WATER AND RESOURCE CONSERVATION
308 Nelson Avenue, Oroville, CA 95965
Telephone: (530) 538-4343
Fax: (530) 538-3807
www.buttecounty.net/waterandresource
bcwater@buttecounty.net
Paul Gosselin, Director

Butte County Drought Task Force

June 17, 2013
1:30 – 3:30 PM

Department of Water and Resource Conservation Conference Room
308 Nelson Avenue, Oroville, CA

Agenda

1. Roll Call
2. Introductions/Meeting Goals – Paul Gosselin
3. *Update on Hydrologic Conditions – Christina Buck
   a. Drought forecasts and climate conditions
   b. Drought Projections:
      i. Snow-pack/precipitation
      ii. Stream flow
      iii. Reservoir levels
      iv. Groundwater levels
4. State Water Supply Conditions – Vickie Newlin
5. Discussion of Drought Issues – All
   a. Agriculture
   b. Domestic Water Supplies
   c. Environmental
6. Next Steps
7. Public wishing to address the Drought Task Force on issues not listed on the agenda.
8. Next Meeting - TBD

*Materials attached

INTERDEPARTMENTAL MEMORANDUM

TO: Butte County Drought Task Force

FROM: Christina Buck, Water Resources Scientist
Water and Resource Conservation

SUBJECT: Hydrologic Conditions Update – June 2013

DATE: June 10, 2013

Introduction

This water year, beginning October 1, 2012, was off to a strong start with atmospheric river storms in late November and early December. On January 1, 2013, statewide snow sensors indicated snow pack was 137 percent of normal for that date and flows in November and December were over 200 percent of normal for many rivers. However conditions changed quickly and the January-May period was the driest on record throughout the Sierra (since 1920). Statewide conditions indicate the water year type will be dry or critical for the Sacramento Valley and critical for the San Joaquin Valley. The statewide snow water content as of May 1 was only 15 percent of average for May 1 and nearly 90 snow courses were bare. Precipitation and runoff were at 75 and 70 percent of average, respectively (Figure 1).

Snow-pack/Precipitation

The Northern Sierra Precipitation accumulation as of May 31, 2013 is 42.4 inches (just above the 2012 WY total of 41.6 inches) corresponding to 89% of average for this date. This 8-Station index provides a representative sample of the region's major watersheds including the upper Sacramento, Feather, Yuba, and American Rivers. Figure 2 shows the distribution of the precipitation thus far revealing the very wet beginning, the dry January-March, and the continued below average rainfall in April and May.

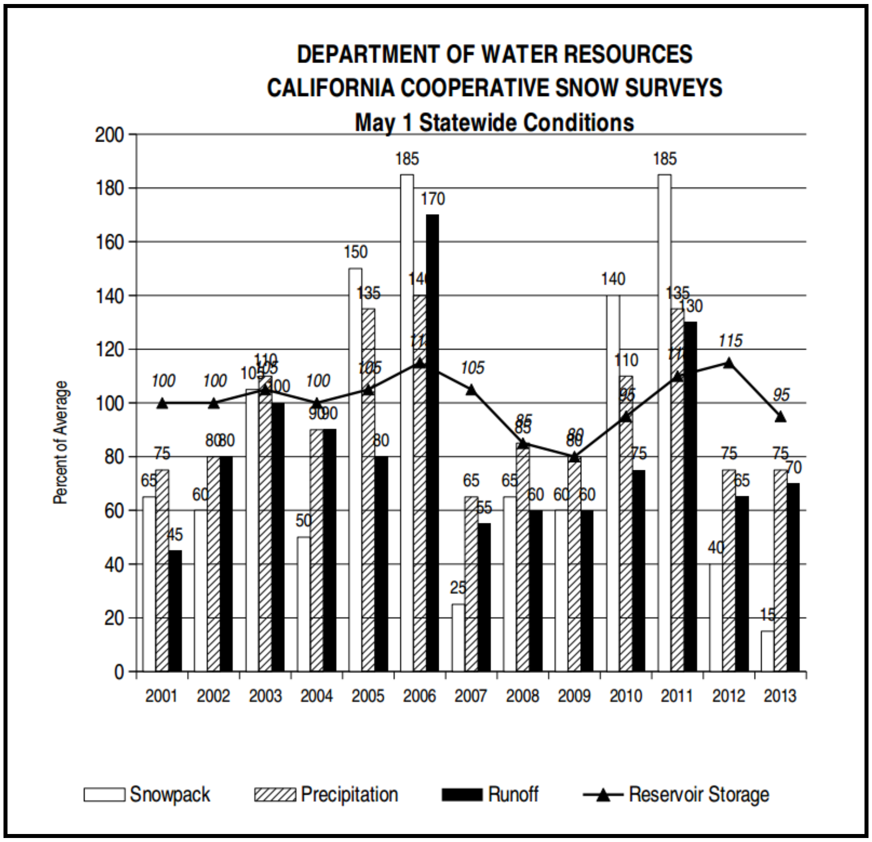


Figure 1. DWR CA Cooperative Snow Surveys, May 1 Statewide Conditions: Snowpack, Precipitation, Runoff, Reservoir Storage (Source: Bulletin 120 Water Supply Conditions May 1, 2013 edition)

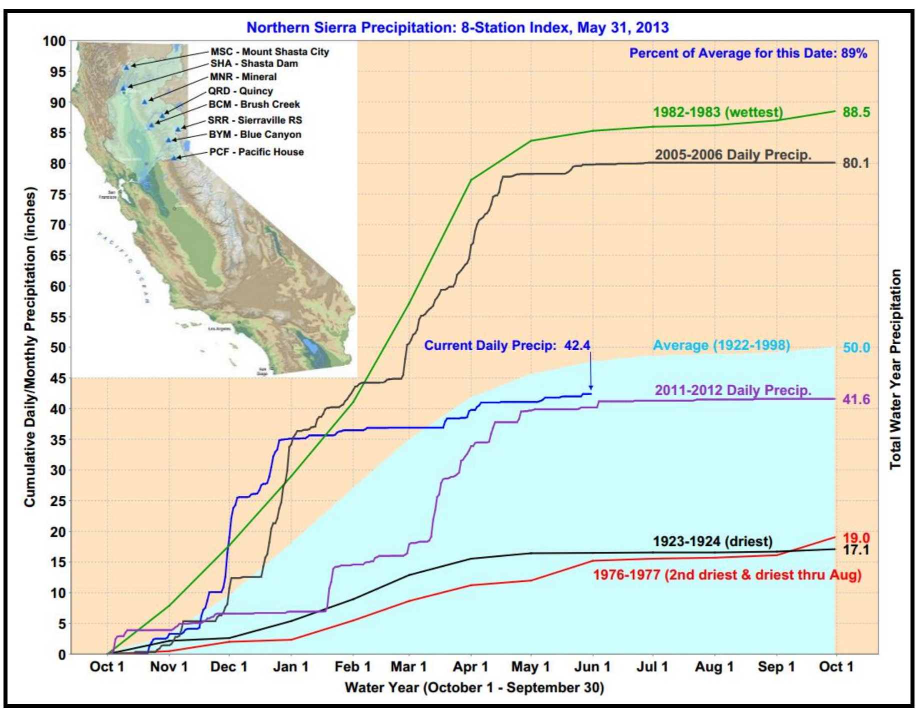


Figure 2. Northern Sierra Precipitation: 8-Station Index, as of May 31, 2013 (Source: http://cdec.water.ca.gov/cgi-progs/products/PLOT_ESI.pdf)

Snow survey results from the May 1 DWR Bulletin 120 also shows below average precipitation in the Sacramento River watershed (85% of average) which was significantly better than the San Joaquin and Tulare Basin snow surveys: 70% and 55% of average, respectively (Figure 3). Statewide, snow surveys indicate precipitation was at 75% of average for the May 1st date.

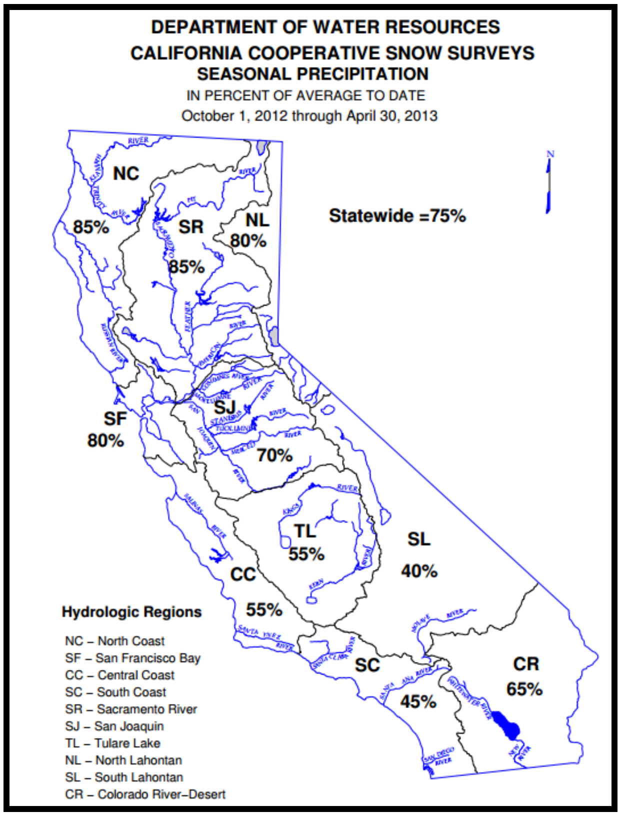


Figure 3. Snow Survey results, May 1, 2013 (Source DWR Bulletin 120 Water Supply Conditions)

Runoff and Reservoir Storage

The Sacramento River Region is expected to produce 44 percent of the normal April-July runoff. In part, this will result in a 2013 water year type of dry or critical for the Sacramento Valley.

Major reservoirs in California stand below the historical average for June 10 with the only exception being Pyramid Lake in the south. See Figure 4 for an overview of levels for the major reservoirs. Figure 5 shows storage conditions of Lake Oroville over the current 2013 water year (thick blue line) compared to WY 2012, and the driest year on record, WY 1977. Lake Oroville storage began the water year with below average conditions, gained storage quickly with the early season storms in December but began to drop off again substantially in April to its current below average conditions.

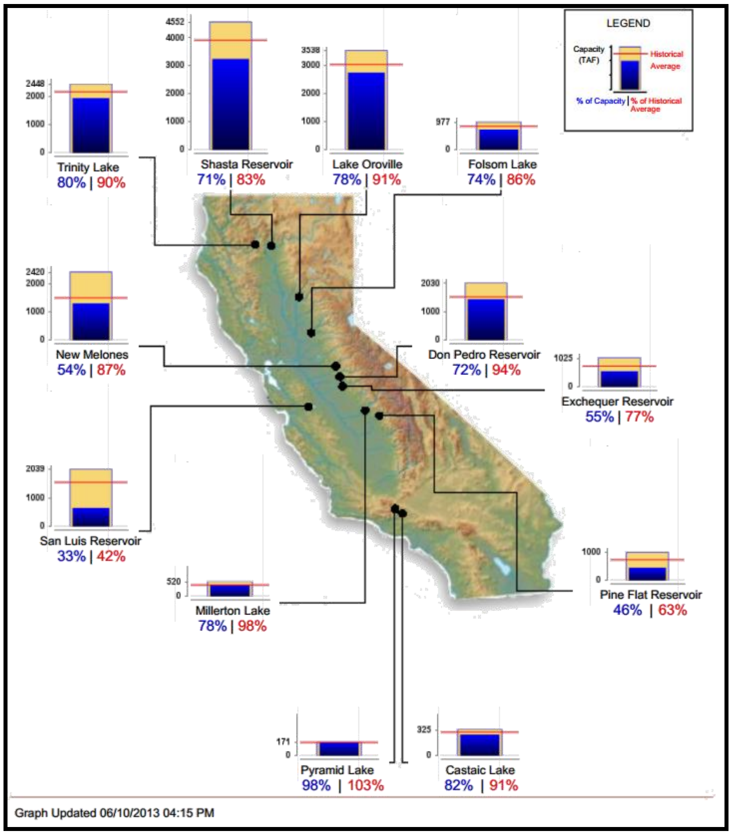


Figure 4. Conditions for Major Reservoirs as of June 10, 2013 (Source DWR: http://cdec.water.ca.gov/cdecapp/resapp/getResGraphsMain.action)

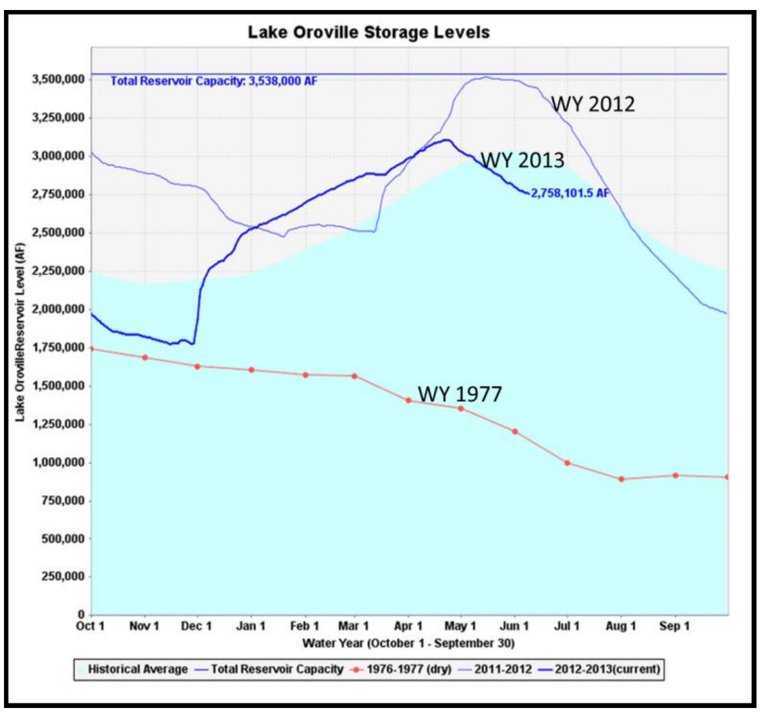


Figure 5. Lake Oroville Current Reservoir Conditions as of June 9, 2013 - storage in acre-feet (http://cdec.water.ca.gov/cdecapp/resapp/resDetailOrig.action?resid=ORO)

Groundwater Levels

Groundwater elevations in Butte County were measured by the Department of Water Resources Northern Region the week of March 18, 2013 and reviewed by the Butte County Water Advisory Committee and Technical Advisory Committee at their combined meeting on May 2. A BMO data summary spreadsheet for historical spring groundwater elevations (2008-2013) is available on the Department's website under BMO. With below average precipitation in the 2012 water year and a record dry spring in 2013, groundwater levels generally decreased compared to spring 2012. Alert stages indicate that wells are at or near historical lows. This spring, an additional five wells entered Alert 1, two dropped out of Alert 1, and fourteen wells that had been at an Alert 1 in spring 2012 remained so in 2013. An additional three wells entered an Alert 2, eight moved from Alert 1 to Alert 2, and four remained at Alert 2. Table 1 shows the total number of wells at an Alert 1 and 2 for the past six springs. Six of the monitored wells have a long historical record, dating back to the 1940s and 1950s, and reached an Alert 2 this spring indicating a new historical low in these wells. The locations of these wells are shown as yellow circles in Figure 6. The map also shows that wells in an Alert stage are generally located in groundwater dependent areas and primarily in the Vina, Chico Urban Area, Durham/Dayton, Esquon and Cherokee sub-regions.

Table 1. Number of Spring Level Measurements at Alert Stage 1 and 2 for 2008-2013 Using Current BMOs

	2008	2009	2010	2011	2012	2013
Alert 1	26	30	26	23	24	19
Alert 2	0	6	2	0	4	15

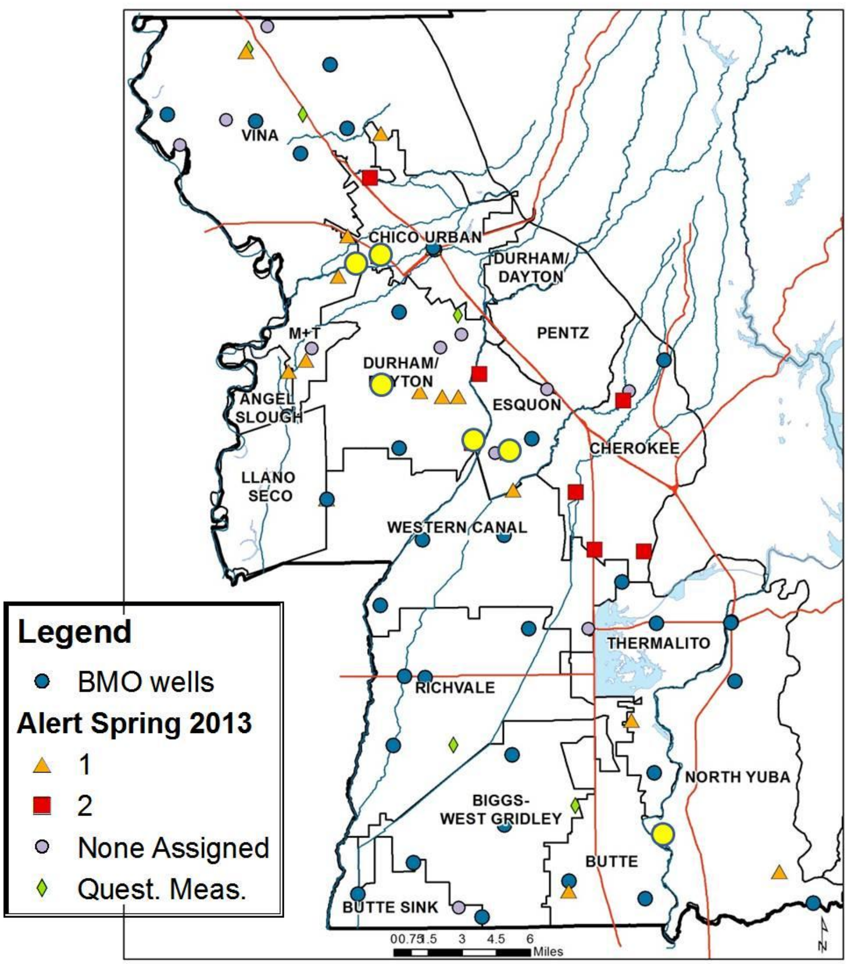


Figure 6. Butte County BMO Wells in Alert Stage 1 and 2 with New Historical Lows for Six Wells Shown with Yellow Circles

The bar graph (Figure 7) shows on average how groundwater levels have changed in each sub-region from spring 2012 to 2013 and from spring 2008 to 2013. Note this does not account for well depth, screening interval, well type, etc. In the past year, the greatest average declines occurred in the Esquon and Pentz sub-regions whereas over the 2008-2013 period, the greatest average declines were in the Esquon, Durham/Dayton, and Pentz sub-regions. For 2012 to 2013, the groundwater level change was moderate in most places with the overall average decrease being only about two feet. The greatest decreases however were observed in wells in the Chico Urban Area (-8 ft), Esquon (-7.2 ft), North Yuba (-6.8 ft), and Durham-Dayton (-6.7 ft) sub-regions.

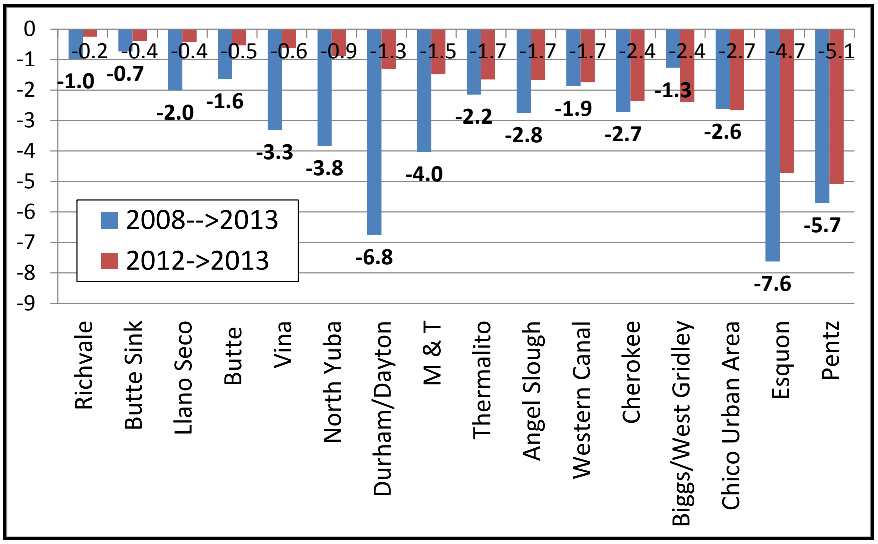


Figure 7. Average Change in Water Surface Elevation (WSE) for Spring 2008 to Spring 2013 and for Spring 2012 to Spring 2013

National Drought Conditions

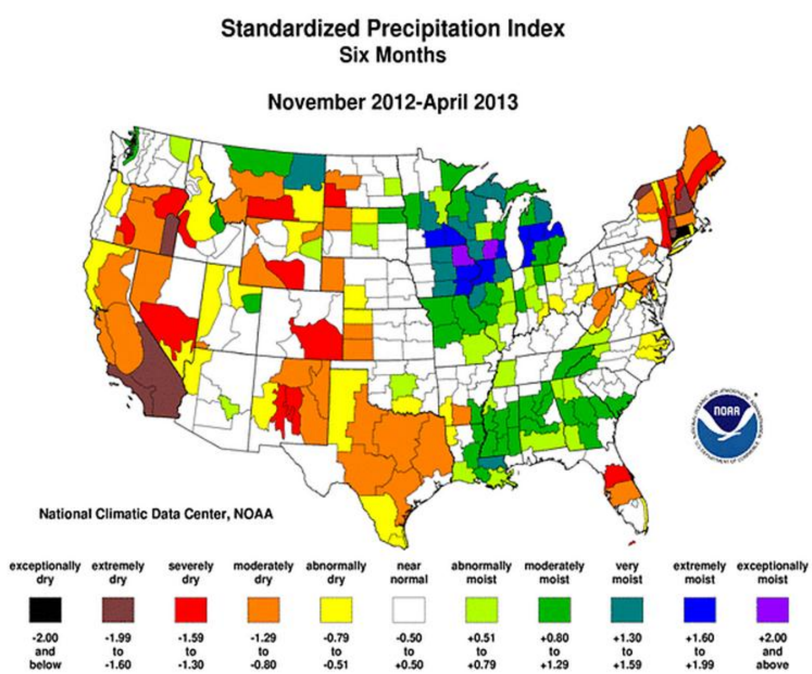
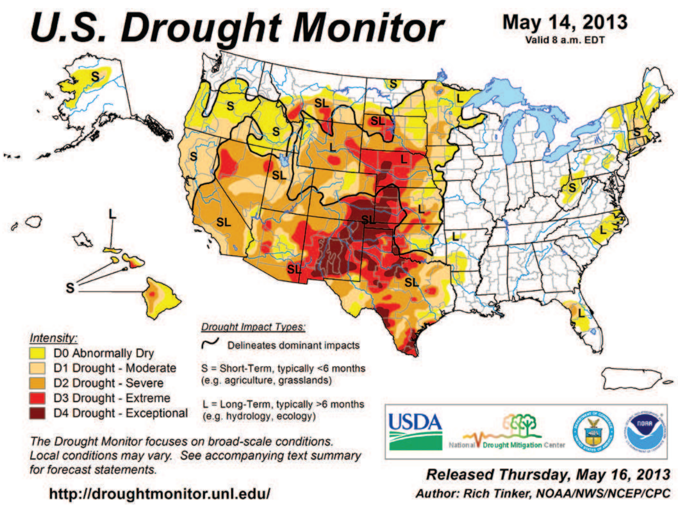


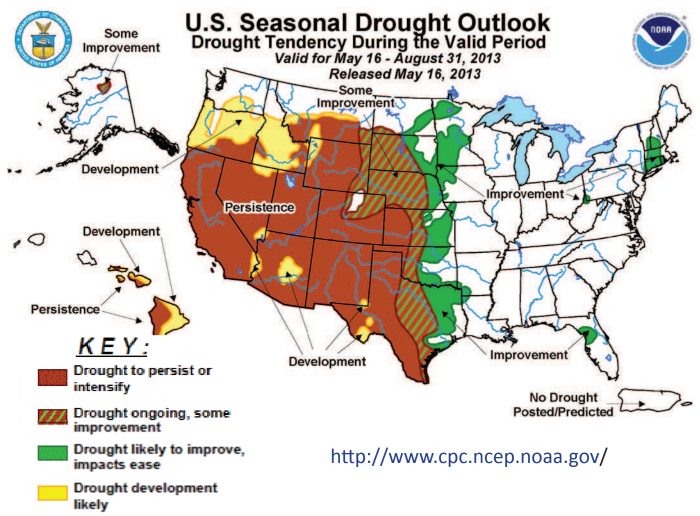
Figure 8. Standardized Precipitation Index for Six Months, November 2012 to April 2013

Summary 2013 National Drought Outlook

May 16, 2013

Current Drought Conditions and the Seasonal Drought Outlook



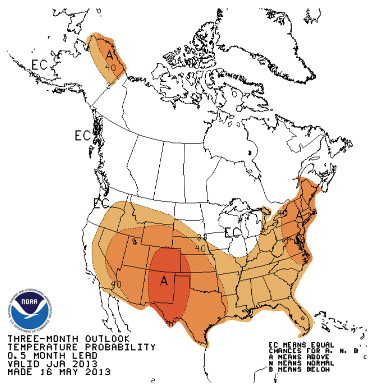


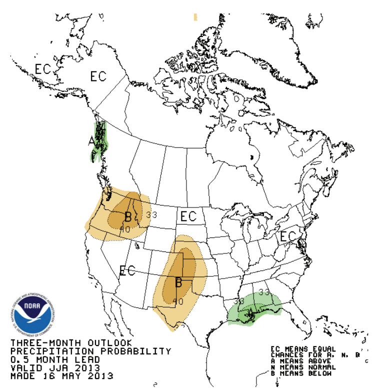
http://www.cpc.ncep.noaa.gov/

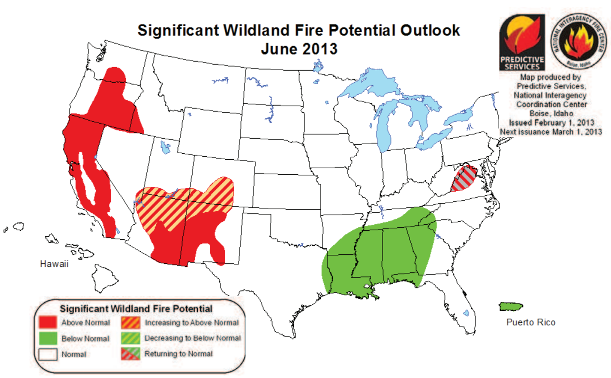
Extreme (D3) to exceptional (D4) drought continues to pose a threat to the agricultural community in the central U.S., while drought conditions continue to ease in the southeast. Exceptional drought (D4) now covers 44% of the state of New Mexico, where significant drought impacts have been observed. Moderate (D1) to exceptional drought (D4) conditions exist over 48% of the contiguous U.S.

Drought is anticipated to intensify or persist in the West, with some possible development in Oregon and Idaho (brown and yellow shading). The Plains tend to receive most of their annual precipitation between May and August, so drought conditions are anticipated to improve in the Plains (green and hatched shading). This designation of improvement, however, does not imply elimination of drought, just a possible easing of conditions.

Temperature, Precipitation and Wildfire Outlooks







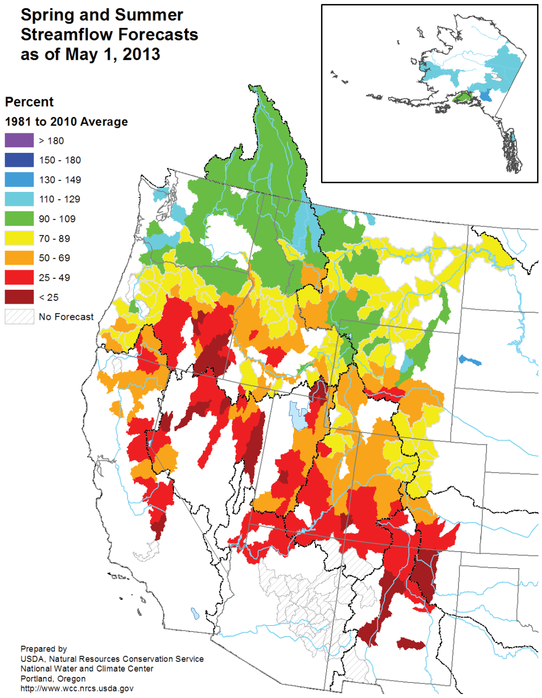
For the summer months, most of the lower 48 states are expected to have above-normal temperatures. "EC" indicates temperatures have equal chances of being below normal, normal or above normal. (http://www.cpc.ncep.noaa.gov)

Below-average precipitation is anticipated for the southern and central High Plains and the Pacific Northwest. The central Gulf Coast may receive above-normal precipitation. "EC" indicates precipitation amounts have equal chances of being below normal, normal or above normal. Summertime precipitation is more difficult to predict than springtime precipitation.

For June 2013, significant fire potential will be above normal over much of California and Oregon, south central Washington, most of Arizona and New Mexico, and southern Utah and Colorado. Significant fire potential will remain below normal for the central Gulf states and Puerto Rico. Significant fire potential will return to normal in northern Virginia. (www.nifc.gov)

Contacts: Lisa Darby (lisa.darby@noaa.gov)
Brad Rippey (brippey@oce.usda.gov)
Chandra Pathak (chandra.s.pathak@usace.army.mil)

Water Resources



Spring and Summer Streamflow Forecast

The northernmost states in the western U.S. are expected to have near-normal spring and summer streamflows. Central and southern states in the western U.S. are expected to have significantly below-average spring and summer streamflows. (http://www.wcc.nrcs.usda.gov/snowcourse/snow_map.html)

Reservoirs

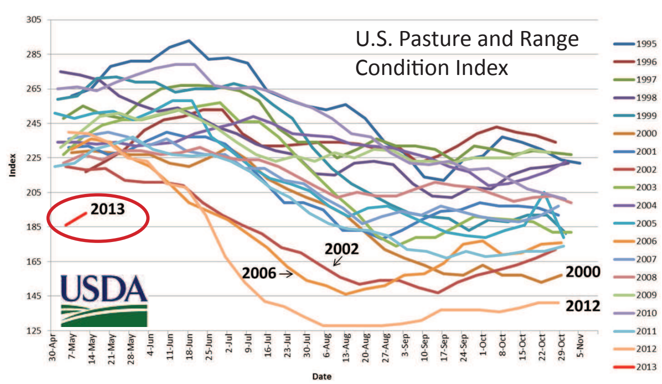
Cold temperatures delayed snowmelt in April over the northern and eastern regions of the West, keeping streams low and reservoir storage gains at a minimum.

In the West, statewide average reservoir levels show no significant changes since last month with the exception of a moderate decrease in Arizona's reservoir levels. Idaho, Montana, Utah, and Wyoming reservoirs are near normal. Arizona, Colorado, New Mexico, Nevada and Oregon have below normal storage, especially Nevada and New Mexico. (http://www.wcc.nrcs.usda.gov/cgibin/westsnowsummary.pl)

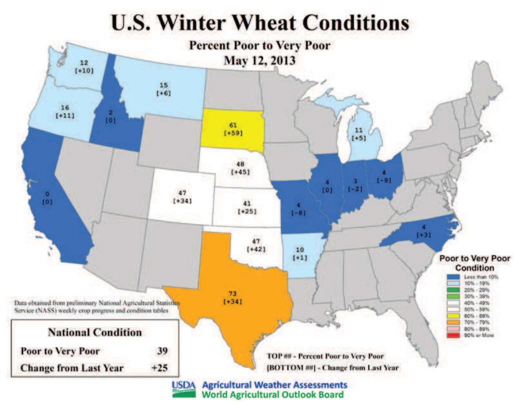
Rivers and Lakes

- Drought conditions in the Missouri River Basin improved in late winter and spring of 2013, particularly over the central Midwest.
- Currently most of the navigable waterways on the Mississippi River are operating under normal conditions.
- All of the Great Lakes are below long-term averages for this time of year and forecasts call for continued below-average lake levels.
- May lake levels in Central and Western Texas are below what they were during the 2011 drought (the worst single year in recorded history). The need for water conservation is being emphasized.

Agriculture



National pasture and rangeland conditions, which have been reported by USDA since 1995, are the lowest on record for this time of year. At the height of last year's drought, from July-October 2012, U.S. pasture and rangeland conditions broke records previously established in 2000, 2002, and 2006.



39% of the U.S. winter wheat was rated in very poor or poor condition on May 12, up 25% from the same time last year. Most of the drought-stressed wheat is located in the Hard Red Winter Wheat Belt, which spans the Great Plains. White, yellow and orange states have the worst winter wheat conditions.

Outlook Partners

DOI/WaterSMART
www.usbr.gov/WaterSMART
DOI/Bureau of Reclamation
www.usbr.gov
National Interagency Fire Center
www.nifc.gov
National Drought Mitigation Center
drought.unl.edu
Nebraska Cattlemen, Inc
www.nebraskacattlemen.org
NOAA/NWS Climate Prediction Center
www.cpc.ncep.noaa.gov

NOAA/National Integrated Drought Information System
www.drought.gov
NOAA/Office of Legislative and Intergovernmental Affairs
www.legislative.noaa.gov
New Mexico Office of the State Engineer
www.ose.state.nm.us
Texas Water Development Board
www.twdb.state.tx.us

US Army Corps of Engineers
www.usace.army.mil
USDA/Office of the Chief Economist
www.usda.gov/oce
USDA/NRCS National Water and Climate Center
www.wcc.nrcs.usda.gov
USDA/US Forest Service
www.fs.fed.us
Western Horizons Corporation
brangus@pld.com

Contacts: Lisa Darby (lisa.darby@noaa.gov)
Brad Rippey (brippey@oce.usda.gov)
Chandra Pathak (chandra.s.pathak@usace.army.mil)

Drought in California

California Department of Water Resources
Natural Resources Agency
State of California

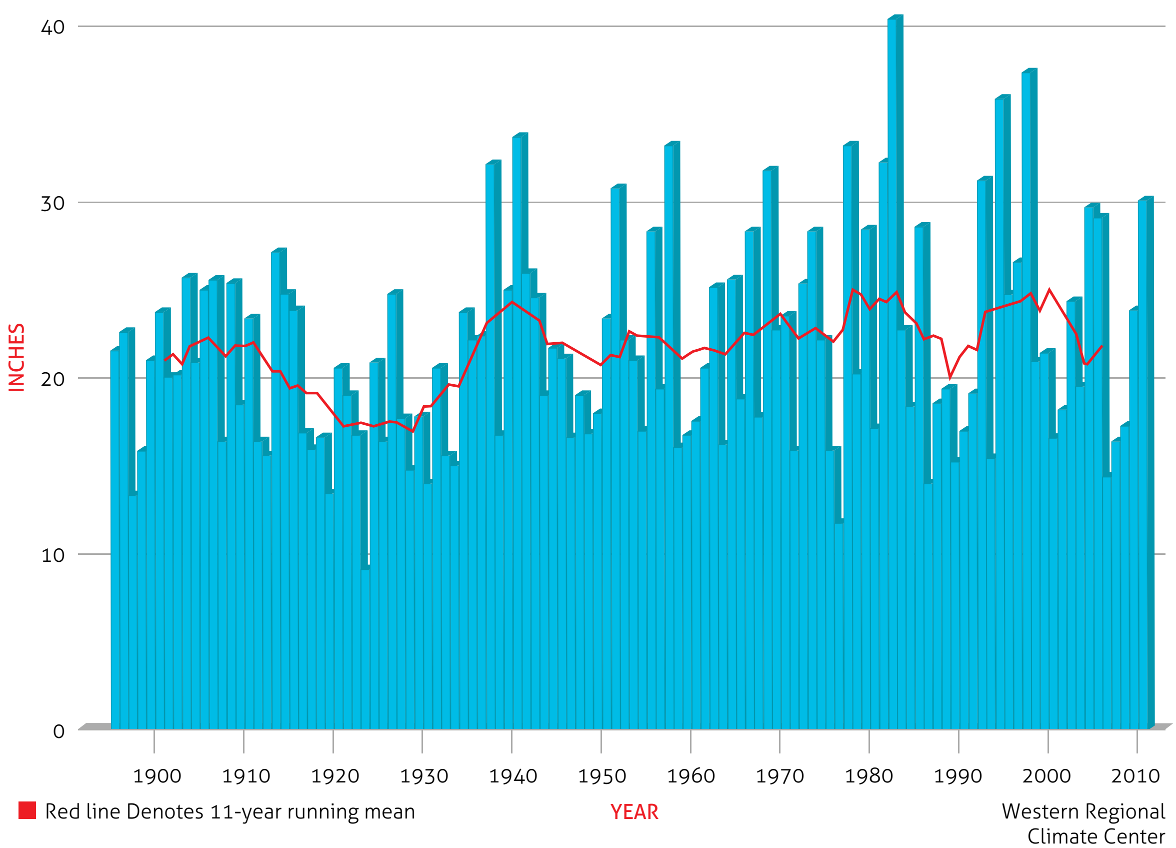
Defining Drought

CONTENTS

There are many ways that drought can be defined. Some ways can be quantified, such as meteorological drought (period of below normal precipitation) or hydrologic drought (period of below average runoff), others are more qualitative in nature (shortage of water for a particular purpose). There is no universal definition of when a drought begins or ends. Drought is a gradual phenomenon.

Impacts of drought are typically felt first by those most dependent on annual rainfall, such as ranchers engaged in dryland grazing or rural residents relying on wells in low-yield rock formations. Drought impacts increase with the length of a drought, as carry-over supplies in reservoirs are depleted and water levels in

CALIFORNIA STATEWIDE PRECIPITATION OCT–SEPT (WATER YEAR)



ground water basins decline. Hydrologic impacts of drought to water agencies may be exacerbated by other factors such as regulatory requirements to protect environmental resources or to satisfy the rights of senior water right holders.

From a water use perspective, drought is best defined by its impacts to a particular class of water users in a particular location. In this sense, drought is a very local circumstance. Hydrologic conditions constituting a drought for water users in one location may not constitute a drought for water users in a different part of the state or with a different water supply. California's extensive system of water supply infrastructure— reservoirs, managed groundwater basins, and inter-regional conveyance facilities—mitigates the effect of short-term (single year) dry periods. Individual water suppliers may use criteria such as rainfall/runoff, amount of water in storage, decline in groundwater levels, or expected supply from a water wholesaler to define their water supply conditions. Criteria used to identify statewide drought conditions—such as statewide runoff and reservoir storage—do not address these localized circumstances. And although California's water supply infrastructure provides a means to mitigate impacts for some water users, other types of impacts (increased wildfire risk, stress on vegetation and wildlife) remain.

California's extensive system of water supply infrastructure—reservoirs, managed groundwater basins, and inter-regional conveyance facilities—mitigates the effect of short-term (single year) dry periods.

Through water year 2012, Colorado River inflow into Lake Powell has been below average in 10 of the past 13 years, resulting in reduced storage levels in Lakes Mead and Powell. The Colorado has historically been a highly reliable water supply for Southern California despite long-term drought, thanks to its large reservoir storage capacity. Interim guidelines adopted in 2007 for Lower Basin shortages and coordinated operations of Lakes Mead and Powell help reduce the risk of shortages to California.

Droughts in California

Drought played a role in shaping California's early history, as the so-called Great Drought in 1863–64 contributed to the demise of the cattle rancho system, especially in Southern California.

MULTI-YEAR DROUGHTS OF LARGE-SCALE EXTENT SINCE 1900

- 1918–1920
- 1923–1926
- 1928–1935
- 1947–1950
- 1959–1962
- 1976–1977
- 1987–1992
- 2000–2002
- 2007–2009

(Based on statewide runoff)

Subsequently, a notable period of extended dry conditions was experienced during most of the 1920s and well into the 1930s, with the latter time including the Dustbowl drought that gripped much of the United States. Three twentieth century droughts were of particular importance from a water supply standpoint – the droughts of 1928–35, 1976–77, and 1987–92.

The 1928–35 Dustbowl drought established hydrologic criteria widely used in used in designing storage capacity and yield of large Northern California reservoirs. The 1976–77 drought, when statewide runoff in 1977 hit an all-time, low served as a wake-up call for California water agencies that were unprepared for major cut-backs in their supplies. Forty-seven of the State's 58 counties declared local drought-related emergencies at that time. Probably the most iconic symbol of the 1976–77 drought was construction of an emergency pipeline across the San Rafael Bridge to bring water obtained through a complex system of exchanges to Marin Municipal Water District in southern Marin County. The 1987–92 drought was notable for its six-year duration. Twenty three counties declared local drought emergencies. Santa Barbara experienced the greatest water supply reductions among the larger urban areas. In addition to adoption of measures such as a 14-month ban on all lawn watering, the city installed a temporary emergency desalination plant and an emergency pipeline was constructed to make State Water Project supplies available to southern Santa Barbara County.

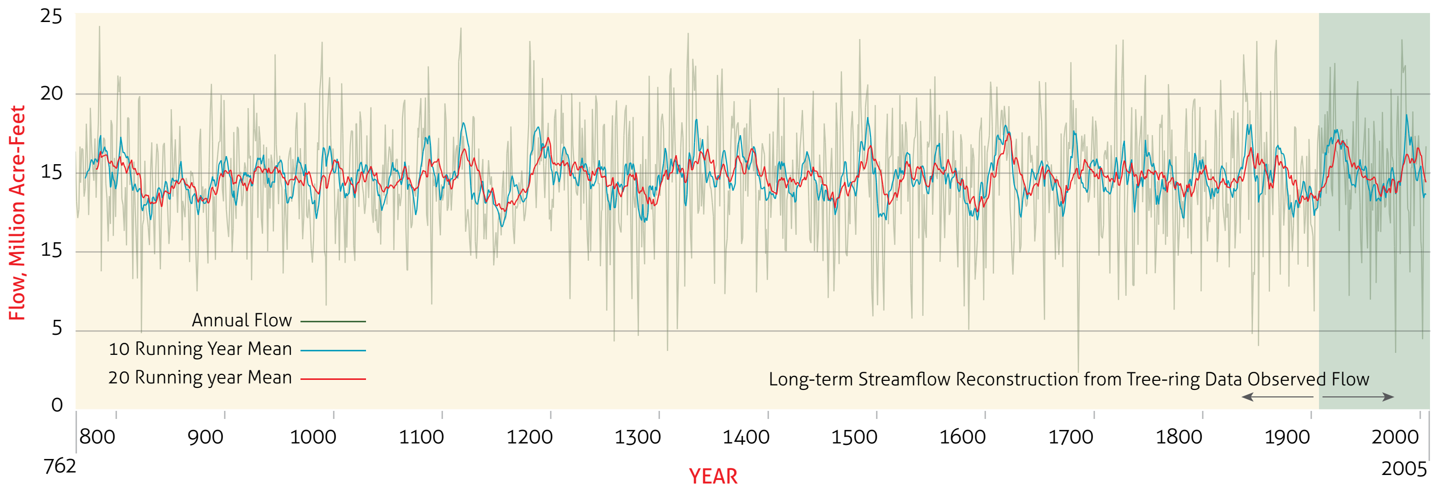
Emergency pipeline constructed during 1976–77 drought to bring water to southern Marin County.

It is important to recognize that a period of historically recorded hydrology of little more than a century does not represent the full range of the climate system's natural variability. Paleoclimate information, such as streamflow reconstructions based on tree-ring data, shows that natural variability can be far greater than that observed in the historical record. These reconstructions have identified droughts prior to the historical record that were far more severe than today's water institutions and infrastructure were designed to manage. The Colorado River Basin, an important source of Southern California's water supply, has been particularly well studied; its streamflow reconstructions show multidecadal periods when flows were below the long-term average.

The 1928–35 Dustbowl drought established hydrologic criteria widely used in used in designing storage capacity and yield of large Northern California reservoirs.

Some 5,000–6,000 years ago these trees were growing on lands now submerged by Lake Tahoe, illustrating centuries-long periods drier than present conditions. National Geographic submersible shown inspecting tree stumps still rooted in place on the lakebed. Photo courtesy of National Geographic.

RECONSTRUCTED COLORADO RIVER STREAMFLOW AT LEE FERRY



Drought Causation and Prediction

Most of California's moisture originates in the Pacific Ocean. During the wet season, the atmospheric high pressure belt that sits off western North America shifts southward, allowing Pacific storms to bring moisture to California.

On average, 75 percent of the state's average annual precipitation occurs between November and March, with half of it occurring between December and February. A few major storms more or less shift the balance between a wet year and a dry one. A persistent high pressure zone over California during the peak winter water production months predisposes the water year to be dry.

Mount Shasta in 2008 at the end of the water year. The impacts of climate change, such as the shift in timing of spring runoff in the Sierra Nevada, are becoming increasingly discernible in analysis of hydroclimate data. Efforts to predict drought must evaluate the natural climate variability seen in historical and paleoclimate records, together with changed conditions such as increased warming.

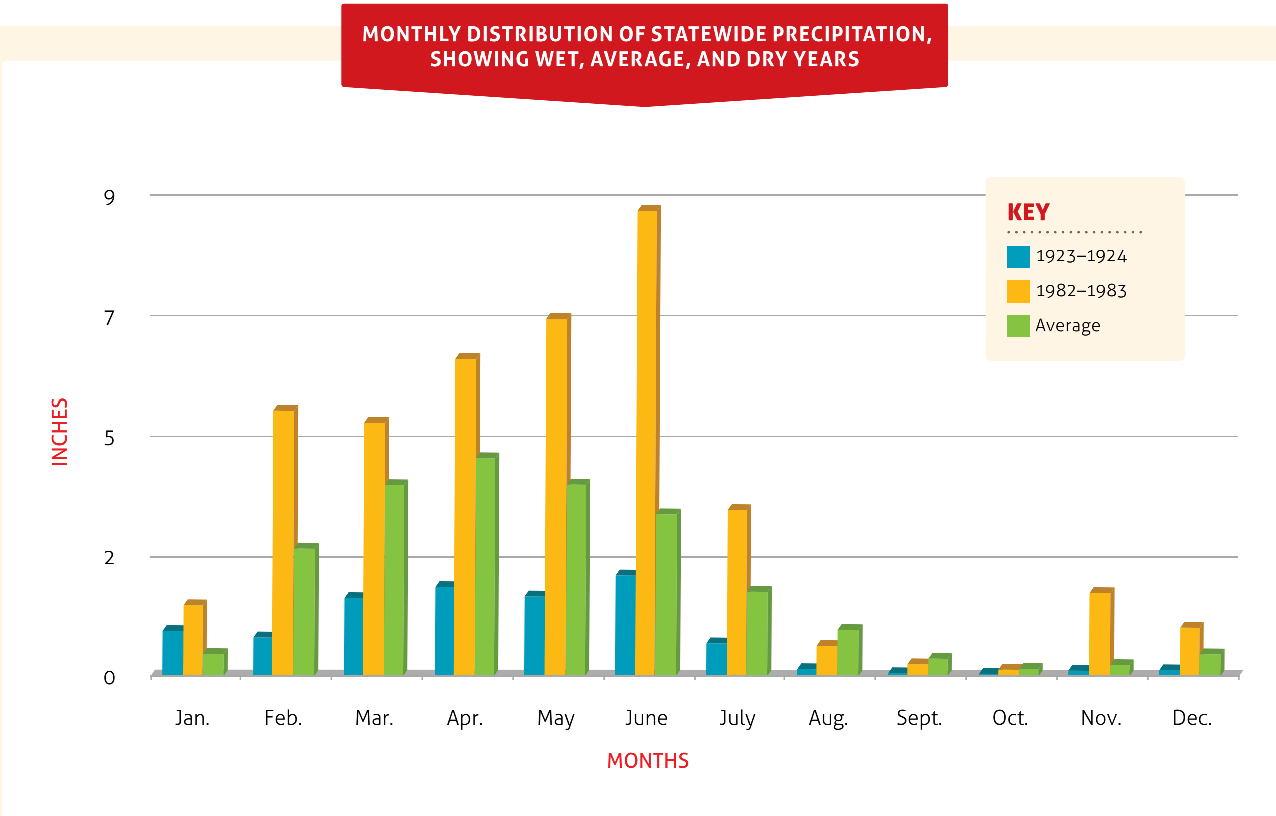
On average, 75 percent of the state's average annual precipitation occurs between November and March, with half of it occurring between December and February.

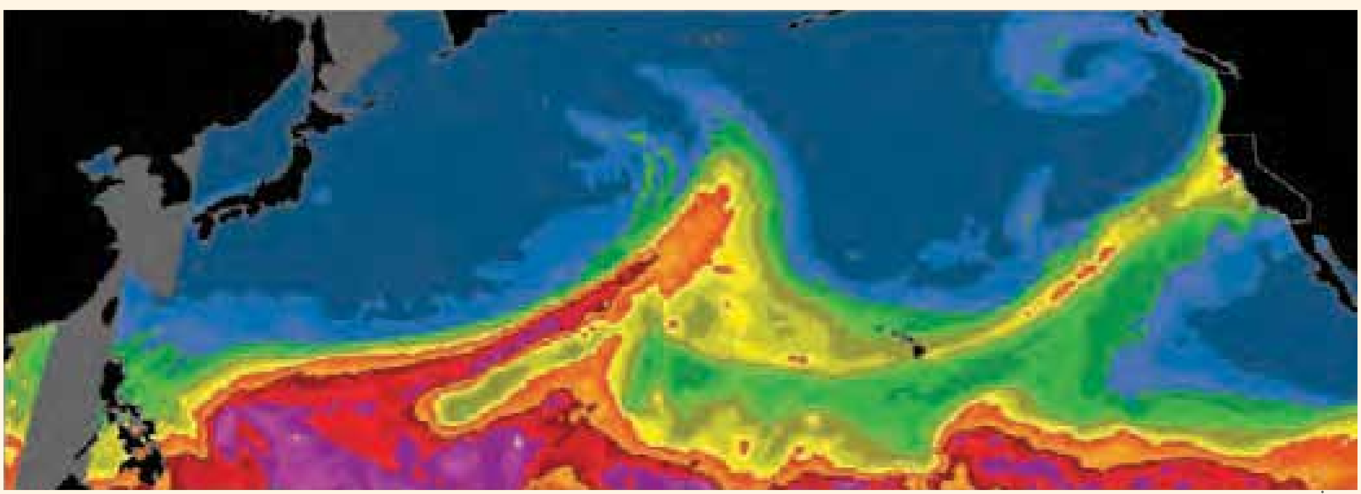
The ability to reliably predict drought conditions at seasonal or annual timescales is very limited. The status of El Niño-Southern Oscillation (ENSO) conditions is presently the only factor that offers a hint of predictive capability for precipitation in California. ENSO is a periodic shifting of ocean-atmosphere conditions in the tropical Pacific that ranges from El Niño (warm phase) to neutral to La Niña (cold phase). La Niña conditions tend to favor a drier outlook for Southern California, but do not typically show significant correlation with water year type for Northern and Central California. The predictive capabilities provided by ENSO events are related to the strength of an event; stronger events yield better predictive signals. In any individual year, interactions with other climate patterns or forcings may affect the outcome that would otherwise be expected from ENSO conditions alone. How other factors such as the Madden-Julian Oscillation, Pacific Decadal Oscillation, North Atlantic Oscillation, or Arctic Oscillation modulate the expression of ENSO conditions remains a subject for research.

GLOBAL-LEVEL TOP 10 WARMEST YEARS SINCE 1880

1	2005	6	2006
2	2010	7	2009
3	1998	8	2007
4	2003	9	2004
5	2002	10	2001

Source: National Climate Data Center





Satellite image of atmospheric river reaching West Coast. Atmospheric river storms – storms fueled by concentrated streams of water vapor from the Pacific Ocean – are big contributors to annual water supply conditions.

A few major storms more or less shift the balance between a wet year and a dry one.

Image courtesy NOAA Hydrometeorology Testbed.

Drought Impacts from a Water Use Perspective

Even a single dry year can pose problems for activities that are wholly dependent on unmanaged water supplies, such as dryland farming or livestock grazing.

Some unmanaged recreational uses can also be affected, such as rafting in rivers where flows are not controlled by reservoir releases. Single dry year impacts to the natural environment can often be seen in the form of increased wildfire risk, a risk that increases in multiple dry years. Damages associated with wildfires and loss of timber resources can be one of the largest economic impacts of drought, and California faces increasing risk of damages as urban development encroaches on the urban/wildland interface. California's most devastating urban/wildland fire episodes (Oakland hills in 1991, Southern California in 2003, Southern California in 2007) occurred during a drought or in a year immediately following a multi-year drought, when dry vegetation created conditions favorable for massive fire outbreaks.

Multiple dry years predictably create problems for small water systems in at-risk areas. Urban water suppliers, particularly those serving larger metropolitan areas, normally provide highly reliable supplies for their customers, as they have the resources and the revenue base to prepare for and respond to drought impacts. The majority of serious water

SIZE DISTRIBUTION OF CALIFORNIA PUBLIC WATER SYSTEMS

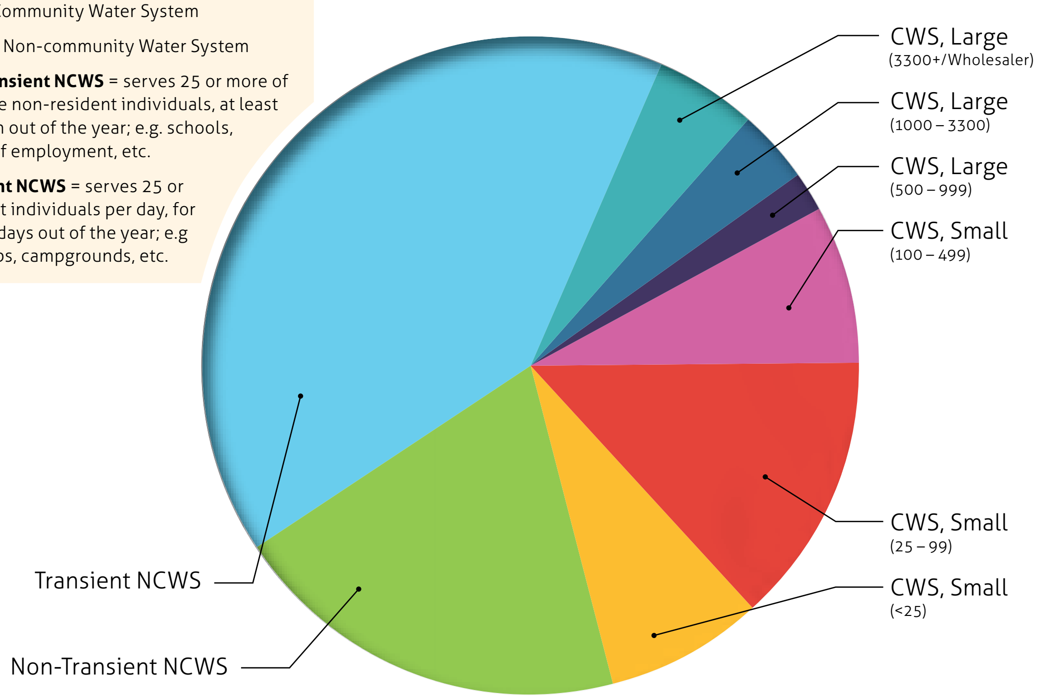
KEY

CWS = Community Water System

NCWS = Non-community Water System

Non-transient NCWS = serves 25 or more of the same non-resident individuals, at least 6-month out of the year; e.g. schools, places of employment, etc.

Transient NCWS = serves 25 or transient individuals per day, for any 60-days out of the year; e.g rest stops, campgrounds, etc.



California Department of Public Health data supply problems during droughts (e.g. inability to maintain fire flows, need for truck haulage of water) are experienced by small water systems. Although small systems serve a low percentage of California's total population, they constitute the majority of the state's public water systems. Small systems tend to be located outside the state's major metropolitan areas, often in lightly populated rural areas where opportunities for interconnections with another system or water transfers are nonexistent. Small systems also have limited financial resources and rate bases that constrain their ability to undertake major capital improvements. Most small system drought problems stem from dependence on an unreliable water source, commonly groundwater in fractured rock systems or in small coastal terrace groundwater basins. Historically, particularly at-risk geographic areas have been foothill areas of the Sierra Nevada, Coast Range, and inland Southern California mountains, and the North and Central Coast regions.

Even a single dry year can pose problems for activities that are wholly dependent on unmanaged water supplies, such as dryland farming or livestock grazing.

In the irrigated agriculture sector, the largest at-risk area has been the west side of the San Joaquin Valley, particularly the area supplied by Central Valley Project south-of-Delta exports. Central Valley Project contractors in this area received 100 percent of their supplies in only three years during the 23-year period from 1990 through 2012, and 75 percent or better of their supplies in only eight of those years, due to combined impacts of dry conditions and environmental regulatory requirements. The impacts of reduced supplies were evident in the 2007–09 drought, when growers abandoned permanent plantings such as orchards and vineyards due to water shortages.

Orchard on Westside of San Joaquin Valley abandoned during 2007–09 drought.

Some avocado growers in Southern California stumped orchards as a short-term measure to reduce water use while keeping the trees alive, in hopes of improved future water supplies after the 2007–09 drought.

Droughts and Groundwater

Some users of managed surface water supplies have the ability to increase their use of groundwater when those surface supplies are reduced.

An increase in the number of new wells being drilled or of existing wells being deepened is typical during droughts; private residential wells represent the single largest category of new or deepened wells. As with small water systems, residential well problems are common in fractured rock groundwater production areas.

Increased groundwater use is reflected in declining groundwater levels; in groundwater basins not experiencing overdraft, a pattern of water level drawdown during dry conditions and recovery during wet conditions is typically seen. Groundwater level decline in overdrafted basins is typically exacerbated by drought. Data availability limitations make it difficult to assess drought impacts on groundwater at statewide or large regional scales in a near real-time manner, as can be done for surface water.

GROUNDWATER BASINS

Groundwater basins as defined by DWR are shown in blue. Areas outside these basins are often fractured rock groundwater zones, where groundwater production capability is uncertain.

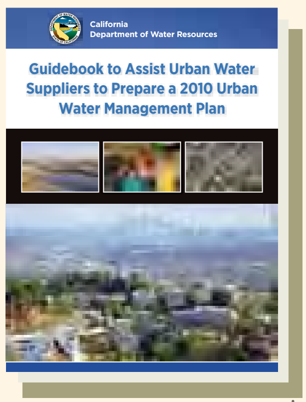
Preparing for Droughts & Mitigating Drought Impacts

California's extensive system of statewide and regional-scale water infrastructure greatly enhances the state's drought resilience by providing the capacity for facilitating water transfers and exchanges. Lessons learned from past droughts and from disasters such as earthquakes and wildfires have fostered system interconnections among the state's major water utilities, helping enable mitigative measure such as transfers.

Over more than three decades, California's voters have authorized substantial amounts of state financial assistance to local urban and agricultural water agencies, funding projects — such as water conservation, water recycling, or groundwater storage – that are tools for drought preparedness. In recent years, the 2002 Integrated Regional Water Management Act established state policy of encouraging local agencies to work cooperatively to manage local and imported water supplies to improve their quantity, quality, and reliability. In 2002 and 2006 the voters approved two bond measures which specifically authorized a combined $1.5 billion for water supply-related integrated regional water management planning and projects.

Drinking water supplies are additionally covered by statutory and administrative provisions. California Water Code Sections 10610 et seq. require that public water systems providing water for municipal purposes to more than 3,000 customers or serving more than 3,000 acre-feet annually prepare an urban water management plan and update it every five years. The plans must include a water shortage contingency analysis that addresses how systems would respond to supply reductions of up to 50 percent, and must estimate supplies available in a single dry year and in multiple dry years. The plans must also address systems' responses to catastrophic supply interruptions. Although smaller water systems are not covered by these requirements, state drinking water regulations require that the systems demonstrate technical, financial, and managerial capacity (including having an emergency response plan) as part of being eligible for financial assistance.

Even a single dry year can pose problems for activities that are wholly dependent on unmanaged water supplies, such as dryland farming or livestock grazing.



The Urban Water Management Planning Act was adopted in 1983, setting in motion a process of continuing refinements and updates to local plans for ensuring service area water supply reliability.

In the agricultural sector, individual water users (i.e., growers) are eligible for a variety of programs authorized by the Farm Bill and administered through the U.S. Department of Agriculture. Programs range from risk management programs (crop insurance) to disaster financial assistance for drought impacts or prevented planting.

Many managed water supplies have associated environmental regulatory requirements that provide dry year protections such as mandated instream flows for fishery purposes. Operations of the State Water Project and federal Central Valley Project in the Sacramento-San Joaquin River Delta, for example, are intensively managed to meet water quantity and quality requirements for fish species of special concern. Major wildlife refuges in the Central Valley have been guaranteed specific quantities of water since the 1990 passage of the Central Valley Project Improvement Act.

OSP 12 128357

FALL 2012
California Department of Water Resources
1416 Ninth Street, Sacramento, CA 95814
www.water.ca.gov/drought

GOVERNOR BROWN ISSUES EXECUTIVE ORDER TO STREAMLINE APPROVALS FOR WATER TRANSFERS TO PROTECT CALIFORNIA'S FARMS

5-20-2013

SACRAMENTO – With near record-low precipitation in California this year, Governor Edmund G. Brown Jr. today issued an Executive Order to streamline approvals for voluntary water transfers to assist California's agricultural industry.

"Agriculture is vital to the health of California's economy, and this order ensures we're doing what's necessary to cope with a very dry year," said Governor Brown.

The Governor's Executive Order directs the State Water Resources Control Board (SWRCB) and the Department of Water Resources (DWR) to expedite the review and processing of voluntary transfers of water and water rights consistent with current law. Under the order, DWR will coordinate State Water Project operations to alleviate critical impacts to San Joaquin Valley agriculture.

The SWRCB and DWR share responsibilities for the transfer of water in California. The SWRCB reviews and processes water transfer petitions, while DWR has the primary functional responsibility for the actual transfer of water. Water transfers in dry years assist those who potentially have excess supplies by allowing them to sell to those who are short of supplies, providing a valuable economic incentive to both the buyer and seller.

DWR's May 2nd snow survey found the Sierra snowpack at 17 percent of normal. State Water Project deliveries this summer will be only 35 percent of requested amounts. The federal Central Valley Project will deliver as little as 20 percent of requested amounts to some customers.

"I am grateful that Governor Brown is taking this early, important action to protect California's agricultural industry," said United States Senator Dianne Feinstein. "This Executive Order provides economic benefits across many regions of California. Willing sellers of water will benefit, as will those in the areas of greatest need, while retaining protections for fish, wildlife, and other environmental values."

"With our current water crisis, Governor Brown recognized the need for immediate action and took it," said Rep. Jim Costa (D-Fresno). "His move to ease water transfers will reduce the pain facing farmers, farm workers, and our farming communities. This is a good step, but it does not solve our real problem: restrictions on pumping in the Delta. These regulations cost us precious water yet again this winter and may prevent critical transfers throughout the summer. The only way to end this cycle of uncertainty is to move forward with the Bay Delta Conservation Plan that will bring more water reliability for all Californians."

"It takes water to sustain the farms that feed our growing population," California Farm Bureau Federation President Paul Wenger said. "In a year like this, voluntary transfers of water from areas that have a surplus give our system more flexibility so that farmers facing water supply cutbacks — especially those with permanent crops — may find alternative sources. We thank the governor for moving quickly to streamline California water transfer rules."

"The supply of water available for farmers on the westside of the San Joaquin Valley is lower this year than in 1977, the driest year on record in California, and Valley communities like Mendota, Firebaugh, and San Joaquin are facing an economic disaster," said Tom Birmingham, general manager of Westlands Water District. "The transfers facilitated by this Executive Order will provide critically needed water to sustain farmers, the people they employ, and the communities that depend on irrigated agriculture."

Text of Executive Order:

Executive Order B-21-13

WHEREAS much of California experienced record dry conditions in January through March 2013, registering historic lows on the Northern Sierra and the San Joaquin precipitation indices; and

WHEREAS record dry and warm conditions resulted in a snowpack substantially below average, with estimated May water content in the statewide snowpack being only 17 percent of average and with the spring snowmelt season now being well underway; and

WHEREAS the water year began with adequate rainfall, but restrictions to protect Delta smelt prevented pumping water from the Delta to store in the San Luis Reservoir have resulted in substantial losses to the State Water Project and to the Central Valley Project; and

WHEREAS only 35 percent of State Water Project contractors' and 20 percent of south-of-Delta Central Valley Project agricultural contractors' requested amounts have been allocated because of these conditions; and

Latest News


Governor Brown Issues Executive Order to Streamline Approvals for Water Transfers to Protect California's Farms 05-20-2013


Governor Brown Delivers Commencement Address at UC Berkeley 05-20-2013


Governor Brown to Deliver Commencement Address to 2013 UC Berkeley Political Science Graduates 05-19-2013


Governor Brown and Los Angeles Leaders Call for Action on Plan to Improve School Funding System 05-17-2013


Governor Brown to Hold News Conferences in Los Angeles and Long Beach Tomorrow 05-16-2013


Governor Brown Announces Appointments 05-15-2013


Governor Brown to Attend University of California Regents Meeting 05-15-2013


Nevada and California Renew Partnership to Preserve, Enhance Lake Tahoe Region 05-14-2013


Governor Brown Boosts Investment in Schools, Continues Call for Fiscal Restraint in Revised State Budget 05-14-2013


Administration Officials to Hold Media Conference Call on Education Budget 05-14-2013

WHEREAS reductions in surface water deliveries will likely force San Joaquin Valley agricultural water users to extract additional groundwater from already overused basins, potentially resulting in additional land subsidence; and

WHEREAS the supply reductions will jeopardize agricultural production in parts of the San Joaquin Valley; and

WHEREAS the supply reductions will also impact millions of municipal and industrial water users across California; and

WHEREAS the Legislature has, in Water Code section 109, declared that the State's established policy is to facilitate the voluntary transfer of water and water rights, and has directed the Department of Water Resources and State Water Resources Control Board to encourage voluntary transfers.

NOW, THEREFORE, I, EDMUND G. BROWN JR., Governor of the State of California, do hereby issue this Order to become effective immediately.

IT IS HEREBY ORDERED that the Department of Water Resources (DWR) and the State Water Resources Control Board (SWRCB) take immediate action to address the dry conditions and water delivery limitations, by doing the following:

1. Expedite processing of one-year water transfers for 2013 and assist water transfer proponents and suppliers as necessary, provided that the transfers will not harm other legal users of water and will not unreasonably affect fish, wildlife, or other in-stream beneficial uses.
2. The SWRCB shall expedite review and processing of water transfer petitions in accordance with applicable provisions of the Water Code.
3. The DWR shall expedite and facilitate water transfer proposals in accordance with applicable provisions of the Water Code.
4. The DWR shall coordinate State Water Project operations, in cooperation with Central Valley Project operations, to alleviate critical impacts to San Joaquin Valley agriculture.
5. The DWR shall continue to analyze trends in groundwater levels in the San Joaquin Valley, together with impacts of groundwater extraction on land subsidence.
6. The DWR and the SWRCB shall make all efforts to coordinate with relevant federal agencies, water districts, and water agencies to expedite the review and approval of water transfers in California.

This order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers, employees, or any other person.

I FURTHER DIRECT that as soon as hereafter possible, this Executive Order be filed in the Office of the Secretary of State and that widespread publicity and notice be given to this Executive Order.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 20th day of May 2013.

EDMUND G. BROWN JR.
Governor of California

ATTEST:

DEBRA BOWEN
Secretary of State

###