

January 2013



January 2014



*“All dry on the western front” - @NASA*

Faith Kearns, PhD  
faith.kearns@ucop.edu  
ciwr.ucanr.edu | @ucanrwater

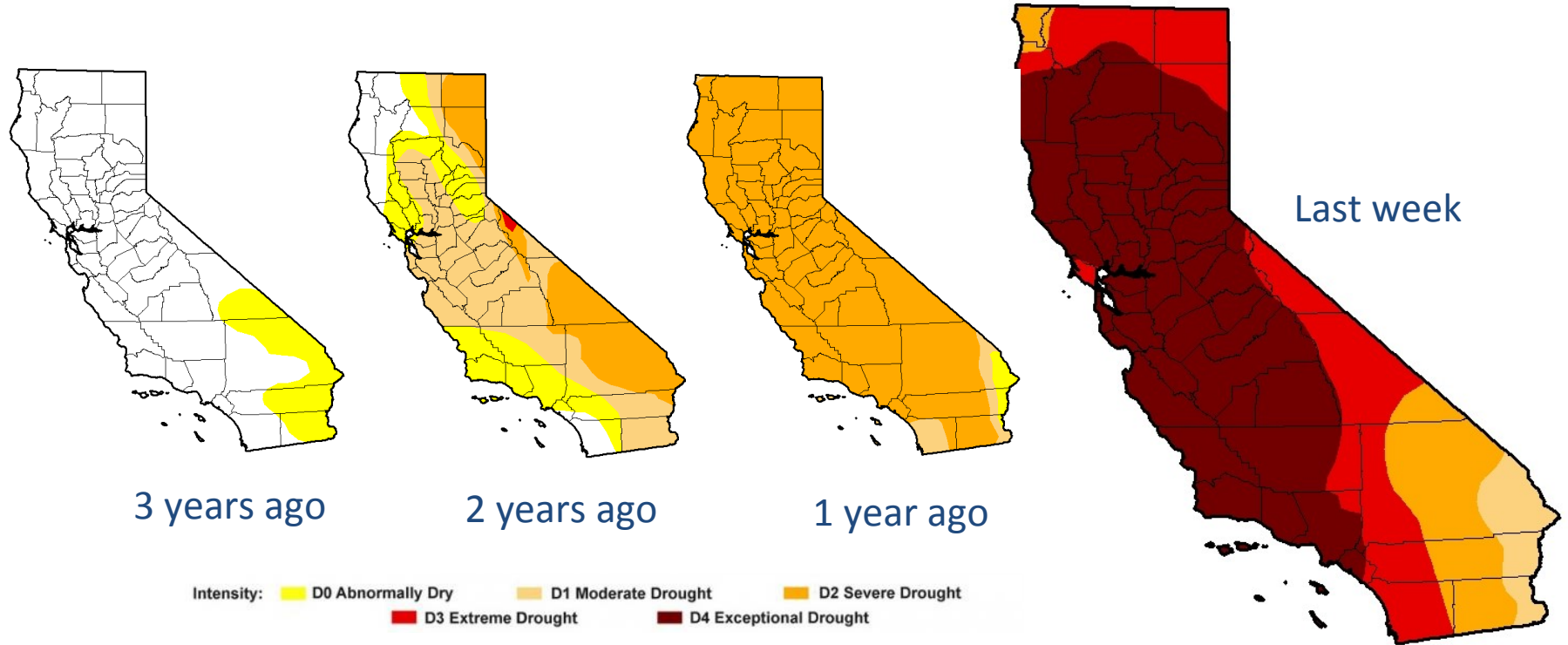


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# Where are we now?



National Drought Monitor | [droughtmonitor.unl.edu](http://droughtmonitor.unl.edu)

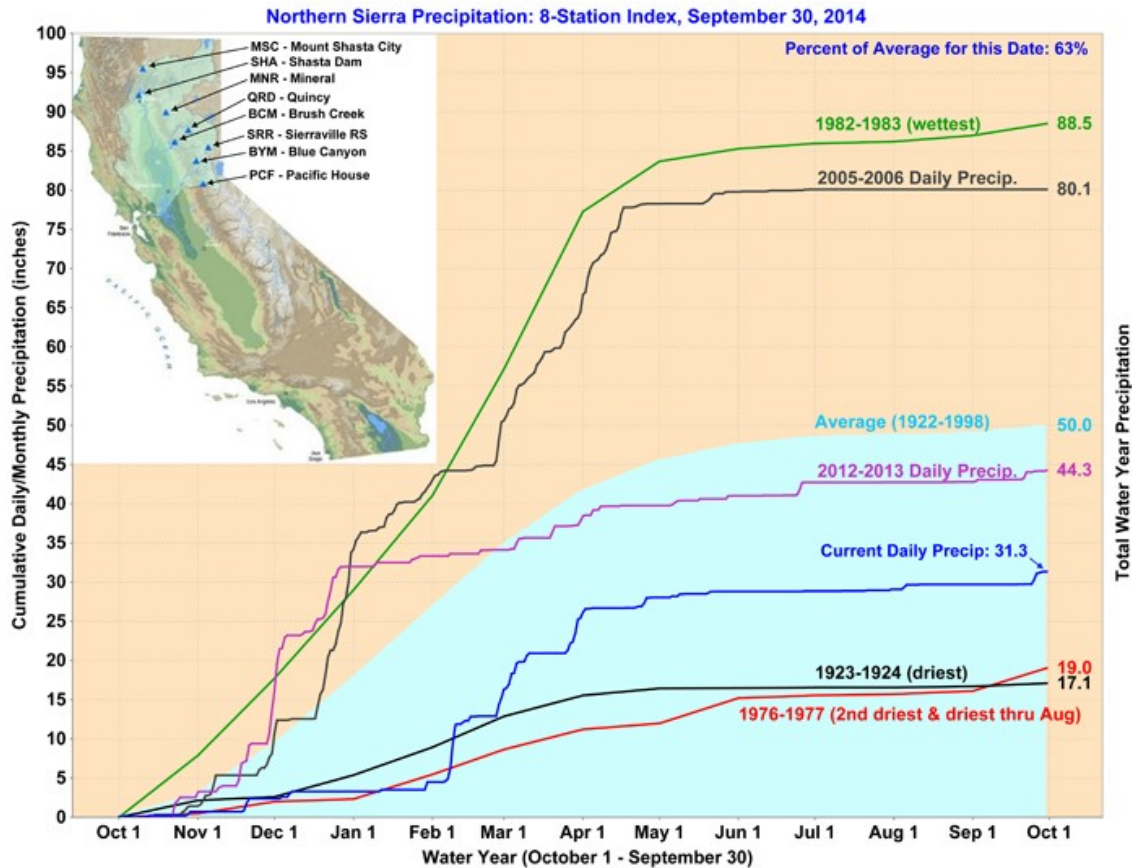


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# Have just ended 3<sup>rd</sup> driest water year



## Reservoirs at 36% storage



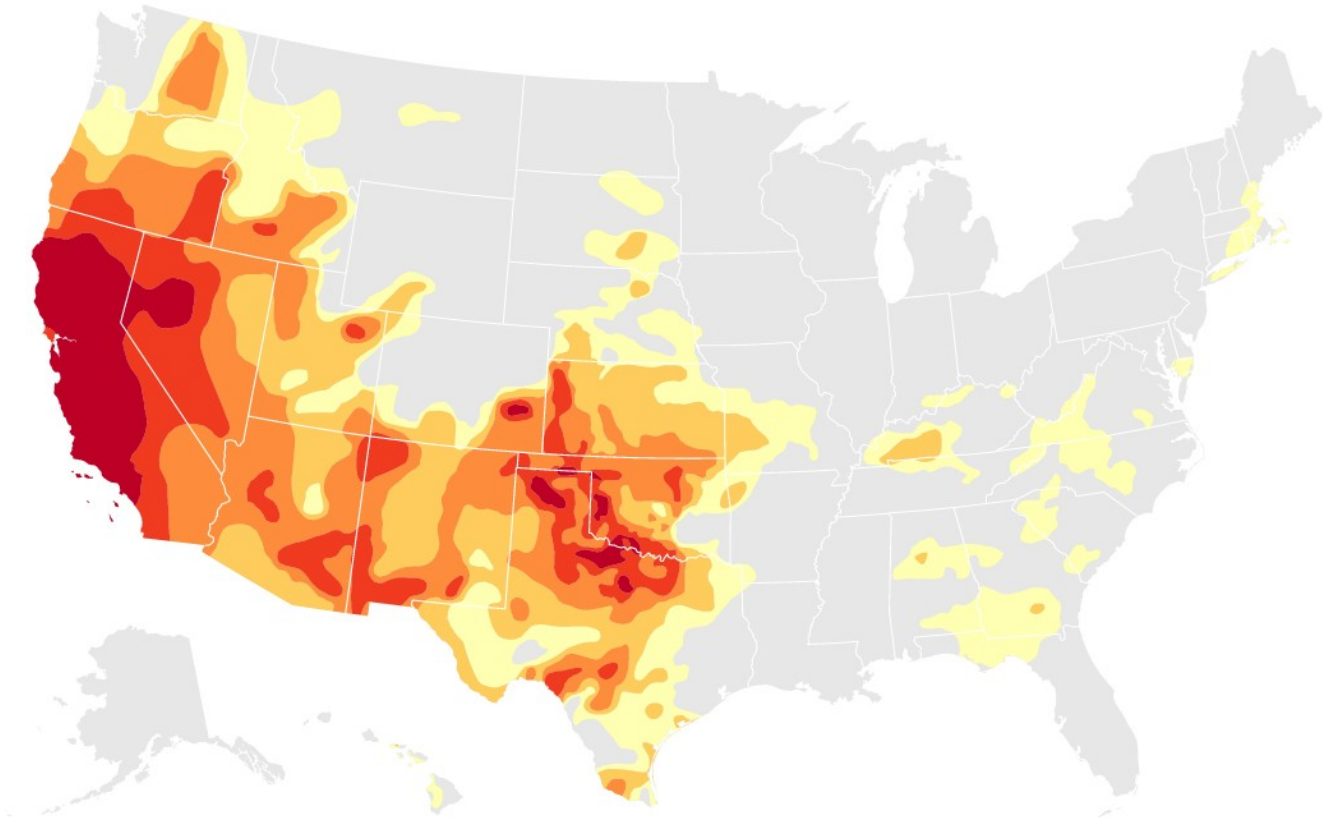
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# And California is not alone...

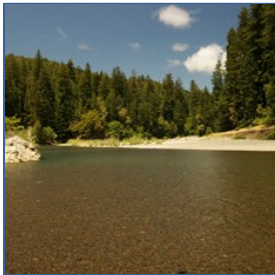
**DROUGHT SEVERITY**  
March-now



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# Some drought impacts



## Agriculture

- Fallow crop land
- Import feed for livestock
- Reducing herds

## Ecosystems

- Increased groundwater usage
- Increased wildfire risk
- Wildlife impacts
- Ecosystem health & restoration efforts

## Societal

- Lost jobs
- Fragmented communities
- Food insecurity
- Decreasing school enrollments



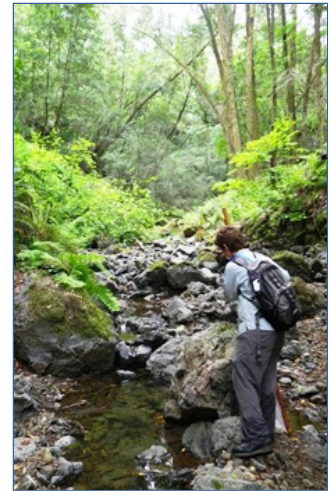
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# UC Agriculture and Natural Resources

- Celebrating centennial this year – working with communities since the 1914 Smith-Lever Act created cooperative extension service, land grant system developed in 1862
- California Institute for Water Resources is hub for the national network of water research institutes supported through USGS
- Our mission: integrating California’s research, extension, and education programs to develop solutions to water resource challenges



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# California Institute for Water Resources

The Institute develops and supports water-related research, education, and outreach. It is the California hub for the national network of water research institutes supported by the federal Water Resources Research Act of 1964.

## Goals

- Integrating California's research, extension, and education programs to develop solutions to water resource challenges
- Connecting water resource expertise in California's academic institutions with the needs of water managers and users
- Developing relevant and timely science-based information on water issues to inform decision-making



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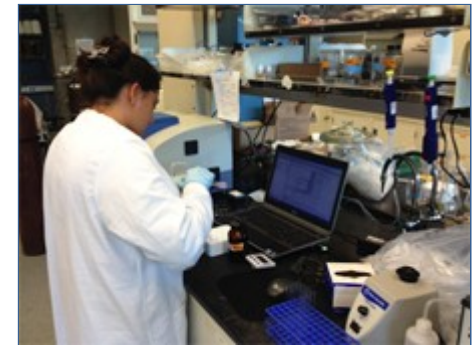
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# UC Drought Response: Long-term

Drought is not new to California

40+ years of research and outreach

- Irrigation efficiency
- Irrigation management
- Rangeland management
- Managed Aquifer Recharge
- Water recycling & reuse
- Desalination
- Master Gardener program
- Real-time monitoring stream and snowpack



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# UC drought research highlights

**Climate context**



**Wildfire**



**Groundwater**



**Ag & rangelands**



**Wildlife**



**Economics**



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# Emotional state of our state during drought

## It Takes HOW Much Water to Make Greek Yogurt?!

Dairy products require a whole lot of water—and many of them come from drought-ridden California.

—By [Julia Lurie](#) and [Alex Park](#) | Mon Mar. 10, 2014 6:00 AM EDT

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### How Thirsty Is Your Milk?

The water footprint, in gallons, of raw ingredients in our favorite creamy foods

 One glass of soy milk	 9 gallons
	 23 gallons

## EARTH What If California Runs Out of Water?

AUG 4, 2014 07:00 AM ET // BY PATRICK J. KIGER



DAVID MCNEWM/GETTY IMAGES

### RELATED links

Southwest

It would be a great premise for a Hollywood apocalyptic disaster thriller. Imagine that after several years of devastating drought, California's supply of water gradually vanished. As the reservoirs went bone dry, in Los Angeles water would stop flowing from

*“Enjoy your sunny weather, Californians! Because we are clearly all gonna die.”*



# Some responses

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**Farming in the Foothills**

FRI, AUG 8 2014 14:54:15 Welcome Faith Kearns

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## The Emotional Toll of Drought

Author: Dan Macon

Published on: January 24, 2014



This morning, I awoke to another depressingly beautiful January day - clear skies and an expected high temperature here in Auburn of close to 70 degrees. I say depressing, because we should be in the midst of our rainy season here - but since December 1, we've measured less than one inch of precipitation. And there doesn't look to be much moisture in our future, either - a long range forecast from the National Oceanic and Atmospheric Administration says, "below median precipitation (and above normal temperatures mentioned earlier) during the height of the climatological rainy season support a continuation and possible intensification of drought

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### Fine weather for creepy melancholia

Posted on Tuesday, January 21 at 5:31pm | By Mark Morford

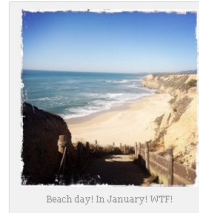


I have enjoyed many terrific birthdays in San Francisco. I have, if memory serves and it sometimes does, nearly always celebrated my January birthday indoors, perhaps luxuriating in a fine hotel, or soaking in a hot, steaming body of water, or rolling around in a very large bed surrounded by whisky and laughter and various slippery things, all due to the chilly and invariably drizzling, foggy, sleeting, flagrantly unpleasant winter weather outside, weather that has always slammed January in San Francisco like a familiar and necessary refrain.

Not this year. This year, I was sunbathing. This year I was splayed out on a tiny, hidden gem of a beach down in Half Moon Bay, sipping champagne, wearing nothing but underwear and a smile alongside a gorgeous companion equally - though significantly more beautifully - unadorned, both of us marveling at the 74-degree temperature, the glass-calm ocean and the utter surreality of the dry, warm, lightly breezed air.

We were, quite obviously, enjoying ourselves immensely. We were gasping at the stillness, the clear and simple heat, the ache and bite of the thirsty sand, repeating over and over that we couldn't believe it was actually winter even as, deep down, we both could sense it - as I'm sure you can, too: Something is wrong.

It's not supposed to be like this. It's not supposed to be warm, dry and sunny in the Bay Area for the entire month of January, and probably February, and most of December, and who knows how much longer. Not here. Not now. Not ever.



## the science unicorn

Sunday, January 26, 2014

### Live tweeting a drought

By now, many of you have undoubtedly seen some version of these NASA images that compare snow cover in California between 2013 and 2014. Believe it or not, 2013 was considered a drought year (as was 2012), so you can only imagine the visceral reaction these images have brought up over the past couple of weeks, released on the heels of the news that 2013 was the driest year ever recorded in the state. With barely a drop of rain so far in 2014, who knows what is on the horizon.

Many people are asking what makes this drought any different from other years; California has experienced major droughts before. And there are many good answers out there to these questions - they have to do with things like where and how the state's population is growing, groundwater depletion, and the wide-scale change in agriculture from annual crops, which don't have to be planted in dry years, to permanent crops like trees and vines that are economically attractive but need some consistent water to stay alive. Even living in different parts of the state may give a different sense of how bad things are - southern California doesn't receive a lot of precipitation overall anyway, but those of us in northern California are more likely to be used to January's filled with endless rain and flooding, not wildfires.

About Me



Faith Kearns

Scientist and communications practitioner with an academic background in ecology, a lot of practical experience in communications and engagement, and undying interests in depth psychology, contemplation, and the role of emotion in science practice. These days I am writing a lot about what taking a more relational, people-centered approach to environmental work might look like. For more information or to connect on Twitter, click the links below. [View my complete profile](#)

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# Reasons for hope

## Community



## Cooperation



## Sharing knowledge



## Crisis = opportunity



Faith Kearns  
University of California  
@ucanrwater | @frkearns



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