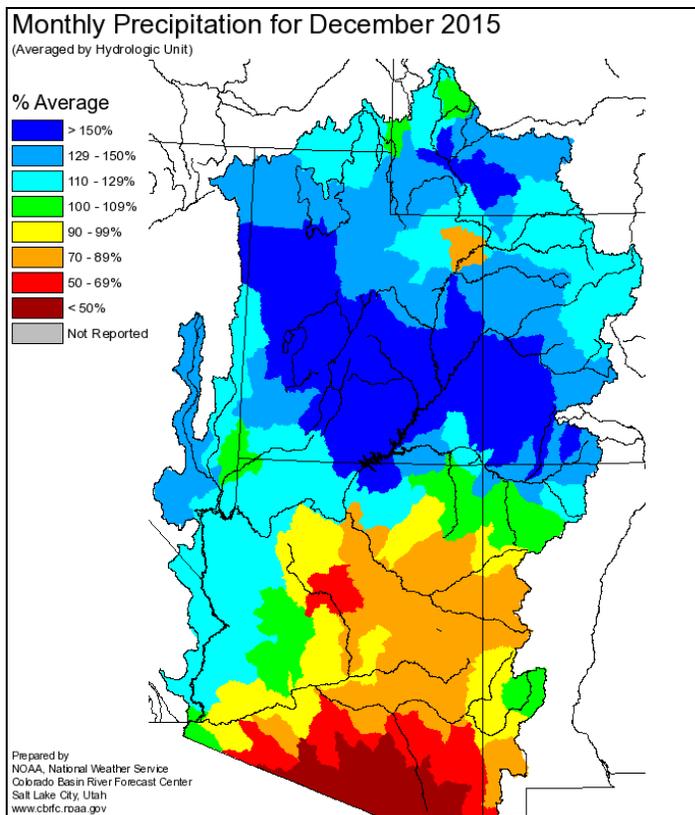
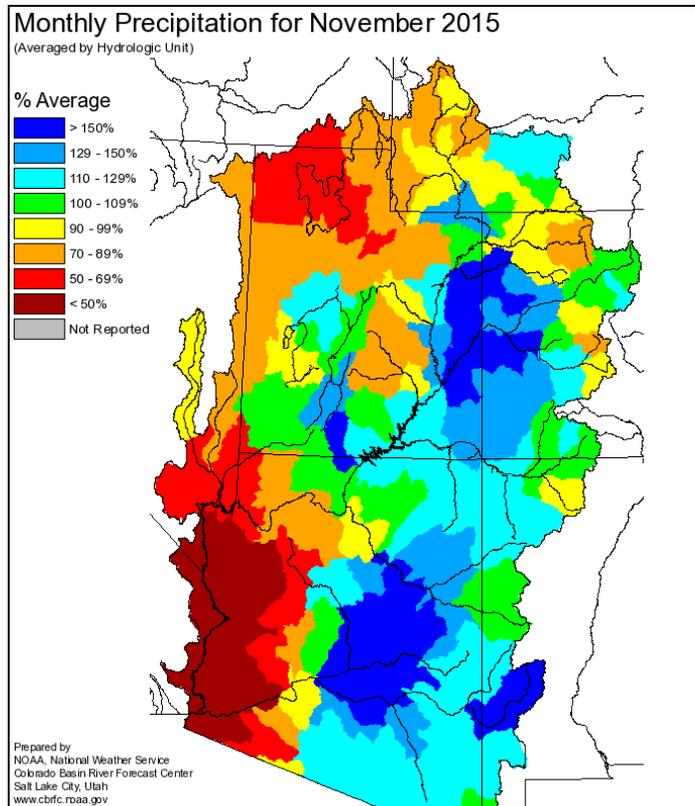
- Modeled SWE
- Percent Median
- Percent Median - Significant Areas

**% Median SWE**

- >500%
- 300-500%
- 200-300%
- 150-200%
- 130-150%
- 110-130%
- 100-110%
- 90-100%
- 70-90%
- 50-70%
- 30-50%
- 0-30%

- Water Supply Forecasts
- Peak Flood Probability
- Reservoir Conditions
- Weather Conditions
- Seasonal Weather
- Soil Moisture
- Map Options
- Search Points

NOAA National Weather Service Monthly Precipitation Maps for November and December 2015

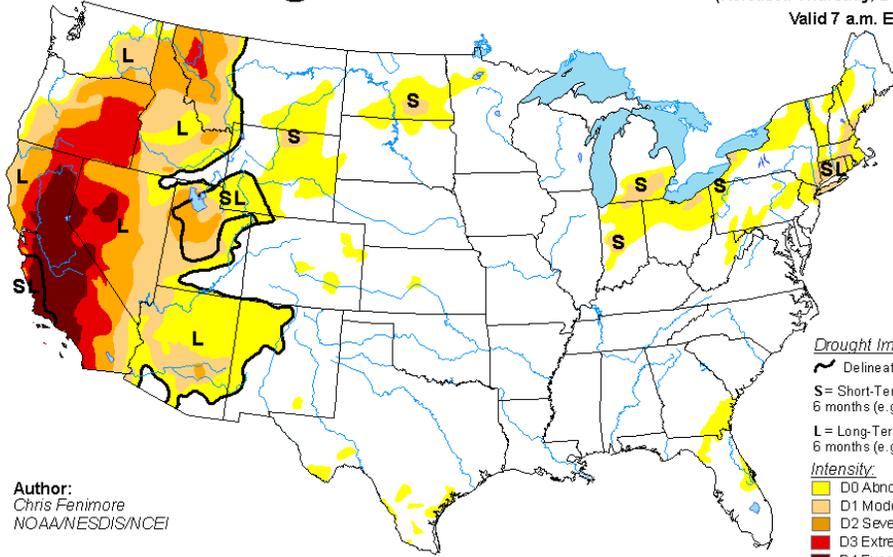


USDA United States Drought Monitor Map

# U.S. Drought Monitor

**December 29, 2015**  
(Released Thursday, Dec. 31, 2015)

Valid 7 a.m. EST



Author:  
Chris Fenimore  
NOAA/NESDIS/NCEI

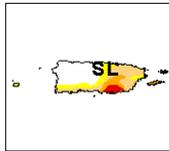
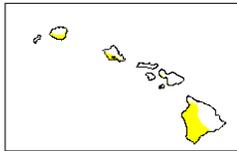
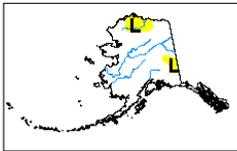
**Drought Impact Types:**

- ~ Delineates dominant impacts
- S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

**Intensity:**

- Yellow: D0 Abnormally Dry
- Light Orange: D1 Moderate Drought
- Orange: D2 Severe Drought
- Red-Orange: D3 Extreme Drought
- Dark Red: D4 Exceptional Drought

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



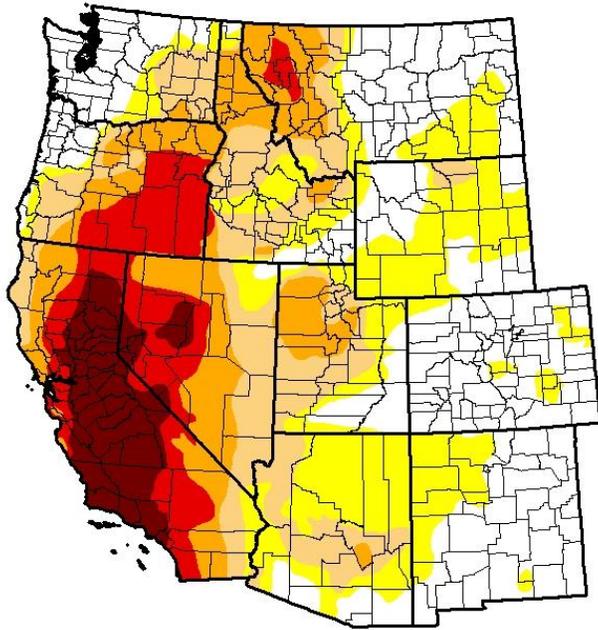
<http://droughtmonitor.unl.edu/>

## U.S. Drought Monitor West

**December 29, 2015**

(Released Thursday, Dec. 31, 2015)

Valid 7 a.m. EST



**Drought Conditions (Percent Area)**

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	33.17	66.83	45.07	29.30	15.92	6.85
<b>Last Week</b> 12/22/2015	31.80	68.20	46.35	32.08	16.71	6.85
<b>3 Months Ago</b> 9/29/2015	22.77	77.23	57.81	42.42	26.50	7.62
<b>Start of Calendar Year</b> 12/01/2014	34.76	65.24	54.48	33.50	18.68	5.40
<b>Start of Water Year</b> 9/29/2015	22.77	77.23	57.81	42.42	26.50	7.62
<b>One Year Ago</b> 12/02/2014	34.76	65.24	54.48	33.50	18.68	5.40

**Intensity:**

- Yellow: D0 Abnormally Dry
- Light Orange: D1 Moderate Drought
- Orange: D2 Severe Drought
- Red-Orange: D3 Extreme Drought
- Dark Red: D4 Exceptional Drought

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

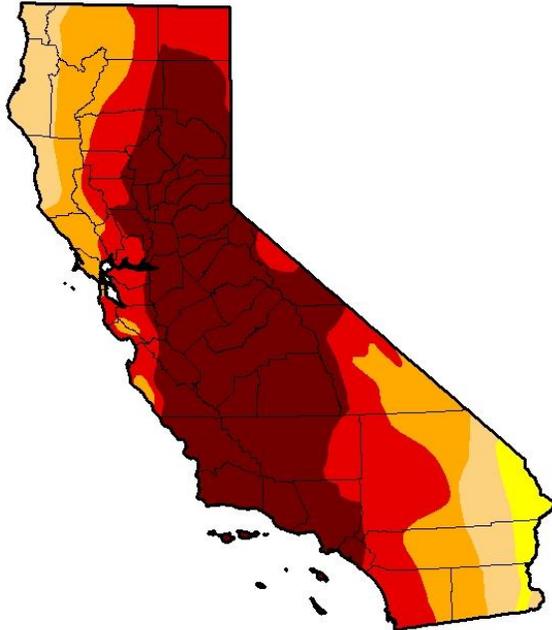
Author:  
Chris Fenimore  
NOAA/NESDIS/NCEI



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

**U.S. Drought Monitor  
California**

**December 29, 2015**  
(Released Thursday, Dec. 31, 2015)  
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	0.00	100.00	97.33	87.55	69.07	44.84
<b>Last Week</b> <i>12/22/15</i>	0.00	100.00	97.33	80.63	69.09	44.84
<b>3 Months Ago</b> <i>9/29/2015</i>	0.14	99.86	97.33	92.36	71.08	46.00
<b>Start of Calendar Year</b> <i>12/01/14</i>	0.00	100.00	98.12	94.34	77.94	32.21
<b>Start of Water Year</b> <i>9/29/2015</i>	0.14	99.86	97.33	92.36	71.08	46.00
<b>One Year Ago</b> <i>12/02/14</i>	0.00	100.00	98.12	94.34	77.94	32.21

Intensity:

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

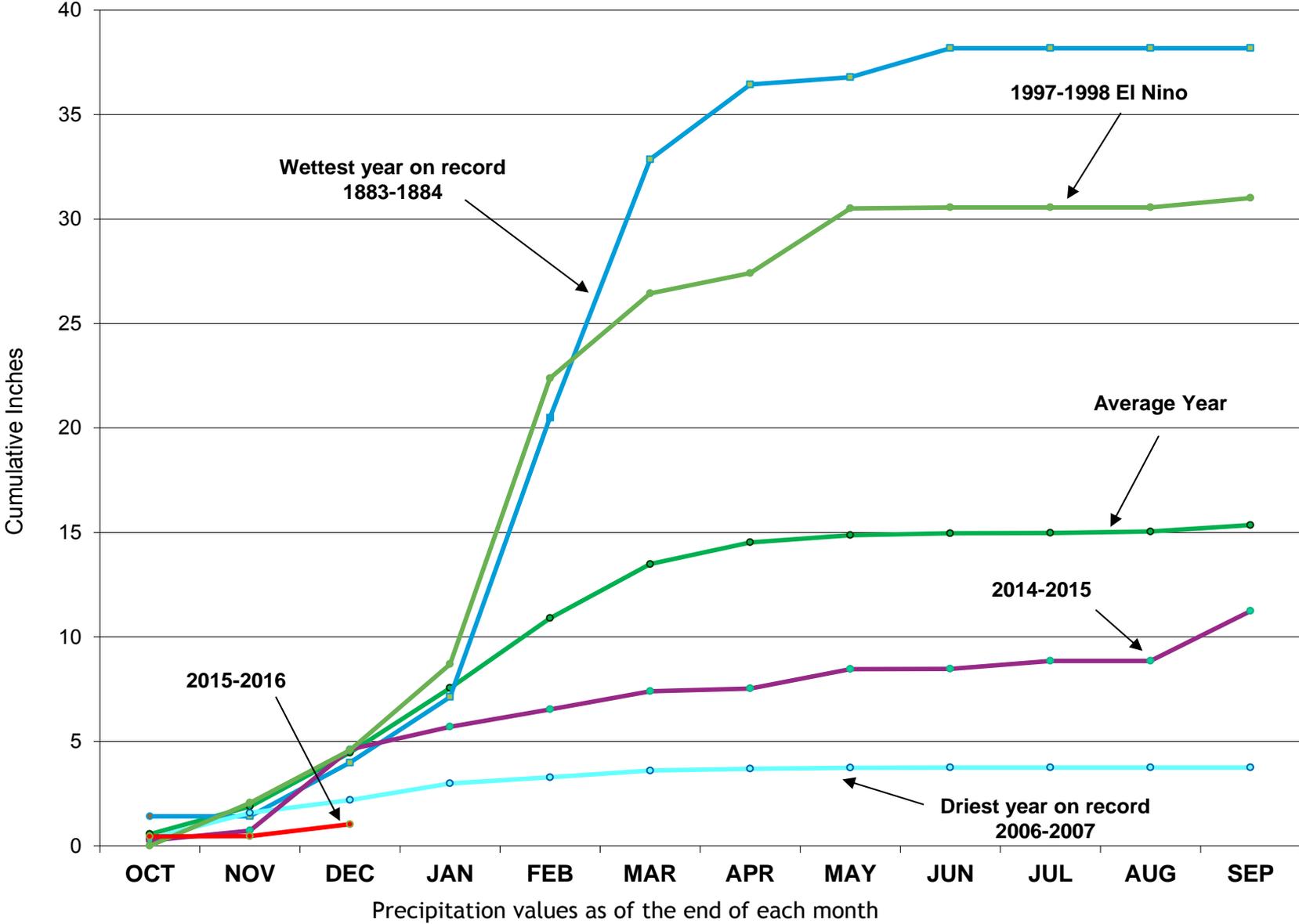
*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

**Author:**  
Chris Fenimore  
NOAA/NESDIS/NCEI



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

# Los Angeles Civic Center Precipitation



# Precipitation at Six Major Stations in Southern California

From October 1, 2015 to January 1, 2016

Station	Precipitation in inches		Average to Date	Percent of Average
	Dec	Oct 1 to Jan 1		
San Luis Obispo	1.68	2.53	7.06	36%
Santa Barbara	0.30	0.88	5.03	17%
Los Angeles	0.57	1.03	4.46	23%
San Diego	0.37	0.93	3.25	29%
Blythe	0.00	0.89	1.11	80%
Imperial	0.03	0.08	0.94	9%

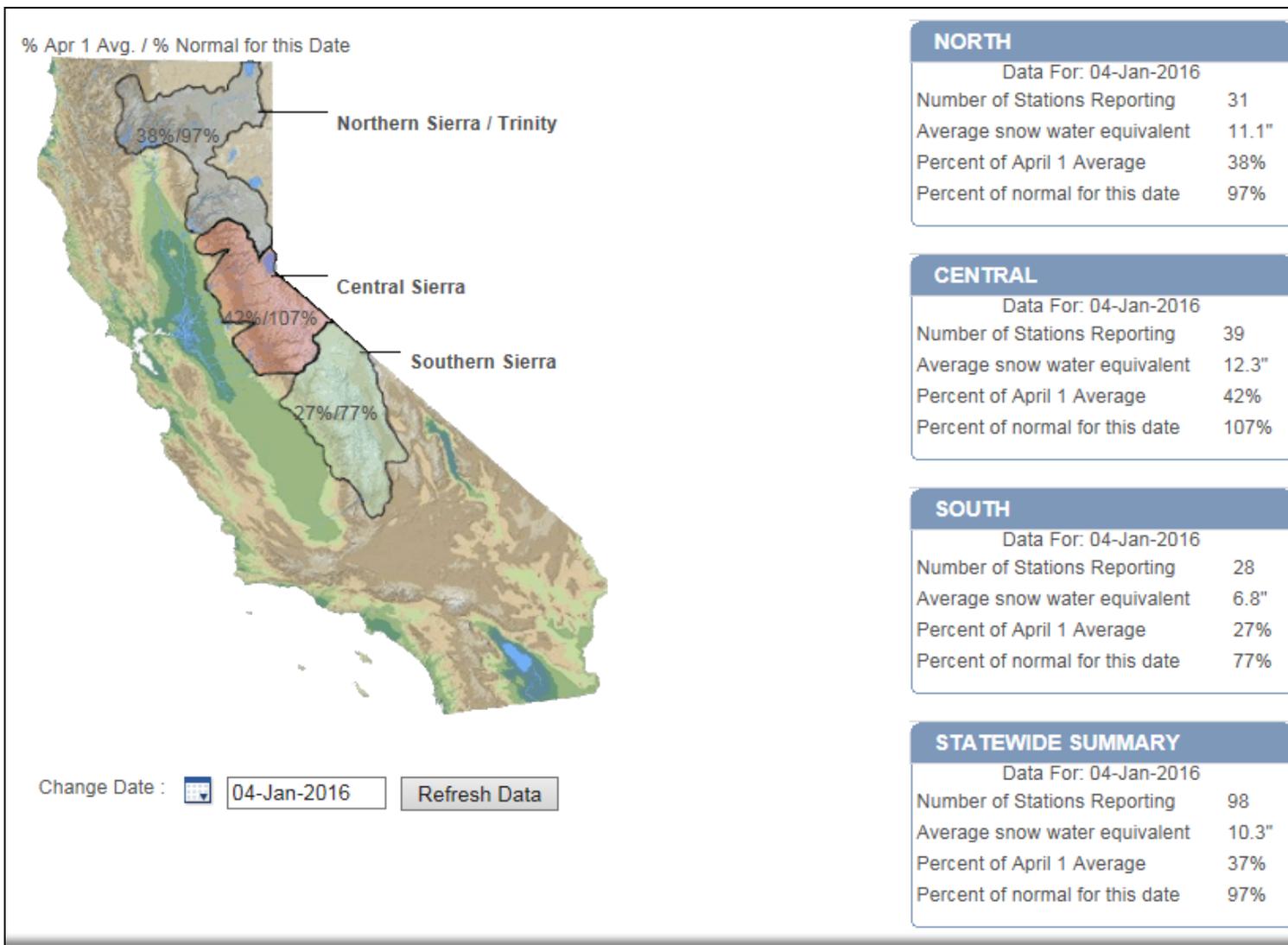
# Comparison of SWP Water Storage

Reservoir	Capacity	2015 Storage (acre-feet)		2016 Storage (acre-feet)	
		As of Jan 1	% of Cap.	As of Jan 1	% of Cap.
Frenchman	55,475	19,230	35%	10,707	19%
Lake Davis	84,371	45,153	54%	37,221	44%
Antelope	22,564	18,092	80%	17,229	76%
Oroville	3,553,405	1,351,642	38%	1,017,557	29%
<b>TOTAL North</b>	<b>3,715,815</b>	<b>1,434,117</b>	<b>39%</b>	<b>1,082,714</b>	<b>29%</b>
Del Valle	39,914	34,644	87%	26,140	65%
San Luis (DWR)	1,062,180	543,862	51%	372,570	35%
Pyramid	169,901	167,089	98%	166,910	98%
Castaic	319,247	120,165	38%	131,636	41%
Silverwood	74,970	69,866	93%	66,511	89%
Perris	126,841	49,922	39%	46,393	37%
<b>TOTAL South</b>	<b>1,793,053</b>	<b>985,548</b>	<b>55%</b>	<b>810,160</b>	<b>45%</b>
<b>TOTAL SWP</b>	<b>5,508,868</b>	<b>2,419,665</b>	<b>44%</b>	<b>1,892,874</b>	<b>34%</b>

State Water Project Projected Deliveries:

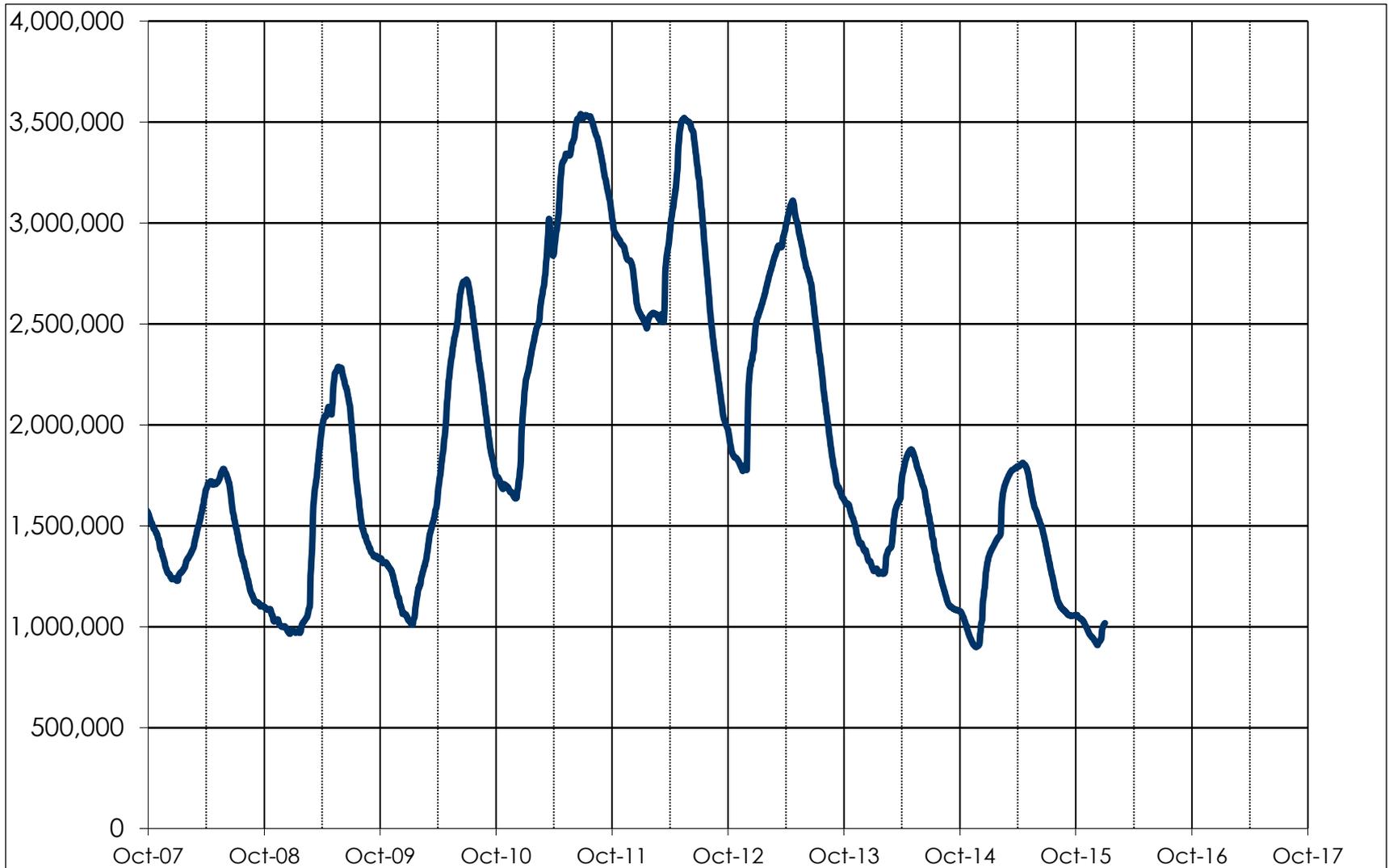
As of December 1, 2015, the Table-A allocations for 2016 is 10%

# Snow Water Equivalents (inches)



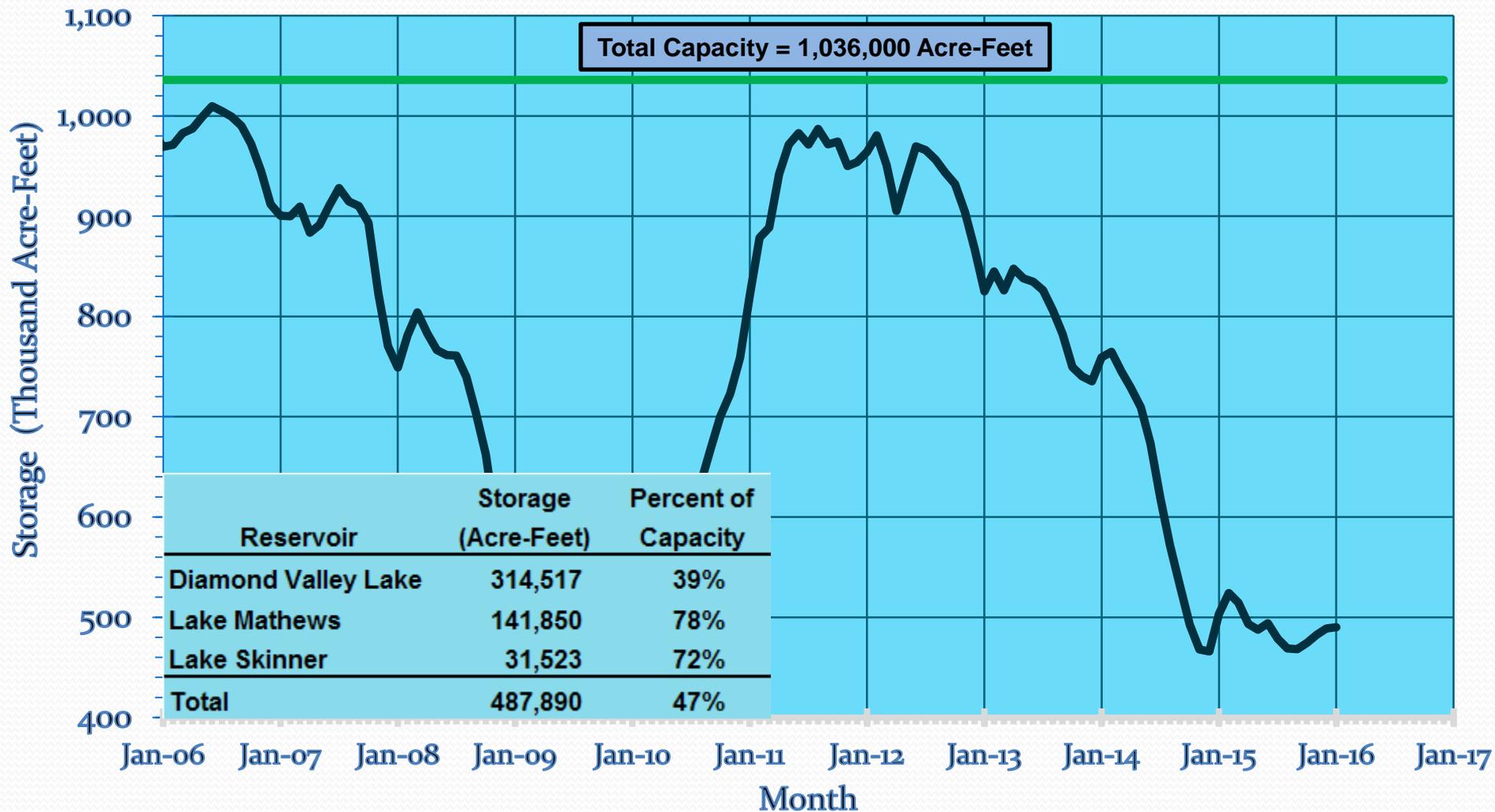
# Oroville Storage (acre-feet)

October 1, 2007 - January 1, 2016



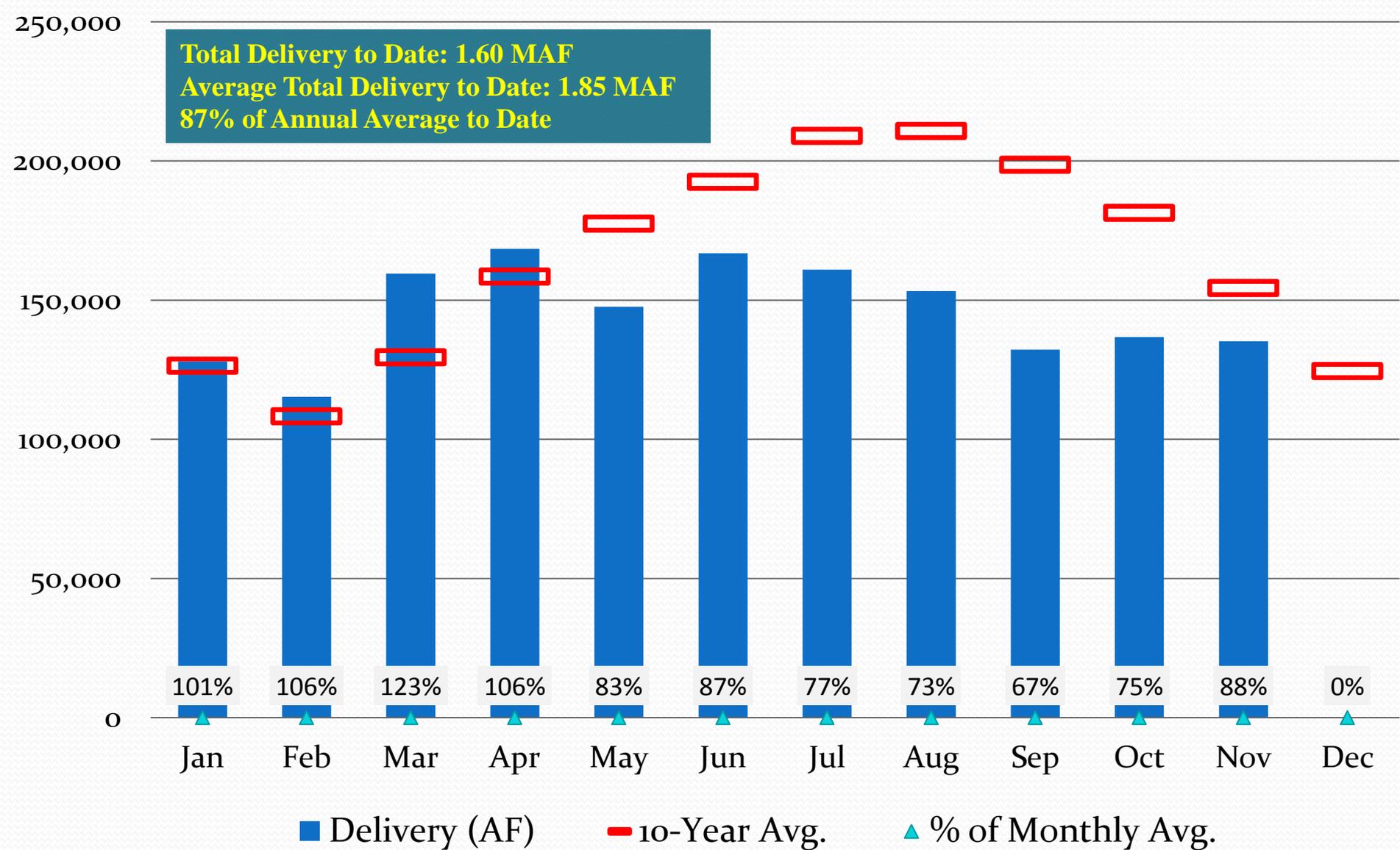
# MWD's Combined Reservoir Storage as of January 1, 2016

Lake Skinner, Lake Mathews, and Diamond Valley Lake

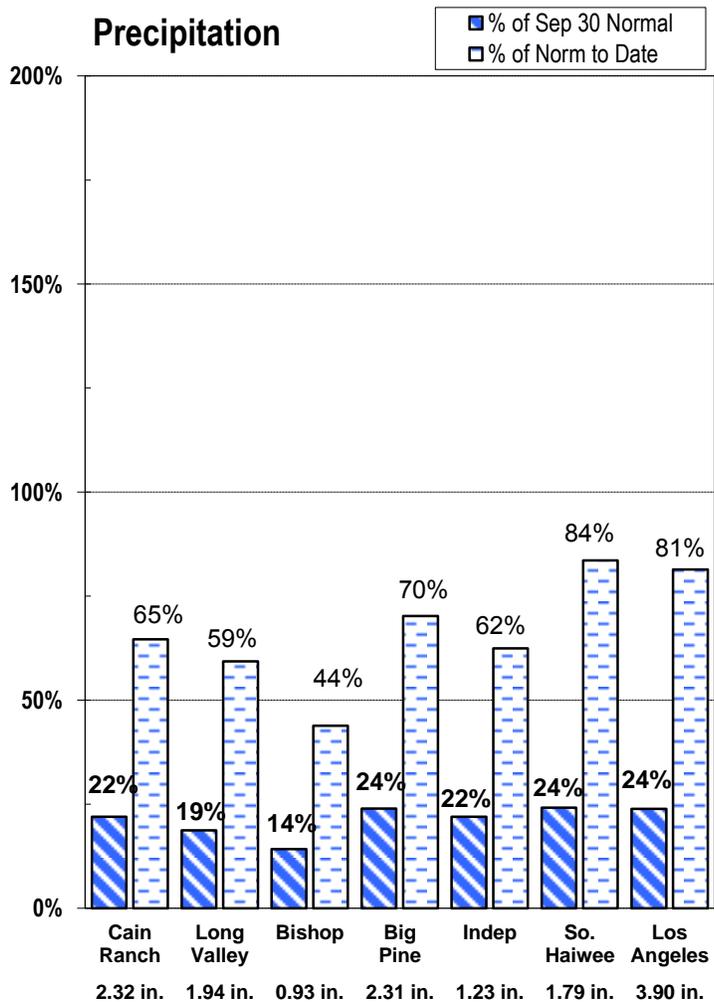
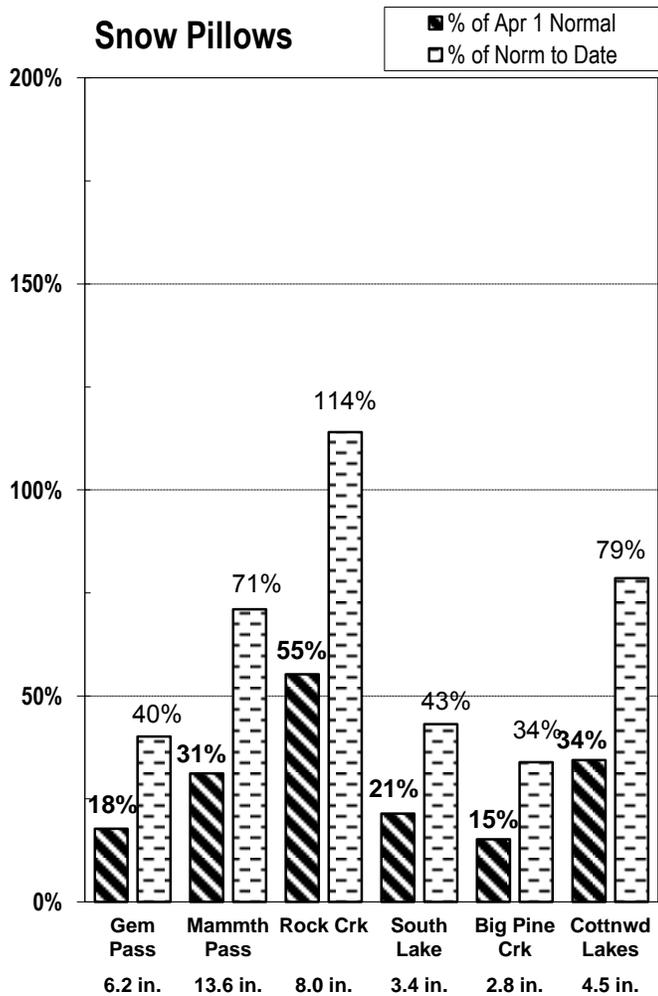
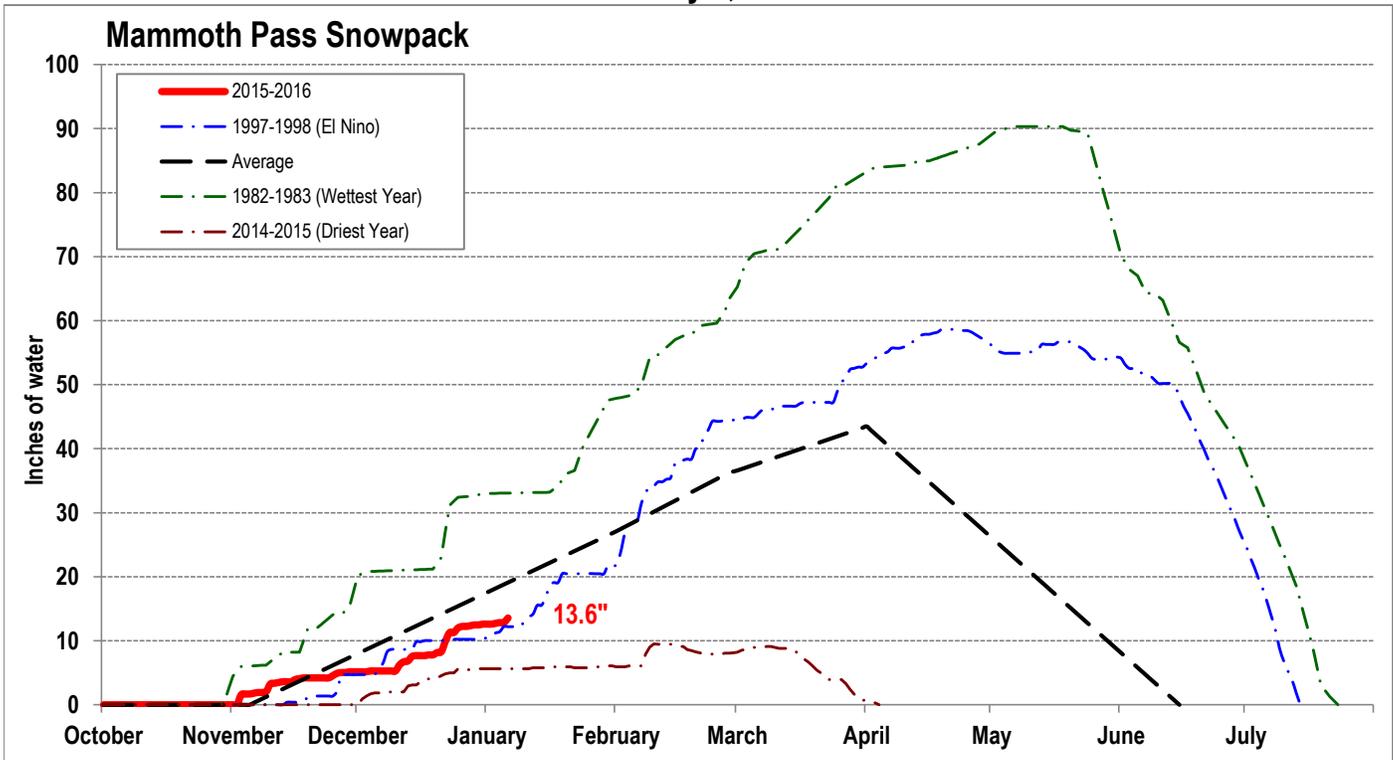


# 2015 Water Deliveries to Member Agencies (AF)

**Total Delivery to Date: 1.60 MAF**  
**Average Total Delivery to Date: 1.85 MAF**  
**87% of Annual Average to Date**



# EASTERN SIERRA CURRENT PRECIPITATION CONDITIONS January 6, 2016



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



## Drought Update

### Monday, December 21, 2015

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#### **KEY ACTION ITEMS FROM THIS WEEK**

- **California's Conservation Continues to Meet Cumulative Target:** On December 1, the State Water Board [announced](#) that Californians have reduced water use by 27.1 percent, or 297.8 billion gallons, in the five months since emergency conservation regulations took effect in June. According to the State Water Board, urban residents reduced water usage over 2013 levels by an average of 22.2 percent in [October](#), down from 26.4 percent in September. Despite a decline in the statewide water-savings rate for October, California residents are on track to meet Governor Brown's 25 percent conservation mandate through February 2016.
- **State Water Board Authorizes \$5 Million to Help Private Well Owners and Small Water Systems:** On December 15, the State Water Board [adopted](#) a resolution authorizing the allocation of \$5 million in funds to help residents on private wells and small water systems who are facing water emergencies. The funds, which will be administered by nonprofit organizations, will help individuals that have an immediate drought-related water shortage or outage, and assist in permanent solutions such as new wells, well rehabilitation, and consolidation into new or existing public water systems.
- **Initial SWP 2016 Allocation Set at 10 Percent:** On December 1, the Department of Water Resources (DWR) [announced](#) the initial 2016 State Water Project (SWP) allocation at 10% and indicated that the actual allocation could rise or fall depending on the amount of rain and snow California receives this winter. According to DWR, reservoir levels across the state remain significantly low, despite California's early season storms. Low reservoir levels will provide plenty of room for runoff from El Niño-driven storms should they develop, but even an extremely wet winter would not return conditions, especially groundwater levels, to normal after four consecutive dry years.
- **State Water Board Approves Revised Order on Water Operations:** On December 15, the State Water Board [approved](#) an order that largely upholds protections for municipal water supplies and fisheries that were in place earlier this year due to extreme drought conditions. The December 15 order adds new provisions to ensure that the federal Central Valley Project plans maintain minimum reservoir storage levels in two key north state reservoirs as a precaution if dry conditions continue into 2016. For more information, view the [revised order](#).
- **State Water Board Workshop Examines Conservation Regulation:** On December 7, the State Water Board [held](#) a public workshop to discuss concepts and examine ways to potentially alter the state's emergency water conservation regulation to make it more equitable if it is extended beyond February 2016. Earlier this year, Governor Brown mandated Californians to cut water usage by 25 percent over 2013 levels from June through February 2016. Last month, the Governor issued an additional [Executive Order](#) giving the State Water Board authority to extend and revise the emergency water conservation regulations.

- **State Water Board to Host December 17 Workshop on Draft Regulation on Measuring and Reporting Requirements for Diversions:** On December 10, the State Water Board [announced](#) a public workshop scheduled for December 17 to receive comments on a draft emergency regulation which adds new measurement and reporting requirements for water right holders and claimants that divert 10 acre-feet of water or more per year. The draft emergency regulation is expected to affect approximately 12,000 water right holders and claimants. For more information, visit State Water Board’s Measurement Regulation [website](#).
- **California’s Water Conservation Education Program Campaign:** On December 8, Save Our Water released a new [PSA](#), which included Golden State Warrior stars Stephen Curry & Klay Thompson (“Splash Brothers”), in the Comcast Sports Network (CSN) Bay Area reminding Californians to continue conserving water while preparing for flooding throughout the winter season. On December 17, Save Our Water and Curiosity Quest Goes Green, an award-winning, nationally syndicated show, [launched](#) a series of educational [videos](#) on teaching kids about indoor and outdoor water conservation.

In addition, Save Our Water continues to promote the “[Claim your Turf Replacement](#)”, and “[Claim Your Toilet](#)” rebate programs. For more tips and tools to help conserve water and keep trees healthy during the drought, please visit Save Our Water’s website, which is available in both [English](#) and [Spanish](#), or connect with the program on [Facebook](#), [Twitter](#) or [Instagram](#).

**Governor’s Drought Task Force:** The Task Force continues to take actions that conserve water and coordinate state response to the drought. During the December 10 meeting, DWR indicated the next manual snowpack survey is scheduled for December 31. In addition, the Labor Workforce Development Agency announced that the federally funded Drought Temporary Jobs program has enrolled 678 participants at 136 worksite projects in 24 counties. The program is funded through the U.S. Department of Labor’s National Dislocated Worker Grant program which offers 6 months of employment on drought-related public works projects for up to 1,000 workers affected by the drought.

## **ONGOING DROUGHT SUPPORT**

- **Emergency Food Aid, Utility and Employment Assistance:** The Department of Social Services (CDSS) Drought Food Assistance Program (DFAP) provides food assistance to affected communities that suffer high levels of unemployment from the drought. To date, over 1,069,540 boxes have been provided to community food banks in drought-impacted counties, with an average of approximately 13,250 food boxes per week since June 2014. Approximately 965,930 boxes of food have been picked up by 502,390 households.

Food boxes distributions vary by county and occur 1-4 times per month. Nearly 72% of the food distributions have occurred in the Tulare Basin (Fresno, Kern, Kings and Tulare). There are 9,600 boxes scheduled for delivery for the week ending December 24 to Fresno, Kern, Riverside, and Tulare counties.

The Department of Community Services and Development (CSD) allocated an additional \$600,000, under the federally-funded Community Services Block Grant (CSBG), to continue the [Drought Water Assistance Program \(DWAP\)](#) which provides financial assistance to help low-income families pay their water bills. As of December 10, CSD has reported that a total of \$594,953 has been issued to 2,966 households.

CSD is in the process of allocating \$400,000, under CSBG, to continue the Migrant and Seasonal Farmworker (MSFW) drought assistance program, which provides assistance in employment training and placement services to individuals impacted by the drought. This program provides employment training and placement services to migrant and seasonal farmworkers suffering job loss or reduced employment due to the drought. To date, CSD has reported that a total of \$184,154 has been issued with 86 participants enrolled.

In response to California's historic drought, CSD has received \$7.5 million in General Fund to implement the Drought Emergency Assistance Program (DEAP) to provide emergency relief and support services to drought-impacted individuals and their families and households. As of December 4, CSD has reported that a total of \$3,915,572 has been issued to 2,778 households for rental, utility and food assistance.

- **Drought Response Funding:** The \$687 million in state drought funding that was appropriated last March through emergency legislation, as well as \$142 million provided in the 2014 Budget Act, continues to advance toward meeting critical needs. To date, \$468 million has been committed, and nearly \$625 million of the emergency funds appropriated in March came from sources dedicated to capital improvements to water systems. Since March, the Department of Water Resources has expedited grant approvals, getting \$21 million immediately allocated to grantees that were pre-approved for certain projects.

As planned in March, the next \$200 million of expedited capital funding was awarded in October, and the remaining \$250 million will be granted by fall 2015. The 2014 Budget Act appropriated an additional \$53.8 million to CAL FIRE over its typical budget to enhance firefighter surge capacity and retain seasonal firefighters beyond the typical fire season.

As a result of continuing drought conditions, emergency legislation was enacted in March 2015 that appropriated over \$1 billion of additional funds for drought-related projects and activities. The Administration's May Revision proposal includes an additional \$2.2 billion for programs that protect and expand local water supplies, improve water conservation, and provide immediate relief to impacted communities.

## **CURRENT DROUGHT CONDITIONS**

- **Recent Precipitation:** In the past week, there has been light to heavy amounts of rainfall throughout the State. Highest amounts occurred in the North Coast with 7-day totals ranging from 2-17 inches, with the highest amounts being over the Smith Basin. The Russian Napa basin experienced precipitation ranging from 0.5 to 2 inches over the same period. Both Northern and Southern Sierras, and the San Diego areas received 1 to 2 inches.

Below are precipitation totals (in inches) from December 11 through December 18, and year-to-date rainfall based on the water year cycle (October 1, 2015 to September 30, 2016).

- |                                       |  |
|---------------------------------------|--|
| • <b>Bakersfield:</b> 0.19" (0.94")   | • <b>Monterey:</b> 1.39" (5.71")         |
| • <b>Paso Robles:</b> 0.23" (1.61")   | • <b>Redding:</b> 0.91" (5.63")          |
| • <b>Fresno:</b> 0.45" (2.87")        | • <b>Riverside:</b> 0.11" (0.57")        |
| • <b>Yosemite:</b> 2.25" (10.65")     | • <b>Sacramento:</b> 0.47" (2.64")       |
| • <b>Los Angeles:</b> 0.21" (0.67")   | • <b>San Diego:</b> 0.35" (2.32")        |
| • <b>Stockton:</b> 0.65" (3.24")      | • <b>Mount Shasta:</b> 1.25" (6.94")     |
| • <b>San Francisco:</b> 1.30" (3.27") | • <b>South Lake Tahoe:</b> 0.70" (5.47") |

- **Fire Activity:** Since the beginning of the year, firefighters from CAL FIRE and the U.S. Forest Service have responded to over 8,277 wildfires across the state, burning 825,717 acres. Fire activity across California remains high with nearly 234 combined wildfires in just the past two weeks.
- **CAL FIRE Burn Suspension Status:** Due to cooler temperatures and recent rains, CAL FIRE has lifted the burn suspension in the State Responsibility Area in Northern California and portions of Central California, allowing residential outdoor burning of landscape debris with a permit. CAL FIRE continues to monitor weather conditions closely and has the ability to increase staffing should the weather conditions change or if there is a need to support wildfire activity and any other emergencies in the State. For additional information on preparing for and preventing wildfires, please visit <http://www.readyforwildfire.org/>.
- **Dry Well Reports:** With California at the end of its fourth year of a severe, hot drought, the Governor's Drought Task Force continues to monitor and identify communities and local water systems in danger of running out of water. Over the summer, a cross-agency team, led by DWR, developed a new system that improves and streamlines data collection and reporting for [household water shortages](#) for California water systems with fewer than 15 household connections.

As of December 9, approximately 2,588 wells statewide have been identified as critical or dry, which affects an estimated 12,940 residents. Cal OES has reported that 2,441 of the 2,588 dry wells are concentrated in the inland regions within the Central Valley. If you are experiencing a water supply shortage, please [submit a report](#) on DWR's website.

- **Vulnerable Water Systems:** The State Water Board continues to provide technical and funding assistance to several communities facing drinking water shortages, and is monitoring water systems across the state. Since January 2014, 103 out of the 145 projects approved to receive emergency funding for interim replacement drinking water have been executed.

On May 19, the State Water Board adopted Guidelines for administering the latest emergency drought appropriations of \$19 million announced this past March. To date, the State Water Board has received requests for \$6.1 million of those funds.

**Projected Reservoir Management:** Since the last report on December 11, Central Valley reservoirs from Shasta and Trinity in the North to Isabella in the South had a net gain in storage of 59,956 acre-feet (AF), with a total gain of 84,356 AF and a total loss of 24,400 AF. Shasta Reservoir increased by 27,615 AF, while San Luis Reservoir, an off-stream reservoir for the Central Valley Project and State Water Project, decreased its storage by 21,871 AF.

- [Reservoir Levels](#) as of December 17 remain low, including: Castaic Lake 37% of capacity (48% of year to date average); Don Pedro 32% of capacity (49% of average); Exchequer 6% of capacity (14% of average); Folsom Lake 15% of capacity (31% of average); Lake Oroville 26% of capacity (43% of average); Lake Perris 35% (45% of average); Millerton Lake 31% of capacity (66% of average); New Melones 11% of capacity (20% of average); Pine Flat 14% of capacity (35% of average); San Luis 17% of capacity (26% of average); Lake Shasta 30% of capacity (49% of average); and Trinity Lake 20% of capacity (30% of average). An update of water levels at other [smaller reservoirs](#) is also available.

- **Weather Outlook:** A series of systems are expected to occur over the next week. The first system beginning Friday afternoon and into early Saturday is expected to bring moderate precipitation amounts to the northern part of the state with highest amounts focused over the North Coast, Russian Napa basins, and the Northern Sierras.

Beginning Sunday, precipitation is expected to return to the North Coast, Russian Napa, and Northern Sierras and continue through Wednesday. Highest amounts in the North are expected to reach 3 to 6 inches in a 24-hour period beginning Monday through Tuesday. The Russian Napa and North Sierra are expecting 1 to 2 inches over the same period.

## **Local Government**

- **Local Emergency Proclamations:** A total of 63 local Emergency Proclamations have been received to date from city, county, and tribal governments, as well as special districts:
  - **29 Counties:** Butte, Colusa, Calaveras, El Dorado, Fresno, Glenn, Inyo, Humboldt, Kern, Kings, Lake, Madera, Mariposa, Merced, Modoc, Plumas, San Bernardino, San Joaquin, San Luis Obispo, Santa Barbara, Shasta, Siskiyou, Sonoma, Stanislaus, Sutter, Trinity, Tulare, Tuolumne, and Yuba.
  - **13 Cities:** City of Live Oak (Sutter County), City of Lodi (San Joaquin County), City of Manteca (San Joaquin County), City of Montague (Siskiyou County), City of Porterville (Tulare County), City of Portola (Plumas County), City of Ripon (San Joaquin County), City of San Juan Bautista (San Benito County), City of Santa Barbara (Santa Barbara County), City of Rancho Cucamonga (San Bernardino County), City of West Sacramento (Yolo County), City of Willits (Mendocino County) and the City of Fort Bragg (Mendocino County).
  - **9 Tribes:** Cortina Indian Rancheria (Colusa County), Hoopa Valley Tribe (Humboldt County), Karuk Tribe (Siskiyou/Humboldt Counties), Kashia Band of Pomo Indians of the Stewarts Point Rancheria (Sonoma County), Picayune Rancheria of Chukchansi Indians (Madera County) Sherwood Valley Pomo Indian Tribe (Mendocino County), Tule River Indian Tribe (Tulare County), Yocha Dehe Wintun Nation (Yolo County), and Yurok Tribe (Humboldt County).
  - **12 Special Districts:** Carpinteria Valley Water District (Santa Barbara County), Goleta Water District (Santa Barbara County), Groveland Community Services District (Tuolumne County), Lake Don Pedro Community Services District (Mariposa Stanislaus County), Mariposa Public Utility District (Mariposa County), Meiners Oaks Water District (Ventura County), Montecito Water District (Santa Barbara County), Mountain House Community Service District (San Joaquin County), Nevada Irrigation District (Nevada County), Placer County Water Agency (Placer County), Tuolumne Utilities District (Tuolumne County), and Twain Harte Community Services District (Tuolumne County).

- **Water Agency Conservation Efforts:** The Association of California Water Agencies (AWCA) [has identified](#) several hundred local water agencies that have implemented water conservation actions. These water agencies [are responding to the drought](#) by implementing conservation programs, which include voluntary calls for reduced water usage and mandatory restrictions where water shortages are worst.

ACWA [released](#) a Drought Response Toolkit to assist water agencies as they take action to meet state-mandated water conservation target and communicate information about water use restrictions, enforcement and other issues with their customers, media and other audiences.

- **County Drought Taskforces:** A total of 33 counties have established drought task forces to coordinate local drought response. These counties include: Butte, Colusa, Glenn, Humboldt, Kern, Kings, Lake, Madera, Mendocino, Merced, Modoc, Monterey, Napa, Nevada, Orange, Placer, Plumas, Sacramento, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Siskiyou, Stanislaus, Solano, Sutter, Tehama, Trinity, Tulare, Tuolumne, and Yolo.
- **Tribal Taskforce:** A total of 7 tribes have established drought task forces to coordinate tribal drought response. These tribes include: Hoopa Valley Tribe (Humboldt County), Hopland Tribe (Mendocino County), Karuk Tribe (Siskiyou County), La Jolla Band of Luiseno Indians (San Diego County), Sherwood Valley Tribe (Mendocino County), Trinidad Tribe (Humboldt County), and Yurok Tribe (Humboldt and Del Norte County).

#### DROUGHT RELATED WEBSITES FOR MORE INFORMATION

##### [Drought.CA.Gov](#): California's Drought Information Clearinghouse

State's Water Conservation Campaign, [Save Our Water](#)  
Local Government, [Drought Clearinghouse and Toolkit](#)

California Department of Food and Agriculture, [Drought Information](#)  
California Department of Water Resources, [Current Water Conditions](#)  
California Data Exchange Center, [Snow Pack/Water Levels](#)

California State Water Resources Control Board, Water Rights, [Drought Info and Actions](#)  
California Natural Resources Agency, [Drought Info and Actions](#)  
State Water Resources Control Board, Drinking Water, [SWRCB Drinking Water Program](#)  
California State Water Project, [Information](#)

[U.S. Drought Monitor](#) for Current Conditions throughout the Region  
[U.S. Drought Portal](#), National Integrated Drought Information System (NIDIS)  
National Weather Service [Climate Predictor Center](#)  
USDA Drought Designations by County [CA County Designations](#)  
USDA Disaster and Drought Assistance Information [USDA Programs](#)  
U.S. Small Business Administration Disaster Assistance Office

# Prop 1 Open Solicitations

For More Information Visit: <http://bondaccountability.resources.ca.gov>

Administering Agency Department/Board/ Council/Conservancy	Amount Allocated in Prop 1	Solicitation or Amount Appropriated in Budget	Current Status
State Water Resources Control Board - Small Community Wastewater	\$260M	\$66.3M (Budget)	Final Guidelines released in June; <b>Grant Solicitation Ongoing</b>  Click <a href="#">here</a> .
State Water Resources Control Board - Drinking Water	\$260M	\$69.2M (Budget)	Final Guidelines released in August; <b>Grant Solicitation Ongoing</b>  Click <a href="#">here</a> .
Baldwin Hills Conservancy	\$10M	\$2M (Solicitation)	Final Guidelines are now available and applications are <b>due on December 31</b> .  Click <a href="#">here</a> .
San Gabriel and Lower LA Rivers and Mountains Conservancy	\$30M	Up to \$30M (Solicitation)	Final Guidelines are now available and applications are <b>due on January 4</b> .  Click <a href="#">here</a> .
Coastal Conservancy	\$100.5M	\$15M (Budget)	Final Guidelines are now available and applications are <b>due December 31</b> .  Click <a href="#">here</a> .
Sierra Nevada Conservancy	\$25M	Up to \$10M (Solicitation)	Final Guidelines are now available and applications are <b>due on March 1</b> .  Click <a href="#">here</a> .
Sacramento-San Joaquin Delta Conservancy	\$50M	\$9.3M (Solicitation)	Concept Proposal Solicitation due <b>December 18</b> with full applications due <b>March 11, 2016</b> .  Click <a href="#">here</a> .
State Water Resources Control Board - Water Recycling	\$725M for desal and recycling	\$131.7M (Budget)	Final Guidelines released in June; <b>Grant Solicitation Ongoing</b>  Click <a href="#">here</a> .



## Southeast California Regional Basin Study

Contacts: Greg Krzys, Southern California Area Office, Ph. (951) 695-5310  
Jerry Rolwing, Borrego Water District, Ph. (760) 767-5806

The Southeast California Basin Study (Study) is a 50/50 cost-share partnership between the Bureau of Reclamation and the Borrego Water District in collaboration with the Imperial Irrigation District, Coachella Valley Water District, and San Diego County Water Authority. Authorized under the 2009 Secure Water Act (Title IX, Subtitle F of Public Law 111-11), the project began in January 2011, and is expected to be completed within two years.

The area of study consists of nearly 5,200 square miles in southern California and features over 750,000 people, three irrigation districts with a combined agricultural crop production valued at over \$1 billion annually, four Indian Tribes, 10 cities, and California's largest inland lake, the Salton Sea.

The Study will:

- characterize current regional water supply and demand;
- assess risks to regional water supplies, including those due to climate change;
- identify potential strategies and options to resolve water supply and demand imbalances;
- identify potential legal and regulatory constraints and potential impacts to water users; and
- prioritize identified strategies and options for potential future actions.

The Study will also enable competing interests – including agricultural districts, environmental concerns, municipal/industrial users, and recreationists – to partner with Reclamation and investigate and evaluate existing water resources management practices, system components, and management mechanisms to optimize water resources in alternative scenarios.

The total cost of the study is \$850,000, with a 50/50 cost-share.



## Los Angeles Basin Stormwater Conservation Study

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Lee Alexanderson, P.E., Los Angeles County Flood Control District,  
email: [lalexanderson@dwp.lacounty.gov](mailto:lalexanderson@dwp.lacounty.gov), Ph. (626) 458-4370

The Los Angeles Basin Stormwater Conservation Study (Basin Study) is a partnership between the Los Angeles County Flood Control District (LACFCD) and the Bureau of Reclamation, Southern California Area Office. The Basin Study encompasses 1,900 square miles and includes the Los Angeles River, San Gabriel River, North Santa Monica Bay, South Santa Monica Bay, Dominguez Channel/Los Angeles Harbor, and Ballona Creek watersheds.

The Basin Study area is home to over 10 million people, over 25% of the state's population. Water usage exceeded 1.6 million acre-feet in water year 2010-2011<sup>1</sup>, and local regional planning efforts project a potential 800,000 acre-feet/year shortfall by 2025<sup>2</sup>. This shortfall could be exacerbated by climate variability as the area is subject to cycles of changing ocean temperatures, currents, and upwelling known as the El Niño and La Niña cycles.

The purpose of the Basin Study is to identify alternatives, conduct trade-off analyses and develop recommendations for bridging the gap between current and future water supply and water demand in the Basin Study watersheds. The Basin Study has two objectives. The first is to evaluate the long-term potential of existing LACFCD flood control dams, reservoirs, spreading grounds, and other interrelated facilities to conserve increased amounts of stormwater for water supply. The second objective is to analyze the potential for new facilities and operational changes to capture increased stormwater volumes for water supply. Each objective will be met through detailed scientific, engineering, and economic analyses.

The Basin Study is estimated to cost \$2.4 million. The LACFCD and 21 local project partners will contribute approximately \$1.4 million towards completion of the Basin Study, and Reclamation will fund up to \$1 million, subject to funding availability.



<sup>1</sup> MWD Calculations, IRPSIM Sales Model Projection 20a2, January 2012.

<sup>2</sup> Greater Los Angeles County Integrated Regional Water Management Plan, 2006, pgs. 2-18, <http://www.ladpw.org/wmd/irwmp>. Metropolitan's Integrated Resources Plan proposes that its member agencies develop projects to increase local water production and conservation, and further suggests that financial incentives can facilitate some of those projects to fill the gap.

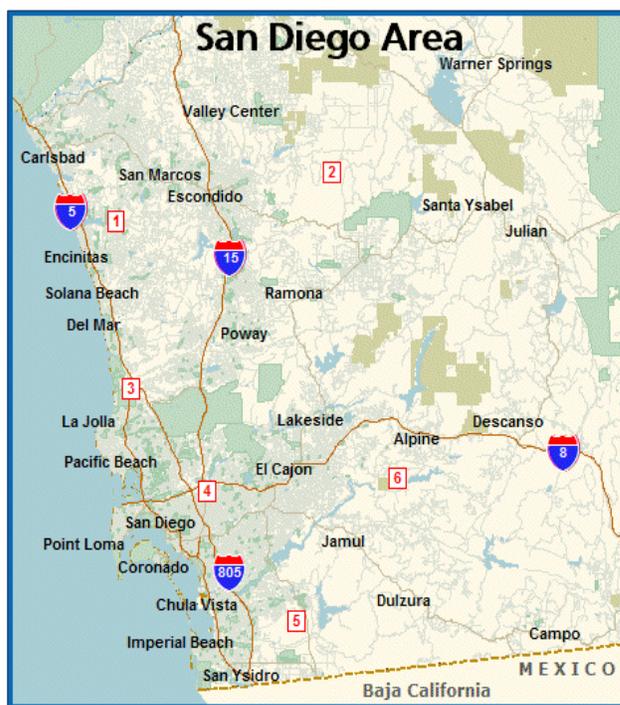
## San Diego Basin Study

Contact: Leslie E. Cleveland, Southern California Area Office, 951-695-5310, [lcleveland@usbr.gov](mailto:lcleveland@usbr.gov)  
Goldy Herbon, City of San Diego, Public Utilities Department, 619-533-4120,  
[GHerbon@sandiego.gov](mailto:GHerbon@sandiego.gov)

The San Diego Basin Study (study) is a 50-50 cost share partnership between the City of San Diego Public Utilities Department (SDPUD) and the Bureau of Reclamation (Reclamation). The purpose of the study is to assess the region's water supply and demand and determine the potential effects from climate change impacts within the San Diego Integrated Regional Water Management (IRWM) planning region; and analyze the region's existing infrastructure and develop adaptation strategies that can assist with addressing the uncertainties associated with climate change. The study will also focus on optimizing the region's sub-basin infrastructure and reservoir systems and further the development of potential new water supply sources through detailed scientific, engineering, and economic analyses.

The study will begin in the summer of 2014 and is expected to be completed at the end of 2016. The estimated cost is \$2.06 million dollars. SDPUD will contribute \$1.06 million as their share of the study cost. San Diego watersheds encompass approximately 2,900 square miles and is home to 3.1 million residents, and millions more visit the region annually. Most of the living area along the coast are highly urbanized, and the region's population is expected to increase 30% by 2035, to 4 million.

Imported water represents approximately 70-90 % of the total water supply, and its reliability is uncertain; and local water agencies are encouraged to develop local sources to ease the burden on the imported water sources. The region's 11 sub-watersheds include the San Juan, Santa Margarita, San Luis Rey, Carlsbad, San Dieguito, Peñasquitos, San Diego, Pueblo, Sweetwater, Otay and Tijuana Rivers. As the study findings are developed, alternatives will be explored and trade-off analyses will be conducted and reports prepared. All reports will be available online for review, at: [www.usbr.gov/lc/social/basinstudies/index.html](http://www.usbr.gov/lc/social/basinstudies/index.html).



For more detailed information please contact one of the co-study managers listed above.



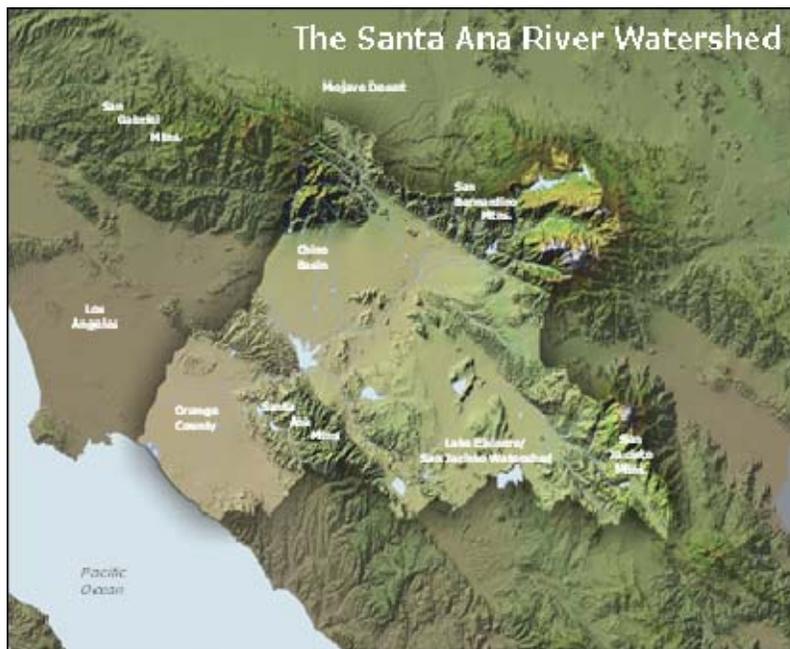
## Santa Ana Watershed Basin Study

Contacts: Jack Simes, Southern California Area Office, Ph. (951) 695-5310  
Jeff Beehler, Ph.D. SAWPA Water Resources, Ph. (951) 354-4220

The Santa Ana Watershed Basin Study is a partnership between the Santa Ana Watershed Project Authority (SAWPA) and the Bureau of Reclamation.

Authorized under the Secure Water Act (Title IX, Subtitle F of Public Law 111-11), the Study focuses on SAWPA's integrated regional water resources planning process and will refine the region's water projections and identify potential strategies to help the region adapt to climate change.

The study began in the fall of 2010 and will be completed in 2012. Over \$2 million dollars has been committed to this initiative, with a 50/50 cost-share.



SAWPA, a joint powers authority that represents five major water resources agencies (Eastern Municipal Water District, Inland Empire Utilities Agency, Orange County Water District, San Bernardino Valley Municipal Water District, and Western Municipal Water District) joins over 350 water, wastewater and groundwater management, flood control, environmental and other non-governmental organizations in a collaborative integrated water resources management plan called the "One Water One Watershed" (or the OWOW) Plan.

The Santa Ana Watershed is home to over 6 million people within an area of 2,650 square miles. In light of climate change, prolonged drought conditions, growth, and population projections, SAWPA is working to ensure there will be adequate water supplies to meet future water demand. This Basin Study will update the OWOW Plan, address impacts of climate change and identify potential adaptation strategies, assess increased energy demand, and ensure that future water quality and supply needs are met.

The Study will incorporate past and present regional and local planning studies within the watershed, and sustain the integrated and collaborative approach to regional water resources management planning. It will also use science and technology to assess climate change and greenhouse emissions effects, conduct watershed adaptation planning; and expand outreach to all major water uses and stakeholders.



Colorado River Basin Salinity Control Program  
Federal Accomplishments Report for Fiscal Year 2015

**Presented to**

Colorado River Basin Salinity Control  
Advisory Council

**by**

**United States Department of Agriculture  
Environmental Protection Agency  
U.S. Fish and Wildlife Service  
U.S. Geological Survey  
Bureau of Land Management  
Bureau of Reclamation**

October 2015

<b>Summary of Federal Salinity Control Programs</b>		
FY 2015		
<b>Salinity Unit</b>		<b>Tons / Year Removed</b>
<b>MEASURES IN PLACE BY RECLAMATION</b>		
Basinwide Program		214,700
Basin States Program (BSP)	1/	16,500
Meeker Dome		48,000
Las Vegas Wash Pitman		3,800
Grand Valley		122,300
Paradox Valley	2/	100,700
Lower Gunnison Winter Water (USBR)		41,400
Dolores		23,000
<b>Reclamation Subtotal</b>		<b>570,000</b>
<b>MEASURES IN PLACE BY USDA/BSP</b>		
Grand Valley	3/	143,500
Price-San Rafael		80,100
Uinta Basin		157,200
Big Sandy River		58,200
Lower Gunnison		119,100
McElmo Creek		29,500
Mancos		4,400
Muddy Creek		100
Manila		10,400
Silt		2,300
Green River		700
Tier 2	4/	6,800
<b>USDA Subtotal</b>		<b>612,000</b>
<b>MEASURES IN PLACE BY BLM</b>		
Nonpoint Sources	5/	111,600
Well-Plugging		14,600
<b>BLM Subtotal</b>		<b>126,000</b>
<b>Measures in Place Total</b>		<b>1,308,000</b>
<b>GOALS TO REACH TARGET</b>		
Reclamation Basinwide Program		222,000
USDA-NRCS Program		150,000
<b>Goals Subtotal</b>		<b>372,000</b>
<b>Total (Measures in Place + Goals)</b>		<b>1,680,000</b>
<b>Target by 2035</b>		<b>1,680,000</b>
1/ Off-farm projects funded by Basin States Program		
2/ Paradox injection well capacity estimated to decline beginning in 2020; assumed continuation of well or alternative control methods after 2020		
3/ May include off-farm controls that were not goaled.		
4/ Measures in areas outside approved projects		
5/ BLM non-point source are estimates.		



## U.S. Department of the Interior

Press Releases

Interior Launches New, Interactive Web Tool to Show Effects of 16-Year Drought in the Colorado River Basin

### OFFICE OF THE SECRETARY

On the Heels of the White House Roundtable on Water Innovation, Department Unveils New Tool Using “Open Data,” Providing More Information to Make Better Water Management Decisions

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12/16/2015

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Date: December 16, 2015

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Peter Soeth (Reclamation), (303) 445-3615

A.B. Wade (USGS), (703)648-4483

**WASHINGTON** – On the heels of a White House Roundtable on Water Innovation, the U.S. Department of the Interior today launched a new, interactive website to show the dramatic effects of the 16-year drought in the Colorado River Basin. The specialized web tool, otherwise known as [Drought in the Colorado River Basin – Insights Using Open Data](#), shows the interconnected results of a reduced water supply as reservoir levels have declined from nearly full to about 50 percent of capacity.

Launched as part of a broader effort by the Obama Administration to harness resources that help build drought resiliency, this web tool provides a visual depiction of the complexity of the nexus between water supply, water demand, and long-term drought in

the Colorado River Basin by connecting data from a variety of sources affiliated with the Open Water Data Initiative, which is led by Interior's U.S. Geological Survey.

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“Innovation is absolutely critical to helping us deal with the severe threats to water supply posed by drought and climate change,” said Interior Deputy Secretary Michael L. Connor, who moderated a discussion on innovation and technology at yesterday’s Roundtable. “Projects like this one show the power of open data to help us better understand our resource challenges. By enabling us to see the complex challenges in the Colorado River Basin visually, use of this website will help us devise timely actions to build resilience to the drought, spurring innovation along the way.”

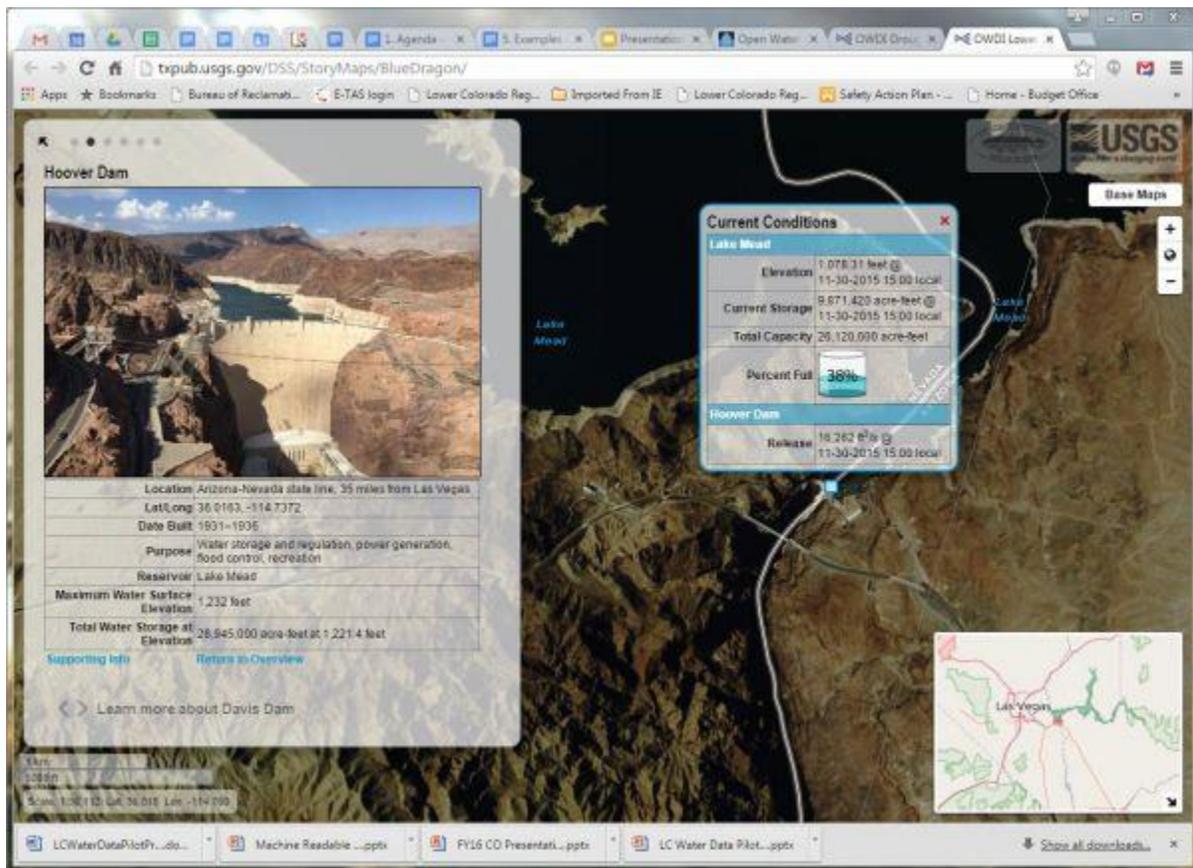
Projections developed by the Bureau of Reclamation, the federal agency responsible for managing the Colorado River, indicate that if the drought continues, the lower Colorado River Basin (Arizona, Nevada, Southern California) could see its first reductions in water deliveries – with an 18 percent chance of a shortage of legally mandated water delivery – as early as 2017. In response, federal agencies are collaborating with stakeholders, states, tribes and local agencies to develop creative strategies to reduce the impacts of drought and increase reservoir storage at Lake Powell and Lake Mead. At the Roundtable, Interior also announced its [Natural Resource Investment Center](#), which will use market-based tools and innovative public-private collaborations to increase investment in water conservation and critical water infrastructure.

The anticipated outcome of improved access to real-time data is that more people can engage in developing more complex automated data processing tools. A public “marketplace” is also envisioned where innovators inside and outside government can feature open source tools that are based on data liberated through the Open Water Data Initiative.

The Initiative builds on previous data-related efforts, including a 2013 Presidential Executive Order to make government data more open and machine readable and the 2014 Climate Data Initiative. This multi-year initiative will build upon existing geospatial and observed data and use tools to explore the feasibility and demonstrate the utility of

integrating water data. It supports current trends in application of big data while advancing the White House Open Data Policy ([data.gov](http://data.gov)) by using recognized standards and web service technologies to spur innovation.

To view the web tool, visit [www.doi.gov/water/owdi.cr.drought/en/index.html](http://www.doi.gov/water/owdi.cr.drought/en/index.html).



The Colorado River Basin Drought visualization tool uses open data from multiple sources to shed light on 16 years of drought in the Colorado River Basin. Interactive graphics in the tool include the one above, a map with information and real-time conditions for the reservoirs along the lower stretch of the river.