

# Report to The Legislature on the 2012-16 Drought

As Required by Chapter 340 of 2016

California's  
climate  
naturally  
includes  
drought.

## Historical droughts in California history:

- 1928-34
- 1976-77
- 1987-92
- 2007-09
- 2012-16
- 2020-???

## Drought of 2012-16 stands out for record-breaking heat and dryness.

- 2015 and 2014 were, respectively, the warmest and second-warmest calendar years of record in terms of statewide average temperatures.
- The 2014 April 1 statewide snowpack water content tied a record low of 25 percent of average set in 1977, a record that was then surpassed in 2015 with a new low of only 5 percent of average.
- Water year 2014 was the single driest year of the drought, and it ranked as the state's third driest single water year of record.
- The wildfire season lasted virtually year-round in 2012–2016.
- San Joaquin Valley land subsidence accelerated.

# Features of the 2012-16 drought

- First-ever zero allocations to Central Valley Project agricultural customers.
- Record warm statewide temperatures = reduced snowpack, river temperatures lethally warm to salmon, harmful algal blooms (HABs), increased wildfire activity.
- Heavy groundwater pumping in southern San Joaquin Valley for irrigation caused private residential wells to go dry; first state assistance authorized for private well owners.
- Water right administrators curtailed thousands of diversions on the mainstem Sacramento and San Joaquin rivers in order to protect fish and wildlife and senior water right holders.

- CNRA report considers major state response activities, notable successes, needed improvements, recommendations.

Drinking water

Water rights

Water supply

Water quality

Fish and wildlife

Water conservation

Fire protection

Emergency human assistance

Agriculture

## Major state actions during 2012-16 drought

- \$7 billion in water resilience investments
- Second time a statewide emergency proclamation used to respond to drought, unprecedented first time state ordered mandatory urban water use reduction
- Unprecedented state assistance, including emergency water supplies, to disadvantaged communities
- Delivery of more than 2 million boxes of food to community food banks in drought-impacted counties
- Hundreds of separate fish rescues, trucking of migratory fish, closure of commercial and recreational fisheries

## Major legislative and regulatory changes made during or after drought

- Enactment in 2014 of the Sustainable Groundwater Management Act to require local agencies to bring overdrafted groundwater basins into sustainable conditions by 2042
- Enactment of legislation to establish new standards for indoor, outdoor, and industrial use of water
- Funding of solutions for disadvantaged communities lacking access to safe drinking water through Safe and Affordable Drinking Water Act
- Increase in the frequency of water use reporting
- Expanded State authority to order failing public water systems to consolidate with better-run systems
- Tighter landscape efficiency standards for new developments.

## Lessons learned

- Communicate early
- Act early.
- Provide longer lead time for both state and local agency response actions.
- Improve water diversion data in order to protect water right holders.
- Improve monitoring of ecological conditions and water quality.
- Gather better data to track dry wells and reservoir drinking water intakes.
- Improve drought contingency planning for small water systems and fish and wildlife resources.
- Improve temperature and precipitation forecasting to better manage risk.

# Major Recommendations Part 1

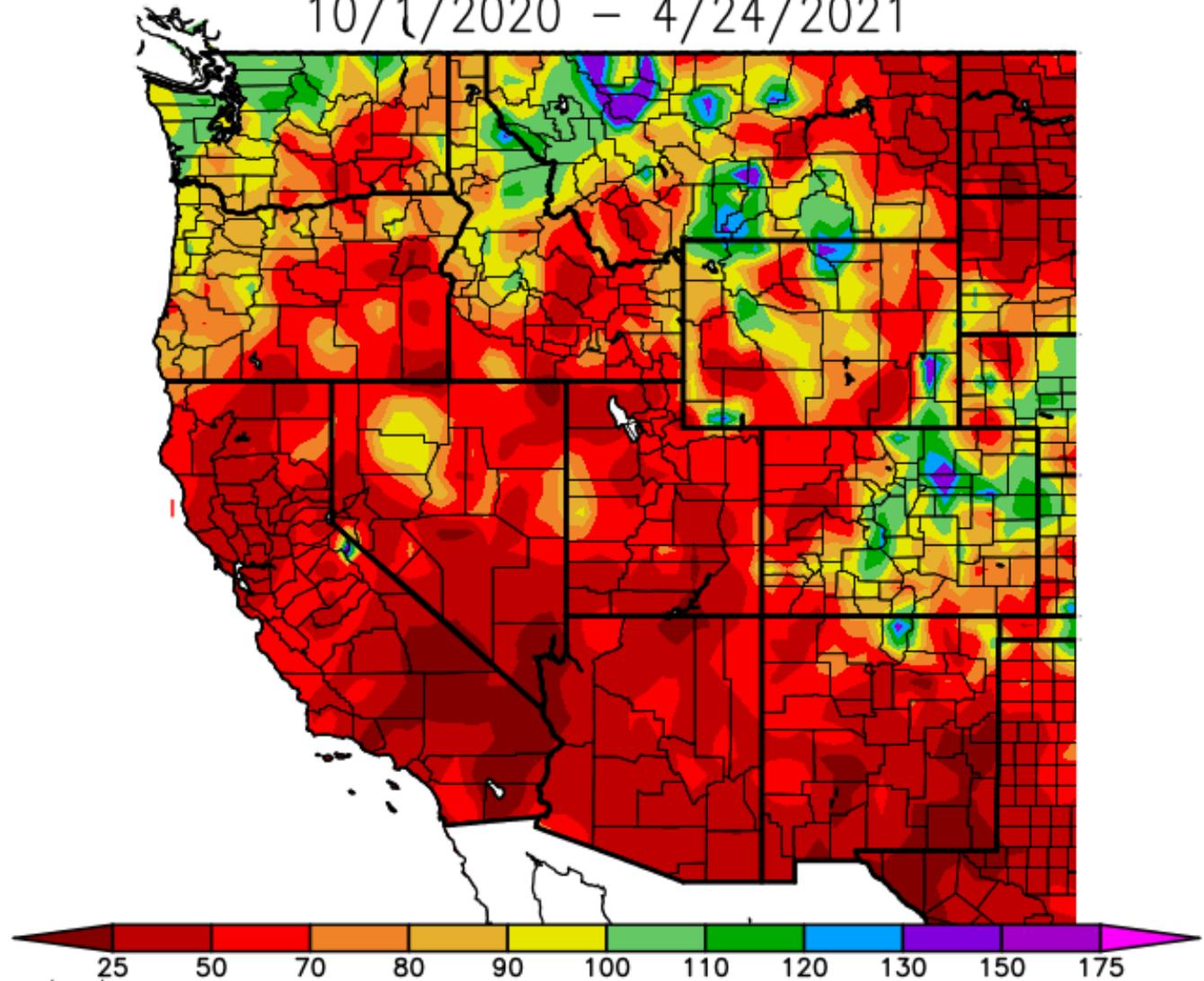
- Carry out Water Resilience Portfolio to build regional drought resilience for communities and ecosystems.
- Prepare water systems for threat of wildfire and post-fire damage from toxics and sediment.
- Take early permitting and action on standby wells with contamination (1,2,3-TCP, nitrates, PFAS).
- Establish instream flow requirements for ecologically important streams.
- Upgrade hatcheries and state wildlife areas.

# Major Recommendations Part 2

- Invest in data infrastructure (stream gages, monitoring wells) and forecasting..
- Coordinate early across state agencies on budgeting, staffing, monitoring, data collection, provision of state assistance, temperature management of salmon streams, etc.
- Make water right data easily available to the public.
- Streamline water right enforcement to protect senior water right holders.
- Dedicate staff to ongoing drought planning and response work.
- Invest in public communications.
- Manage headwater forests for resilience.

Current Water  
Conditions  
April 26, 2021

Percent of Average Precipitation (%)  
10/1/2020 – 4/24/2021

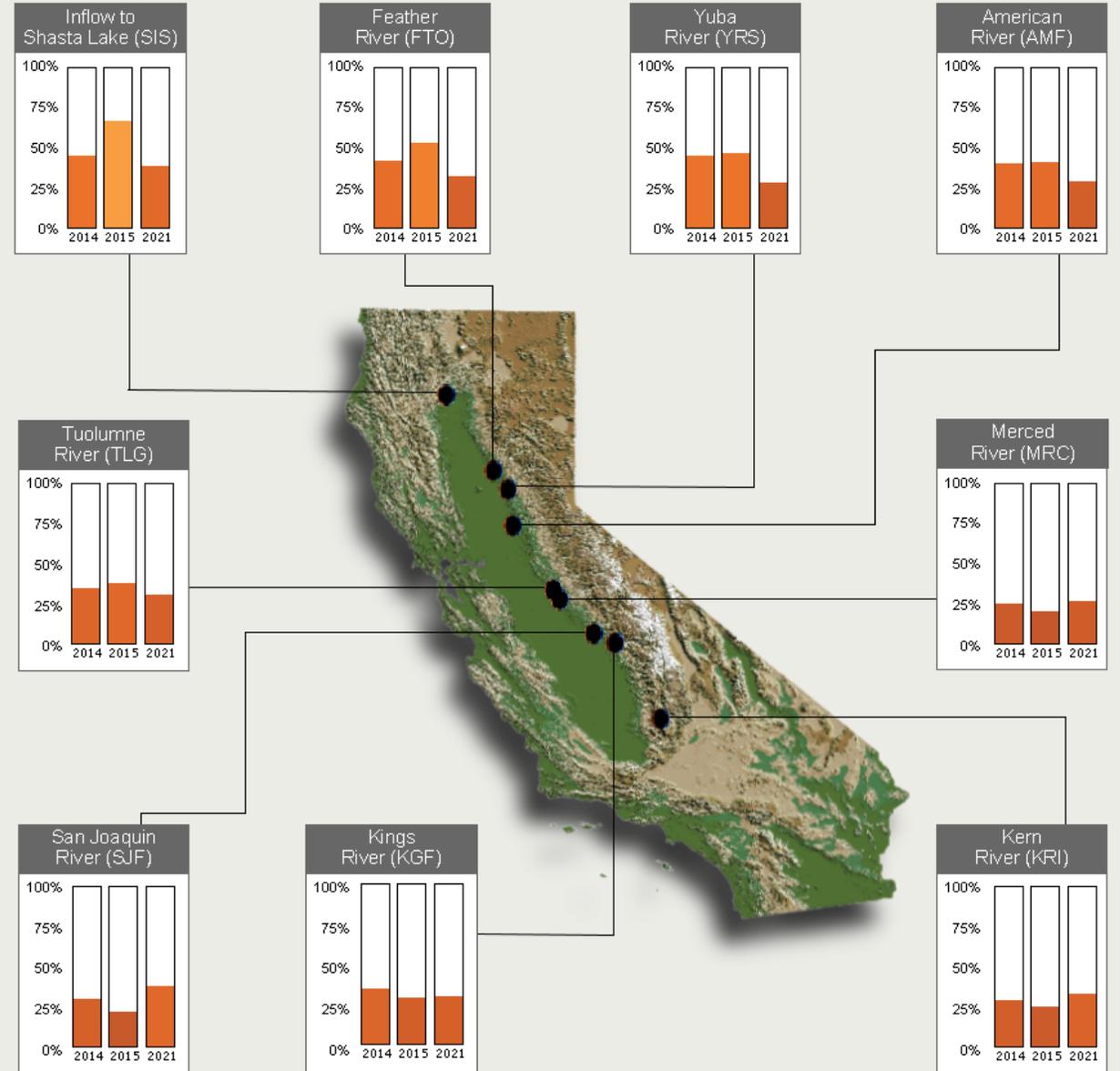


Generated 4/25/2021 at WRCC using provisional data.  
NOAA Regional Climate Centers

# Full Natural Flow at DWR Forecast Points on Selected California Rivers

Shown as a percent of Average to Date

Data as of Midnight: 25-Apr-2021



# Current Response to Drought Conditions

- The Water Board has identified water suppliers at extreme financial risk that may need additional support due to the combined impacts of COVID and drought.
- DWR has updated its Dry Well website that tracks reports of water supply outages.
- DWR has drafted a Drought Contingency Plan that explains how it will manage the State Water Project in a manner that protects fish and wildlife.
- DWR has simplified its water transfer process.
- The Water Board has issued letters to approximately 40,000 water right holders across the state, advising them to plan for potential shortages by closely managing water use.
- DWR and U.S. Bureau of Reclamation plan for minimal deliveries from SWP and CVP.
- DWR released report that evaluates the water shortage risk of more than 4,000 small water providers.