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Breaking News

Winter Storms Do Little To Impact Drought

February 10, 2015

It's a sign of the times that when "good news" flows California's way, it nevertheless may have something to do with "bad news" water conditions. U.S. Secretary of the Interior Sally Jewell announced in early February \$20 million in federal funding for drought relief projects in California. <http://www.doi.gov/news/pressreleases/secretary-jewell-announces-50-million-for-western-drought-response.cfm>

Praising the release of Bureau of Reclamation funds, Governor Edmund G. Brown Jr. said: "This important investment will help us improve how we save and move water, while continuing to protect sensitive habitat and wildlife. Even with recent storms, we have a long, dry trek ahead, and a close partnership with the federal government is crucial."

The Governor's remarks came just as two new storms bore down on the state and delivered significant rainfall. But while the soaking increased storage in California's major reservoirs, almost all of them remained far below their historical averages for early February, and drought conditions are unabated.

The storms were too warm to deliver significant amounts of snow to the Sierra Nevada, and the water equivalent of the state's snowpack also remained far below normal for this time of the wet season. Without a melting snowpack during the late spring and summer months, reservoir storage will likely remain inadequate to satisfy the requests of State Water Project (SWP) contractors.

The Department of Water Resources (DWR) announced in January that it would increase expected water deliveries in 2015 to most SWP customers from 10 percent of their requested amounts to 15 percent. The new allocation was made after early-December storms and replaced the initial allocation of 10 percent announced on December 1.

Also in January, DWR and the Bureau of Reclamation submitted a drought contingency plan to state regulators highlighting potential modifications to water quality rules and water rights permits that project operators may seek, depending on the weather.

The early submittal of the plan to the State Water Resources Control Board reflects an unprecedented level of coordination and planning among the state and federal agencies that either operate water projects based in the Sacramento-San Joaquin Delta or regulate those projects. Tight coordination in recent months allowed the projects to store storm runoff without violating statutory and regulatory obligations to protect water quality and wildlife.'

While the December and February storms delivered significant rainfall, California has had too few of these storms this winter to offset more than three years of drought. On average, California is drenched by six atmospheric-river storms during the critical winter period – one every other week. That isn't happening this winter; many communities recorded little if any rain in January.

The 29 public water agencies that take delivery of SWP supplies have requested 4,172,686 AF. With the new allocation, contractors will receive 635,759 AF. If the contractors' health and safety needs cannot be met by that allocation, DWR may increase deliveries to satisfy those needs. An acre-foot is roughly enough water to meet the needs of a family of four for one year.

<http://www.water.ca.gov/waterconditions/index.cfm>

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DWR Director Mark Cowin said although allocations have been increased, the current divergence from average conditions due to the drought makes water conservation as important as ever. "We cannot stress enough," he said, "that water conservation will be critical in stretching our supplies to the maximum extent possible throughout the coming year."

Delta Pumping Slowed to Avoid Drawing Smelt toward Pumps

December 15, 2014

To reduce the near-term risk to delta smelt and longfin smelt, and to head off potentially more severe cutbacks in water diversions this winter, the operators of the State Water Project and Central Valley Project will slow the rate at which they are pumping storm runoff from the Sacramento-San Joaquin Delta.

By Tuesday, the combined pumping levels for both projects will fall from approximately 11,000 cubic feet per second to roughly 7,000 cfs, even as modest storms are expected to boost runoff. The curtailment is a proactive effort on the part of SWP and CVP operators to avoid drawing turbid storm runoff toward the south Delta pumps that the projects use to supply 25 million Californians and three million acres of irrigated farmland.

The turbidity generated by this first set of big storms is very high and presents a significant risk of creating a turbidity bridge in the central and south Delta. Creating an expansive turbidity plume into the central Delta may make future management of smelt distribution difficult. The turbidity generated as these first big storms of the season churn streambeds and sweep away debris may draw smelt closer to the water project pumps in the south Delta. By curbing pumping levels now, water project operators hope to avoid a situation that would lead to a marked increase in entrainment of either delta or longfin smelt at the pumping plants and force a longer, more drastic cutback of pumping.

Foregoing the capture of tens of thousands of acre-feet of water over the next several days may allow water project operators to avoid the loss of hundreds of thousands of acre-feet of water supply later in the winter.

The Department of Water Resources and the U.S. Bureau of Reclamation, which operate the SWP and the CVP respectively, are coordinating Delta operations closely with federal and state wildlife agencies.

In December 2012, a plume of turbidity that extended into the central Delta helped to create the situation in which water project operators severely curtailed pumping storm runoff in order to avoid harm to smelt. As a result, hundreds of thousands of acre-feet of water were not moved into reservoir storage. Conditions quickly turned severely dry. In 2013, urban and agricultural water districts that depend upon the SWP and CVP got a small fraction of the supplies for which they contract.

Federal and state water and wildlife agencies, working together on a real-time drought operations team, will continue to monitor turbidity levels in the Delta and the movement of delta and longfin smelt, and will adjust pumping levels accordingly.

Federal, State Agencies Plan Drought Operations for 2015

December 12, 2014

This week brings sorely needed and significant precipitation to California. But similar levels of rain and snow would have to fall consistently throughout this winter and spring for the state to begin to recover from extreme drought conditions. In preparation for a fourth year of drought, the directors of five federal and state agencies primarily involved in operating and regulating California's two biggest water projects, the federal Central Valley Project and the State Water Project, together have developed a strategy for potential implementation. State and federal agencies have developed a plan for 2015 operations and a summary of key lessons learned during 2014 in managing this extreme drought.

- [Interagency 2015 Drought Strategy](#)
- [CVP and SWP Drought Contingency Plan](#)
- [CVP and SWP Drought Contingency Biological Monitoring Plan](#)
- [Draft Review Of Applied Adaptive Management](#)

Public Update on Groundwater Conditions

On November 25, 2014, DWR released the Drought Response [report](#) as required by the Governor's April 2014

<http://www.water.ca.gov/waterconditions/index.cfm>

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Drought Media Outreach Materials

Follow DWR on:



Proclamation of a Continued State of Emergency. The report identifies groundwater basins with potential water shortages, gaps in groundwater monitoring, and includes a summary of land subsidence monitoring and agricultural land fallowing. For the latest groundwater level data and detailed information regarding groundwater and groundwater management in California, please visit DWR's Groundwater Information Center at www.water.ca.gov/groundwater



Water Year 2014 Ends as 3rd Driest in Precipitation

On Heels of Driest-Ever Calendar Year

Water Year 2014 – overlapping with California's driest calendar year – ended on September 30 as the state's third driest in 119 years of record, based on statewide precipitation.

(Graphics below show the state's aggregated precipitation in calendar year 2013 was a mere 7 inches, followed by 12.08 inches in Water Year 2014 (October 1, 2013 – September 30, 2014).

So California's deepening drought is racking up some impressive – and destructive – scores as we approach what could be another dry winter.

California has been warm as well as dry.

NOAA's National Climatic Data Center reported that in the first nine months of 2014, California temperatures averaged 63.7° F, or 4.1° F above the 20th century average of 59.6 °F. Temperatures from April to September averaged 70.0° F, breaking the old record for the period of 69.4° F set in 2013.

And in late July, the U.S. Drought Monitor classified 58 percent of California in "exceptional" drought, the worst category, and that percentage remained unchanged through September. More than 80 percent was in "extreme" drought.

A close eye is being kept on California's reservoir storage which is being drawn down daily to meet California's essential needs for humans, fish and wildlife.

On January 17, Gov. Edmund G. Brown Jr. declared a drought state of emergency. On April 25, Governor Brown asked all Californians to redouble their efforts to conserve water, instructed agencies to cut red tape to get water to farmers more quickly, ensure that people have safe drinking water, protect vulnerable wildlife species and prepare for an extreme fire season. Read the executive order at <http://gov.ca.gov/news.php?id=18496>.

The proclamation is available here: <http://www.gov.ca.gov/news.php?id=18368>.

Statewide Storage

As the Water Year ended on September 30, the state's major reservoirs collectively held only 60 percent of average storage for the date, or about 41 percent of capacity. Cumulative reservoir storage in 1977, California's driest calendar year on record, was approximately five million acre-feet less than this year, but the state had 16 million fewer people then.

Due to the extended dry period and forecasters' inability to predict the drought's end, DWR is delivering a record low five percent of the requested amount of State Water Project water, while the federal Central Valley Project has reduced deliveries to zero for some junior rights holders.

Forest fires, brown lawns, food banks, groundwater legislation and water management debates all are consequences of a deepening drought as the winter months approach without a good reading of whether they will be wet or dry.

"The immediate certainty is that day-to-day conservation – wise, sparing use of water – is essential as we face the possibility of a fourth dry winter," said DWR Director Mark Cowin.

Predictions of El Nino conditions that sometimes alter precipitation patterns have changed during 2014.

But meteorologists note that the El Nino phenomenon is not a reliable indicator of weather in California, especially not in the Northern Sierra watersheds that feed some of the state's largest reservoirs. El Nino is much like its cousin "La

Nada" when it comes to its effects on California weather.

DWR and the Association of California Water Agencies urge all Californians to conserve water by following the advice and tips found at <http://SaveOurWater.com>.

DWR's California Data Exchange Center Web site shows current water conditions at the state's largest reservoirs and weather stations.

Reservoirs: <http://cdec.water.ca.gov/reservoir.html>

Precipitation: http://cdec.water.ca.gov/snow_rain.html

Legislation Becomes Law

As California's drought deepens, Governor Edmund G. Brown Jr. on September 16 signed historic legislation to ensure a sustainable supply of California groundwater. The three-year drought has increased groundwater extraction in many regions of the state and led to over-drafting and water shortages in some communities. The new law mandates the creation of local groundwater management agencies that will monitor extraction and create sustainability plans that must be in place in 20 years. DWR is given expanded responsibilities under the law, including requirements to revise groundwater basin boundaries and create guidelines for local agencies to write their Sustainable Groundwater Management Plans. More on the historic legislation here: <http://gov.ca.gov/news.php?id=18701>

Drought Barriers Cancelled for 2014

February and March storms that slightly boosted water deliveries also eliminated the immediate need for salinity barriers in the Sacramento-San Joaquin Delta to control saltwater intrusion from San Francisco Bay, as described in this [April 18 news release](#). The rock barriers would have been installed at Sutter and Steamboat sloughs near Courtland and False River near Oakley. DWR continued to assess water supply and demand in the weeks following the April 18 announcement and concluded in late May that the barriers will not be needed in 2014. Planning and permitting will continue for the barriers' possible installation in 2015 if drought conditions persist into a fourth consecutive dry year.

The [fifth and final snow survey of the season on May 1](#) recorded manual and electronic readings of the statewide snowpack's water content – which normally provides about a third of the water for California's farms and cities – at a mere 18 percent of average for the date. By late May, the Sierra snowpack's water equivalent statewide had decreased to almost zero.

When Governor Brown declared a [drought State of Emergency](#) in January, he directed state officials to take all necessary actions to prepare for water shortages. CAL FIRE recently announced it hired 125 [additional firefighters](#) to help address the increased fire threat due to drought conditions, the California Department of Public Health identified and offered [assistance](#) to communities at risk of severe drinking water shortages and the California Department of Fish and Wildlife [restricted fishing](#) on some waterways due to low water flows worsened by the drought. Also in January, the California Natural Resources Agency, the California Environmental Protection Agency and the California Department of Food and Agriculture also released the [California Water Action Plan](#), which will guide state efforts to enhance water supply reliability, restore damaged and destroyed ecosystems and improve the resilience of our infrastructure.

For more information on drought, see <http://www.water.ca.gov/waterconditions/droughtinfo.cfm>.

Dry Water Years

Dry Water Year (October 1 –September 30) rankings, by inches of precipitation

Statewide		North Coast		North Central		Northeast		Sacramento-Delta		Sierra	
Year	Rainfall	Year	Rainfall	Year	Rainfall	Year	Rainfall	Year	Rainfall	Year	Rainfall
2014	9.23	1924	25.38	1929	20.12	1924	7.66	1924	5.85	1924	14.89
1877	11.81	1977	30.36	1977	23.10	1926	11.68	1920	7.87	1977	15.86
2014	12.08	2014	33.48	1920	24.17	1977	12.43	1913	8.13	2014	20.76
1898	13.35	1931	36.32	1896	26.30	1931	12.44	1977	8.57	1987	20.89
1920	13.43	2001	39.43	1931	28.67	1920	12.59	1976	9.15	1976	22.64

San Joaquin Valley		Central Coast		South Coast		South Interior		Mojave		Sonoran	
Year	Rainfall	Year	Rainfall	Year	Rainfall	Year	Rainfall	Year	Rainfall	Year	Rainfall
2014	4.81	1924	11.94	2014	5.87	2007	7.72	2013	2.77	1950	2.91
1924	5.30	2014	11.94	2007	5.87	2002	5.82	2014	2.90	2002	1.06
1972	5.71	1977	11.95	2002	6.34	1981	6.98	2002	2.96	1895	1.22
1977	6.18	1913	12.82	1961	7.22	1969	8.94	2007	3.45	1996	1.42
2013	6.18	1976	12.91	1896	7.30	2014	9.04	1934	3.46	1902	1.47

Summary of 2014 Water Year (October 1, 2013 – September 30, 2014)

Region	WY2014 Value (inches)	% of Average	Rank	# Years
Sierra	20.76	53%	3	119
Northeast	15.21	52%	15	119
North Central	28.87	56%	5	119
Sacramento Delta	10.68	54%	9	119
San Joaquin Valley	4.81	38%	1	119
North Coast	33.48	51%	3	119
Central Coast	11.94	47%	2	119
South Coast	5.83	32%	1	119
South Interior	9.04	50%	5	119
Mojave	2.9	39%	2	119
Sonoran	2.41	54%	21	119
Statewide	12.08	52%	3	119

Dry Calendar Years

WRCC climate region dry years, ranked by inches of precipitation:

Click for a more detailed view.

Statewide		1 North Coast		2 North Central		3 Northeast		4 Sacramento-Delta		5 Sierra	
Year	Rainfall	Year	Rainfall	Year	Rainfall	Year	Rainfall	Year	Rainfall	Year	Rainfall
2013	7.6	2013	22.7	2013	16.2	2013	7.6	2013	5.1	2013	10.4
1898	11.6	1976	32.3	1976	22.4	1924	10.6	1923	7.7	1976	17.0
1923	11.7	1923	36.5	1898	22.7	1923	11.5	1917	8.1	1898	21.6
1976	13.1	1985	37.6	1923	25.1	1976	12.0	1976	8.1	1947	21.8
1917	13.3	1929	38.9	1910	27.3	1908	12.5	1898	8.6	1908	22.1

6 San Joaquin Valley		7 Central Coast		8 South Coast		9 South Interior		10 Mojave		11 Sonoran	
Year	Rainfall	Year	Rainfall	Year	Rainfall	Year	Rainfall	Year	Rainfall	Year	Rainfall
2013	2.9	2013	4.8	2013	6.3	1947	7.2	2013	2.7	... 66 entries to .09	
1947	4.5	1923	10.9	1947	5.5	1953	7.2	1953	2.8	1949	4.3
1917	5.2	1917	11.0	1989	5.6	1989	7.3	1929	2.9	55-'57	4.3
1898	5.5	1929	11.3	1898	6.0	2007	7.3	1989	2.9	2003	4.3
1929	5.7	1898	11.3	1953	6.1	1999	8.1	1947	3.1	1958	4.4
						1961	8.1			2013	4.4
						2013	8.2				

Note: records date back to 1895.

Source: Western Regional Climate Center



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