Crescenta Valley Water District

Weekly News Articles

October 9, 2022

ABC 10 News

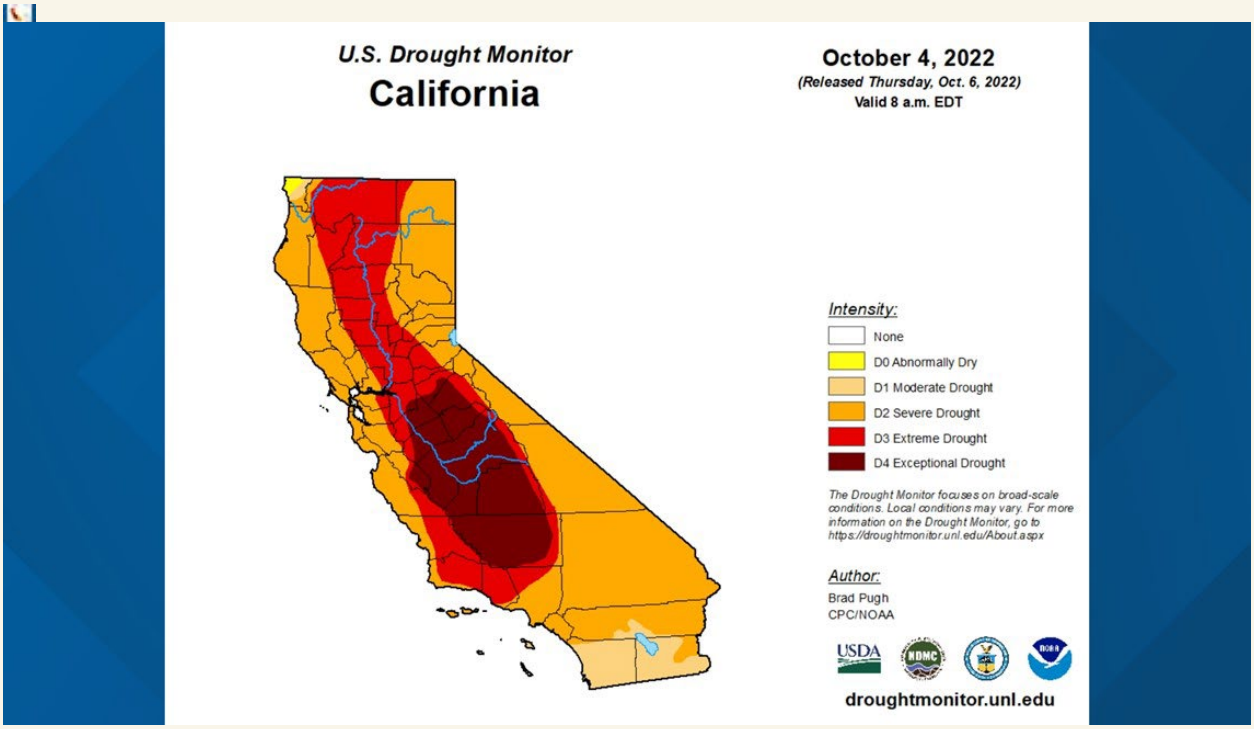
October 8, 2022

California drought: A deep dive into the atmospheric patterns driving California weather

SACRAMENTO, Calif. — A new water year began Oct. 1, marking the start to a pivotal year ahead in terms of water security.

The summer-like pattern will continue for the extended forecast. Apart from a rare September soaking storm, it's been a very dry year. In fact, the years 2020-2022 have been the driest on record, according to UC Merced Professor of Climatology John Abatzoglou.

While drought conditions have improved since last October, the entire state still resides in some level of drought. Another mild, dry winter is a huge concern as the state tries to escape a fourth straight year of drought.



Credit: droughtmonitor.unl.edu
Exceptional drought conditions persist in the parched San Joaquin Valley

The winter ahead

The El Niño Southern Oscillation (ENSO) is the main driver of the atmospheric patterns controlling the waviness of the jet stream and is generally considered a respectable indicator of what a region can expect during the winter months.

The rare "triple-dip" La Niña is grabbing headlines, but there are other atmospheric patterns and motions, or oscillations, that could keep California dry this upcoming winter.

Four other lesser-known oscillations can impact California weather as well: the Arctic Oscillation, Madden-Julian Oscillation, Pacific/North American Pattern, and Pacific Decadal oscillation have all been linked to affecting California's winter weather.

Bob Henson, meteorologist, author, and journalist at Yale Climate Connections, described ENSO as the "big enchilada" of the oscillations, but acknowledged the forecasting value of the other four as well.

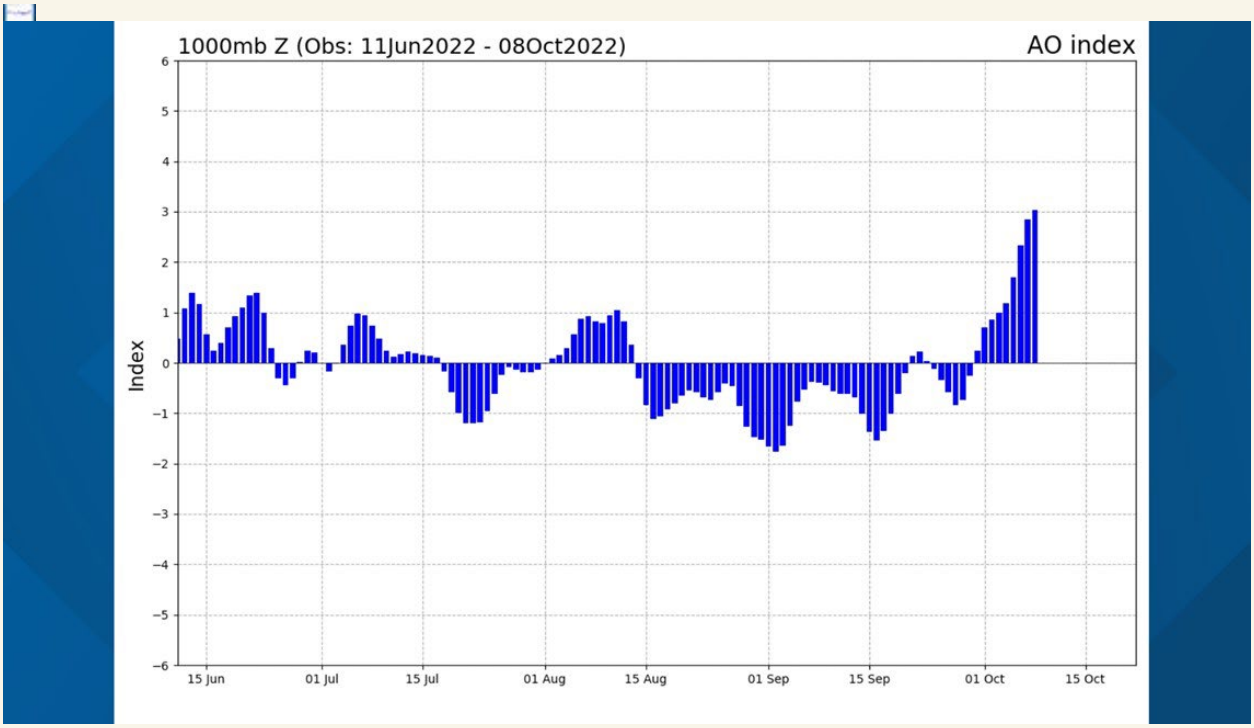
Here's the overview of each, including expected impacts for California this winter:

Arctic Oscillation (AO)

The main feature of the Arctic Oscillation is the waviness of the jet stream associated with the positioning of either low or high pressure in the Arctic.

During positive phases, low pressure dominates the Arctic regions, and the jet stream is faster and less wavy, preventing storm systems from digging down into California consistently.

Data shows the oscillation is currently strongly positive, which is generally bad news for California.



Credit: NOAA

The AO is strongly positive, usually correlating to below-average precipitation in CA

Madden-Julian Oscillation (MJO)

Henson described the MJO as a "pulse of, of showers, thunderstorms, convection that wraps its way around the globe over a period of, say four to six weeks on average for six to eight weeks."

The MJO is expected to increase activity following a dormant period in the next few weeks.

"I would say MJO just modulates when you're going to get those periods of rain and a wet winter," Henson said. The effects of the MJO are amplified when it coincides with an existing area of low pressure, meaning more rain.

It's difficult to predict the influence of the MJO this winter in California due to its innate variability, however.

Research conducted by UC Davis professor Da Yang predicts a 54% increase in MJO-induced precipitation variability by the year 2100 under high-emission climate scenarios.

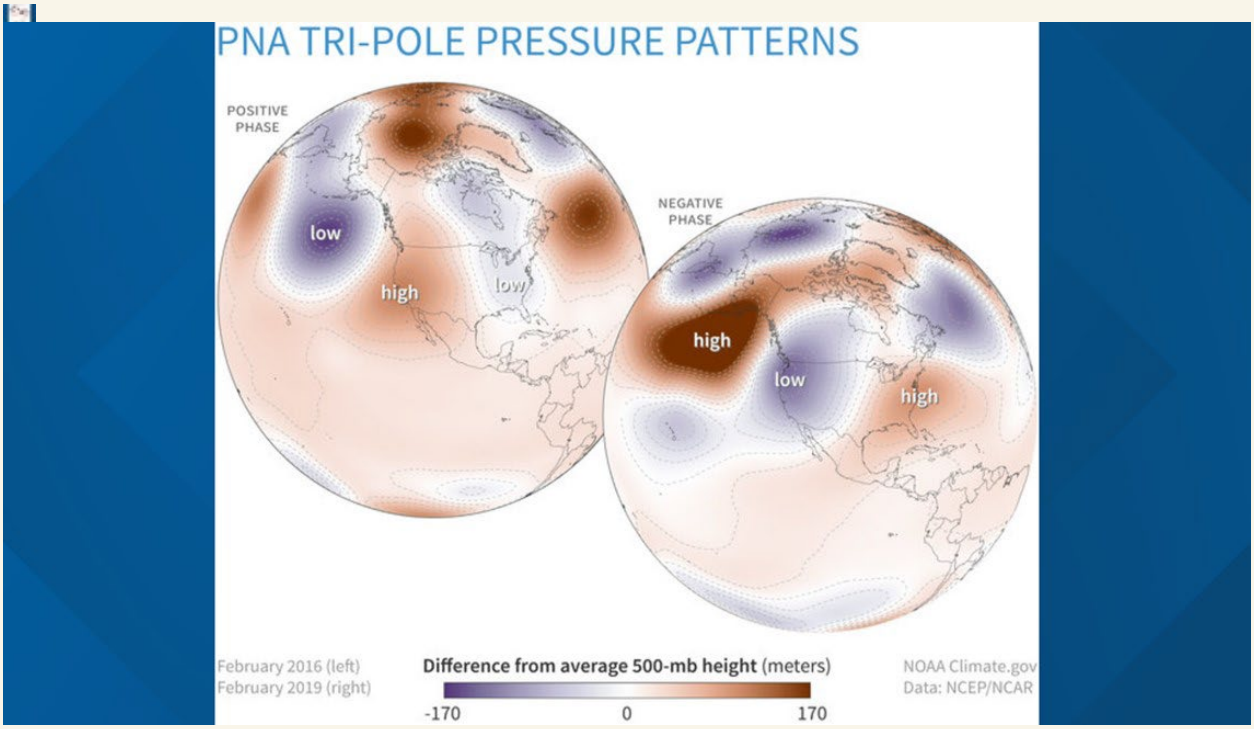
Pacific North American Pattern (PNA)

Henson described the PNA as a "descriptor" more than anything. The PNA is a more variable process compared to ENSO, meaning it changes more regularly than other oscillations.

The PNA is currently in its positive phase, which is marked by resilient high pressure over California sending storm systems to the north.

A negative phase typically results in a "much more of a wet pattern for California," according to Henson. It opens the door for storms to slide into the region, in a sense.

https://www.abc10.com/article/weather/california-drought/california-drought-weather-patterns-winter-rain-snow/103-ba525d14-8f49-4980-b528-6e48b190f2b2



Credit: climate.gov
Positive phase conditions exist, resulting in above average temperatures and lowered precipitation chances

Pacific Decadal Oscillation (PDO)

The PDO is a 20-25 year oscillation consisting of a warm, or positive phase and a cold, or negative phase.

The 'cool' phase is characterized by a cool wedge of lower than normal sea-surface heights/ocean temperatures in the eastern equatorial Pacific and a warm horseshoe pattern of higher than normal sea-surface heights connecting the north, west and southern Pacific, according to NASA's Jet Propulsion Lab.

The oscillation is a measure of ocean temperature and can work in conjunction with La Niña to amplify drier than normal conditions, according to Henson.

The current state of the PDO is the cold, negative phase which has been linked to drought in California. "This has been not only a three year period with strong La Nina, but also a very strong negative PDO. So both

of those have been hammering, you know, California and other places," said Henson.

What does it all mean?

Oscillation studies is a generally new frontier of atmospheric research, especially with respect to the impacts of climate change. The ability of forecasters to make sense of these oscillations is improving, as well as model capabilities.

Research is continuing to be conducted on these atmospheric oscillations and the potential power they hold in future seasonal forecasting skill.

While no promises can be made based off these oscillations and their current state, the odds are stacked against California receiving the rain and snow it needs to escape drought.

"You do have kind of a train wreck of dryness-producing influences for sure," Henson said, referring to the presence of La Niña, negative phases of the PDO and PNA, and positive phase of the AO.

WATCH ALSO: California Drought | New water year, same water crisis

LA Times

October 10, 2022

Los Angeles is running out of water, and time. Are leaders willing to act?

Hayley Smith - Thursday

On a clear afternoon recently, Mayor Eric Garcetti looked down at the Hollywood Reservoir from 1,200 feet in the air.

The Castaic Reservoir as seen from a helicopter on Sept. 28. The reservoir's total capacity is 104.3 billion gallons. (Hayley Smith / Los Angeles Times)© Provided by LA Times

"It's as low as I can ever remember it being," Garcetti said of the reservoir from the back seat of a Los Angeles Department of Water and Power helicopter. "You can see the bathtub ring."

The aerial survey of L.A.'s water infrastructure came at a critical moment. Over the last decade, the city has made significant investments in its future, including major projects to expand its ability to capture, store and recycle water. But now, on the eve of an election, much of the work remains unfinished — with target dates for some major water projects set as far as 2050.

With the city facing what is sure to be one of the hottest, driest and most challenging climate eras on record, it is essential that its next leader sees the work through to completion, Garcetti said.

"It's not an easy path, it's not a cheap path, but it's achievable," he said. "And if he or she doesn't do it, we're in big trouble."

By now, it is clear that water independence is the best path forward for the 4 million residents of the city of Los Angeles, and for the county and region as a whole. Imported supplies from the State Water Project are heavily dependent on annual snowpack and rainfall in the Sierra, which are no longer a guarantee under the state's shifting climate regime. What's more, long-reliable federal supplies from the Colorado River are rapidly drying up, with the river's largest reservoir, Lake Mead, nearing dangerously low levels.

In certain ways, the city is in better shape than some other major metropolitan areas because of the Los Angeles Aqueduct system, two pipelines that deliver water from the Mono Basin and Owens River hundreds of miles away. But even that supply — much of it secured by stealth and deception more than 100 years ago — is heavily reliant on Sierra snowmelt.

"The reality is most Angelenos, most people, haven't thought about water their entire lives because it's been reliable," said Evelyn Cortez-Davis, director of water engineering and technical services at the DWP. But as the helicopter zoomed

over the area's drought-dried hills and heat-sapped reservoirs, the urgency of the work came clearly into focus.

Mayor Eric Garcetti, surveying L.A.'s water infrastructure from a helicopter, says he hopes his successor will see the city's many water projects through to completion. (Hayley Smith / Los Angeles Times)© (Hayley Smith / Los Angeles Times)

Garcetti said that neither of the two candidates seeking to replace him has reached out to discuss the city's water goals. However, in emails to The Times, both Rep. Karen Bass and Rick Caruso said they believed Los Angeles must reduce its reliance on imported water.

Bass, who helped pass a major overhaul of the state's water system in 2009, said her top water priority as mayor would be modernizing aging infrastructure. She also said she would focus on ensuring the quality of drinking water for the city's

residents, noting that communities of color are often hit hardest by environmental inequities.

"There's no one solution — but by choosing a strategic balance, with investments in strategies like water conservation, landscape transformation, rainwater capture, groundwater recharge, and the protection of our imported supplies, we will ensure a more sustainable water future," Bass wrote. She added that "there is more we can do to reduce our reliance on imported water, which begins with more aggressive conservation measures."

Caruso, a former DWP commissioner, said the next few years are critical. He underscored the need for more efficient water use and said water recycling and groundwater recharge would be his top priorities.

"Drought impacts all of us, and we must work collectively to reduce our water usage while working to quickly and efficiently expand our groundwater recharge and recycling efforts," Caruso wrote. He said he would "work diligently to expand the use of recycled water for non-potable purposes and to ensure that all commercial and industrial users who want or need access to recycled water can achieve it easily — it won't happen quickly, but we must prioritize it."

Most experts agree that wastewater recycling — or the capture and treatment of water for reuse — is among the most important steps for achieving greater self-reliance in Los Angeles. Currently, recycled water makes up only about 2% of the city's drinking water, but officials hope to one day see that amount at 35% or higher.

There are a few projects underway to help get there. For one, a direct potable reuse facility near the Headworks Reservoir, just north of Griffith Park, is expected to become the first facility in the state to put purified recycled water directly back into the drinking system, serving as proof of concept, officials said. It is slated to come online within the next five years.

The DWP also aims to recycle 100% of its available wastewater from the Donald C. Tillman water reclamation plant in Van Nuys, which will be used to replenish

the San Fernando groundwater basin and will produce enough drinking water for more than 200,000 people each year. That project is slated for completion by 2027.

But perhaps most ambitious is the conversion of the massive Hyperion Water Reclamation Plant in Santa Monica into an advanced water purification facility by 2035. The plant currently treats wastewater only enough to release it back into Santa Monica Bay, but when the work is completed, it will produce enough water for 2 million people.

"It will dwarf everything else," Garcetti said of the project.

An aerial view of the Van Norman reservoir complex in Granada Hills. A project at the complex will include the construction of an ultraviolet light treatment facility on the outlet of the Los Angeles Reservoir. (Hayley Smith / Los Angeles Times)© (Hayley Smith / Los Angeles Times)

Gregory Pierce, co-director of the Luskin Center for Innovation at UCLA, said Los Angeles is "somewhat of a leader" when it comes to water recycling, and that Hyperion may be the DWP's "largest investment since the Mulholland days."

The project "is a little bit late, obviously, but I think it will be early enough to avoid complete disaster in terms of people actually running out of water, and having to ration much more radically than we are right now," he said.

The DWP is also focusing on improving its ability to capture and treat more stormwater before it escapes to the sea. Though the county passed Measure W, legislation to help bolster some of that work, a Times review earlier this year found that officials had been slow to dole out funds.

There has been some progress, however, including the enhancement of a spreading grounds facility in Tujunga, which collects stormwater and infiltrates it into the San Fernando Valley groundwater basin in a process known as recharge. The project has doubled the facility's ability to capture stormwater from 8,000 acre-feet per year to 16,000 — or roughly 5 billion gallons, Cortez-Davis said.

In his email, Caruso said he wanted to see L.A. County's efforts on stormwater capture and recycling "much more aligned and in congruence with City efforts," and that both entities should mandate that more projects use graywater and recycled water for non-potable purposes.

Bass said that she would partner with the DWP on infrastructure and landscape programs to "make sure we capture every drop" and that she would "expedite the stormwater capture projects that were made possible by Measure W."

But part of the challenge when it comes to L.A.'s groundwater is pollution, including portions of the San Fernando Valley groundwater basin that were declared Superfund sites after chemicals seeped into the aquifer from industrial disposal and storage pits decades ago.

Cortez-Davis said the DWP is moving forward with remediation efforts after years of being stuck in legal limbo waiting for responsible parties to take ownership of

the pollutants. Among other steps, the treatment includes pumping water and disinfecting it with ultraviolet light and activated carbon, she said.

Pierce said San Fernando Valley groundwater has long been an untapped resource in Los Angeles.

"It used to be way too expensive and we had cheaper options [than remediation]," he said. "But now it's finally here because there are no cheaper options, and because the technology has gotten there, so I think now is the time. DWP has already begun cleaning that up, and that's going to be really useful for the city."

He also underscored that current conservation efforts should become permanent in the face of water uncertainty. So far, Angelenos have more than risen to the challenge — achieving record-low demand in June, July and August this year, according to the DWP.

Cortez-Davis noted that the city has kept its water use at roughly 1970 levels despite growing by more than a million people since then.

Tracts of homes in Porter Ranch appear brownish gray in an aerial view as residents have greatly reduced watering their lawns. (Hayley Smith / Los Angeles Times)© (Hayley Smith / Los Angeles Times)

But water is only one of many issues facing the residents of Los Angeles. Garcetti said he tends to think of the city's challenges as "short, medium and long-term," with issues such as COVID-19 and public safety in the "short-term" category and housing and homelessness in the "medium-term" category.

"But long-term is climate. It is the one crisis that won't go away in our lifetime," he said.

Among other plans, Bass said she wanted to update the open space element of the city's General Plan to make parks and open areas into "water resilient places" that can capture stormwater and naturally recharge groundwater basins.

"This is an existential crisis that will take all of us to do our part, and we will need the support of the federal and state governments to undertake the big projects that will be necessary to build water self-reliance in L.A.," she said.

Caruso said expanding the city's network of recycling water pipes for non-industrial and commercial uses, including irrigation, would "significantly reduce our water usage as a region."

"There are many cities around the world that manage drought effectively and efficiently, and we must work aggressively to adapt to climate change and its impacts on our society," he said.

Both Bass and Caruso said they wanted to help Angelenos continue to transition toward more efficient water use practices and drought-tolerant landscaping.

The Encino Reservoir serves as an emergency water supply for Los Angeles. (Hayley Smith / Los Angeles Times)© (Hayley Smith / Los Angeles Times)

Garcetti said he believes either candidate will be able to see the city's water goals through to completion — so long as they stay the course.

"I have high confidence that, as long as they don't undo it, they'll be able to execute," he said. But as the helicopter whirred back toward the DWP rooftop in downtown L.A., he also acknowledged that nearly 10 years as mayor taught him that things don't always go as planned.

"You come in as mayor and you feel like Superman, like anything is possible," he said. "But the city will do what the city will do, and Mother Nature will do what Mother Nature will do, so there is humility."

This story originally appeared in Los Angeles Times.

https://www.msn.com/en-us/weather/topstories/los-angeles-is-running-out-of-water-and-time-are-leaders-willing-to-act/ar-AA12UTty?rc=1&ocid=winp1taskbar&cvid=2f96a0b28c5f4a1ac668bebbd74ab3d7

Gizmodo

October 10, 2022

This California City Is Rapidly Running Out of Water

People fish along the Castaic Lake reservoir in Los Angeles County, on October 4, 2022 in Castaic, California. The reservoir, part of the State Water Project, is currently at 35 percent capacity, below the historic average of 43 percent.

Coalinga, California, is set to run out of water before the end of this year.

The city's only water source is an aqueduct that is managed by the federal government. Officials think that the water is going to run dry before the end of 2022, the Washington Post reported.

Local officials are scrambling for options. If their water supply comes up short, Coalinga politicians are going to have to buy water from the open market. It's amazingly expensive and could impact Coalinga's ability to provide other services for residents, according to Fox 26 News. Water on that market currently costs up to $2,500 an acre-foot, or 326,000 gallons, which would cost the city millions of dollars to obtain the necessary water. "Our citizens cannot afford a thousand dollar or a thousand percent increase on their water bills," Adam Adkisson, a Coalinga city council member, told the local news station.

This isn't the first year that Coalinga is feeling the pinch of water restrictions. The city has been under some sort of water restriction since 2014, according to Adkisson. And the amount allotted per acre-foot in the city has dwindled significantly in only a handful of years. Back in 2017, the Central Valley Project gave Coalinga a water allotment of about 10,000 acre-feet, according to ABC 30, but now that number is down to 2,000 acre-feet. The city's water resources website currently announces

“high conservation,” and residents are only allowed one day a week to water outdoor plants, and no watering is allowed from 9 a.m. to 6 p.m.

There have been jarring signs of how bad Coalinga’s water crisis has become. The local fire chief had conducted tests on fire hydrants this past August, and one of the hydrants shot out a brick of compacted dry dirt, while another ejected an Axe body spray can, the Washington Post reported. Residents have begun buying and storing 5-gallon water jugs in their homes, and the city voted to stop watering front lawns this past August.

Many low-income communities across California are struggling to pay water bills. The increases have occurred faster than inflation: Water bills have increased about 45% from 2007 to 2015, according to a 2020 review from the California State Water Resources Control Board. Coalinga officials, like Adkisson, hope that they can eventually relieve the support from the state government to mitigate some of the financial strain.

California officials have pushed various policies throughout the state year to slow down water loss and to encourage residents to curb their personal water usage. Celebrities, including Khloe Kardashian Barker and Sylvester Stallone, were caught going over their allotted water budgets by more than 200% earlier this year. Meanwhile, regular folk in Los Angeles managed to lower their water use by almost 10% this past June.

After an especially dry winter, it’s no surprise that California is facing water woes. Earlier this year, researchers found an alarmingly low snowpack in the state’s Sierra Nevada mountains. The California Department of Water Resources found only 2.5 inches of snow at the Phillips Station, near Lake Tahoe. The average snow depth at the end of the year is supposed to be around 5 feet there. This meant less snowmelt for the state’s waterways and reservoirs. In May, when the state’s reservoirs were supposed to be at their highest levels, Lake Oroville was only at about 55% of its usual capacity.

States in the U.S. West are naturally dryer than other parts of the country. However, California and surrounding states have experienced unusually dry conditions this year, along with heat waves that have

only worsened the dry conditions. Climate change has increased the likelihood of hotter and dryer conditions around the world, but especially in areas like California that struggle with maintaining water levels.

https://gizmodo.com/this-california-city-is-rapidly-running-out-of-water-1849638749

LA Magazine

October 2022

How an ARkstorm Could Wreak Havoc on Los Angeles

No one knows when it'll happen—it could be five months or five decades. No one can say exactly how bad it will be, although most predictions put it somewhere between a Roland Emmerich disaster movie and a diluvial apocalypse. At this point, only one thing is for sure.

It's going to get wet. Very, very wet.

It's called the ARkStorm scenario, a catastrophic weather event that, according to a terrifying, just-released report compiled by scientists at UCLA, could dwarf California's droughts, fires, and even earthquakes in overall destruction. Triggered in part by global warming, the storm will theoretically begin brewing off the coastline, where it will form a series of "atmospheric rivers," massive squalls stretching hundreds of miles, that go on for weeks. It'll dump 100 inches of rain, an unprecedented deluge, triggering mudslides and washing debris from mountains across the region. Electrical grids will be darkened. Cell towers will be toppled. Roads and highways will be impassable. Millions will be displaced. Entire areas—including large swaths of Los Angeles—will be under water.

"This would be worse than anything Southern California has experienced since it became a densely populated urban area," notes the lead author of the UCLA report, Daniel Swain, who predicts that the ARkStorm could be four times as catastrophic as "The Big One," the giant, long-anticipated earthquake that will someday likely erupt along the San Andreas Fault. "There's really no historical analogy for what we're talking about here."

Scared yet? We talked to a bunch of geomorphologists, seismologists, historians, and flooding experts for a glimpse of what to expect. You may want to crawl under your blankets for the rest of this.

“This would be worse than anything California has experienced.”

Let’s start with the good news: unlike the case with earthquakes, residents of L.A. will probably get ample notice—perhaps a week or even more—from when the ARkStorm forms off the coast until it ultimately makes landfall. The bad news: Just leaving town won’t be enough. The sheer size and duration of the storm means it’ll stretch across pretty much the whole coastline and farther inland.

Upon reaching the L.A. Basin, the storm system will slam into the San Gabriel and San Bernardino mountains. The steepness and elevation of those ranges will cause the air in the system to rise quickly, cool, and then reduce pressure, triggering a downpour unlike anything the region has experienced in modern history. Because of Southern California’s semiarid climate and shallow soil, it won’t take long for the ground to become saturated, resulting in unparalleled amounts of runoff.

“L.A. is sitting at the base of a mountain range, which is the perfect flood-generating machine,” explains Jeffrey Mount, senior fellow at the Public Policy Institute of California’s Water Policy Center, who lays out a frightening sequence of events.

Neighborhoods ranging from La Cañada Flintridge to Rancho Cucamonga, nestled in the alluvial fans around the base of the San Gabriel range, will be in the most precarious positions. They’ll be the first point of contact for the runoff.

“Look at [the 2018 mudflow in] Montecito,” says Mount. “The ability [of a storm] to move debris out of steep mountains, especially if they recently burned, is extraordinary.”

All eyes will then turn to the L.A. River. Most experts agree that it will be only a matter of time before the channel is overwhelmed. “It’s not just a backdrop for movies,” says Swain. “The whole idea of [the L.A. River] is flood control, and it has worked really well up to a point. But would it be able to handle this? That’s an open question.” With perhaps too obvious an answer. The L.A. River wasn’t engineered to deal with debris. A single shopping cart, let alone the rubble and detritus of a biblical-level storm,

could create a jam almost anywhere along its nearly 50-mile course running from the San Fernando Valley to Long Beach.

If the waters do breach the river's channel walls, it could lay waste to the surrounding areas, flooding thousands of homes and wreaking havoc on everything from petrochemical plants to movie studios.

Mount predicts that the first wave of evacuations will occur about a week into the ARkStorm, starting in low-lying areas like Long Beach, Compton, Venice, and Marina del Rey, which will rapidly turn into lakes. After week two, the city's defenses, Mount believes, will be completely overwhelmed. "Bad assumptions that were made in the 1930s are going to come back to bite us 100 years later," he says.

But wait, it gets even worse. Major highways that connect Los Angeles to the north and east could be shut down for several weeks due to landslides, flooding, and debris flows. Erosion leading to cliff failure could close Pacific Coast Highway for a month or more, isolating residents of Malibu, Oxnard, and Ventura. To avoid being stranded—or worse, seeing their homes slide away—residents of the Hollywood Hills better hope their engineers did the right math. Emergency vehicles would be rendered obsolete, so fleets of boats and helicopters would be mobilized to aid those stranded in the most severely impacted communities, assuming boats and helicopters could operate in such weather conditions.

As the storm wears on, clean and drinkable water would become scarce as wastewater treatment plants, which, deprived of the chemicals they need to operate, would, one by one, start to shut down. At wastewater treatment facilities that are flooded, nearby residents could start to see and smell raw sewage emerge from maintenance holes. Flooded manholes, toppled poles, and damaged fiber-optic cables would result in widespread power outages affecting much, if not all, of the county, knocking out telecommunications and internet access for millions.

The supply chain would soon be undermined as well, which would have national implications as hauling goods out of the Port of Los Angeles in San Pedro—the busiest seaport in the Western Hemisphere—would be stalled for who knows how long.

Of course, keep in mind that all of the above are just predictions. There is a chance, however slim, that none of the above will ever materialize. The UCLA report estimates the odds of the ARkStorm happening at about the same as the Big One striking (which, alarmingly, the U.S. Geological Society puts at 70 percent before the year 2030, although the odds are only about 1 percent that the Big One will occur in the next year).

Still, it pays to be prepared. “It’s hard to imagine it because, the more we are afraid of something, the more powerless we feel about stopping it,” offers Dr. Lucy Jones, a seismologist who has been modeling theoretical ARkStorm events since 2010. “But you need to think about it. You have to give people a clear picture that there is something you can do.”

Hopefully, what that something might be—beyond collecting animals two by two—will be the subject of the next UCLA report.

How an ARkstorm could turn L.A. into a not-so-fun waterpark

How Bad Can It Get?

Here’s how an ARkstorm weather event could turn l.a. into the biggest, least-fun water park ever.

Malibu

Moonshadows is Toast (Or More Like Mud)

After the deadly 2018 Montecito mudslide, the 101 freeway was shut down for 12 days. A similar scenario, only worse, will likely play out in Malibu during an ARkStorm as Pacific Coast Highway is prone to cliff failure and mudslides.

Venice Marina

Those Row Boats on the Canals Will Come in Handy

Ballona Creek and the Venice Canals are the kind of sea-level basins that are seriously problematic. Not only will they be receiving enormous amounts of runoff but also winds could drive coast surge, quickly turning them into lakes.

Glendale

A River Runs Through It . . . and All Over It

The Los Angeles River cuts right through Glendale, which puts that community and neighboring areas like Atwater Village and Silver Lake at high risk should the river overflow. Which it almost certainly will, thanks to tons of rain-swept debris clogging the channels.

La Cañada Flintridge

A Mountain Landing in Your Living Room

Any of the communities nestled in the foothills of the San Gabriel Mountains could be severely impacted by flooding and debris flows due to their proximity to alluvial fans. Debris basins are in place to mitigate that but would likely be overwhelmed.

The Key to the City (Disaster Version)

[1] FOOD SHORTAGES

With highways impassable and the Port of Los Angeles shut down, food supply lines could be interrupted or completely cut off.

[2] MUDSLIDES

Wherever people build multimillion-dollar homes on top of hills—whether in Malibu or Hollywood—there will be mudslides.

[3] FULLY SUBMERGED

Neighborhoods at or below sea level—like Venice, Marina del Rey, and Long Beach—will likely become lakes.

[4] IMPASSABLE

Large sections of the 405, the 10, and the 5 freeways and other major and minor roadways will be undrivable, thanks to flooding and debris.

[5] DOWNED CELL TOWERS

Flooding will likely knock down towers all over town, leaving millions without cell or internet service.

[6] POWER OUTAGES

Electrical plants will be rendered inoperable due to flooding; power lines will also be snapped as poles are toppled by raging waters carrying tons of debris.

https://www.lamag.com/citythinkblog/how-an-arkstorm-could-wreak-havoc-on-los-angeles/

The Orange County Register

October 11, 2022

Key vote for Doheny desalination plant coming Thursday

After Coastal Commission killed Poseidon's Huntington Beach plant, all eyes are on this week's Doheny vote.

A desalination plant proposed for Doheny Beach, shown here in an artist's rendering. (Rendering courtesy of the South Coast Water District.)

The California Coastal Commission is slated to vote Thursday on a crucial permit for a project that would draw ocean water through the sand off the coast of Dana Point, purify it and use it to help bolster water supplies for communities throughout Southern California.

A dozen desalination plants are permitted to turn ocean water into drinking water in California today, from as far south as Carlsbad to as far

north as Monterey Bay. A year ago, three new desalination projects were pending in Southern California alone. But only one still remains viable: the Doheny Ocean Desalination Plant, which is being developed by South Coast Water District.

In December, the board for the West Basin Municipal Water District shelved a 20-year-old plan to build a desalination plant off the coast of El Segundo. The agency said improvements in water recycling and conservation meant the project, which was expected to cost more than half a billion dollars, no longer made sense.

Then in May, the Coastal Commission unanimously voted against Poseidon Water's Huntington Beach Desalination Plant, ending plans that spanned 21 years and cost the private company upwards of $100 million. The commission said the $1.4 billion plant was simply too harmful to the ocean, too expensive for water customers and too dangerous for the surrounding community.

But while the Poseidon project in particular drew criticism over the years, the Doheny plant has so far attracted little opposition. And it easily scored its first critical permit this spring, when the San Diego Regional Water Control Board offered its seal of approval with no major concerns raised by the board or the public.

That bodes well for Thursday's Coastal Commission vote. Though the agency is notoriously tough when it comes to approving projects along California's coast, commission staff is recommending approval with 16 added conditions.

Two of those conditions concern the project's connection with Doheny State Beach Campground. During the period that wells for the project are being drilled, the 122-space campground would have to be closed for 18 to 24 months, possibly as soon as the end of next year. The water district already is working with State Parks to offer more sites at nearby campgrounds during that period, and to upgrade other local camping areas during construction of the desalination plant. The commission also is asking the water district to develop a clear plan to make those changes and to communicate them to the public.

A handful of individuals and local groups, including the nonprofit Clean Water Now, wrote to the Coastal Commission opposing the Doheny plant due to those beach closures along with environmental, energy use and cost concerns.

“Constructing a desalination plant in Dana Point would not be the most efficient or economical solution to water supply issues,” Samantha Barrie writes, asking the commission to deny the permit.

But the project also has received letters of support from dozens of agencies and individuals, including local Reps. Mike Levin and Michelle Steel, and a wide range of local water and power agencies.

There are several factors working in the Doheny desalination project’s favor, according to Rick Shintaku, general manager of the South Coast Water District, which provides water to some 35,000 residents in Dana Point, South Laguna Beach and portions of San Clemente and San Juan Capistrano.

The first is need. While central and northern Orange County — including Huntington Beach, where the Poseidon project was located — sit on top of a massive underground aquifer that can cover some 80% of local water supplies, south Orange County has no such resource. That makes those communities up to 90% reliant on water imported from Northern California and the Colorado River, which is expensive and increasingly restricted as California faces record drought.

Then there’s how the Doheny project will work. While other local projects planned to directly pull in ocean water, which can also suck up marine life, Shintaku said the Doheny project will be the first commercial-scale plant in the world to use “slant wells,” drilled at an angle under the seabed. With water pulled through sand, there’s little to no risk to marine life, as illustrated by successful demonstration plants built at Doheny and in Monterey Bay. That’s why the Doheny project has actually won support (or least no opposition) from many of the same environmental groups that moved to block the Poseidon plant.

Another advantage is who’s backing this project. While the Huntington Beach plant was proposed by a private company, the Doheny project is

being shepherded by a public water district. That means more transparency with a publicly elected board and disclosure rules required of public agencies. The agency also can float bonds, get tax credits and access grants to cover costs, with Shintaku citing more than $32 million in such funding so far and perhaps another $8 million in the pipeline.

Lastly, there's the price tag. While Poseidon's plant was expected to cost $1.4 billion, the Doheny project is now projected to cost $140 million, with the potential to scale the plant up in phases if future demand calls for it.

The current price tag covers a plant that could handle up to 5 million gallons of seawater a day. South Coast Water District only needs about 2 million gallons a day to slash its reliance for imported water in half, Shintaku said. But building such a small plant on its own would raise customer water bills by about $7 a month — a hit 76% of customers surveyed two years ago said they'd still be OK with. But if they build a 5-million-gallon-per-day plant, and bring on financial partners, bills would only go up by about $2 per month, which takes public support even higher. So Shintaku said he's been soliciting letters of support from nearby water districts interested in teaming if permits are approved.

If the project wins approval from the Coastal Commission on Thursday, it would need just one more permit, from the state Lands Commission. That agency is slated to vote on the Doheny project on Dec. 9.

From there, Shintaku said they'd need to lock down partnerships, which would each need approval from their own boards. Then they'd need to take the final project plan to their district board for approval before construction could begin, with a target completion date in 2027.

The Coastal Commission is scheduled to vote on the Doheny plant during its meeting that begins 9 a.m. Thursday at the Best Western Island Palms Hotel & Marina in San Diego.

The public can attend and make comments in person or via a livestream at cal-span.org/meetings/CCC. To listen and participate by phone, call 415-904-5202 before the meeting. Learn more at coastal.ca.gov.

https://www.ocregister.com/2022/10/11/key-vote-for-doheny-desalination-plant-coming-thursday/

CURRENT RESERVOIR CONDITIONS

CALIFORNIA MAJOR WATER SUPPLY RESERVOIRS

CURRENT CONDITIONS

Midnight - October 10, 2022