

Hydrologic Conditions Update

May 2021

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Drought Task Force
May 18, 2021



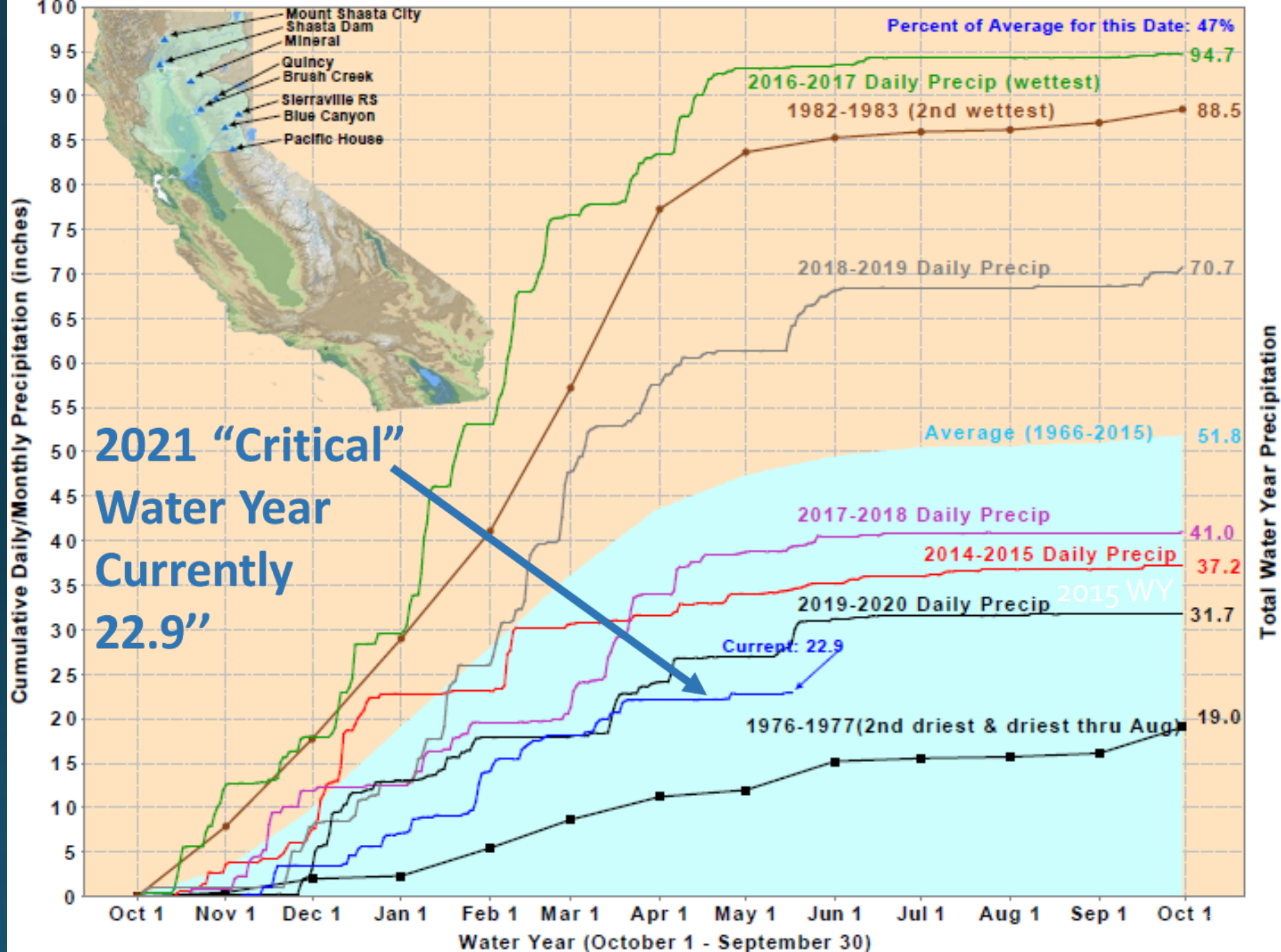
Hydrologic Conditions

Water Year 2021

2021 Water Year:

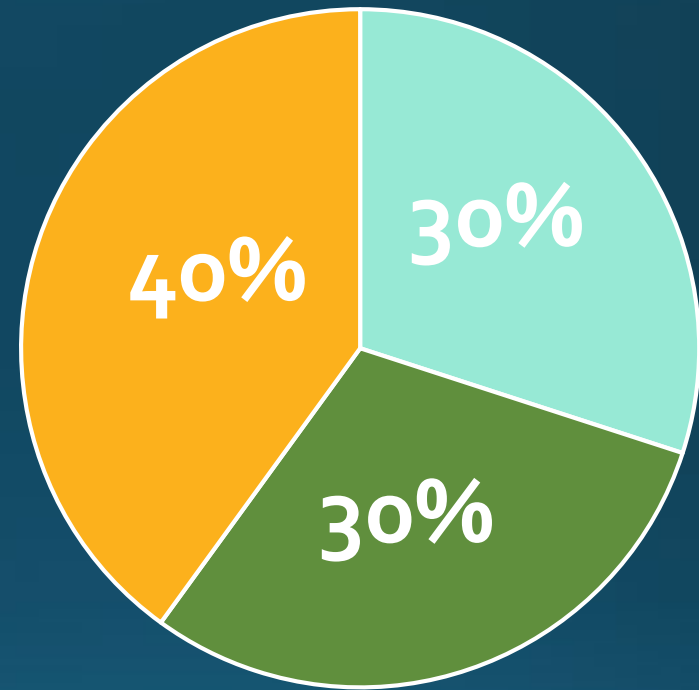
Oct. 1, 2020 – Sept. 30, 2021

Northern Sierra Precipitation: 8-Station Index, May 17, 2021



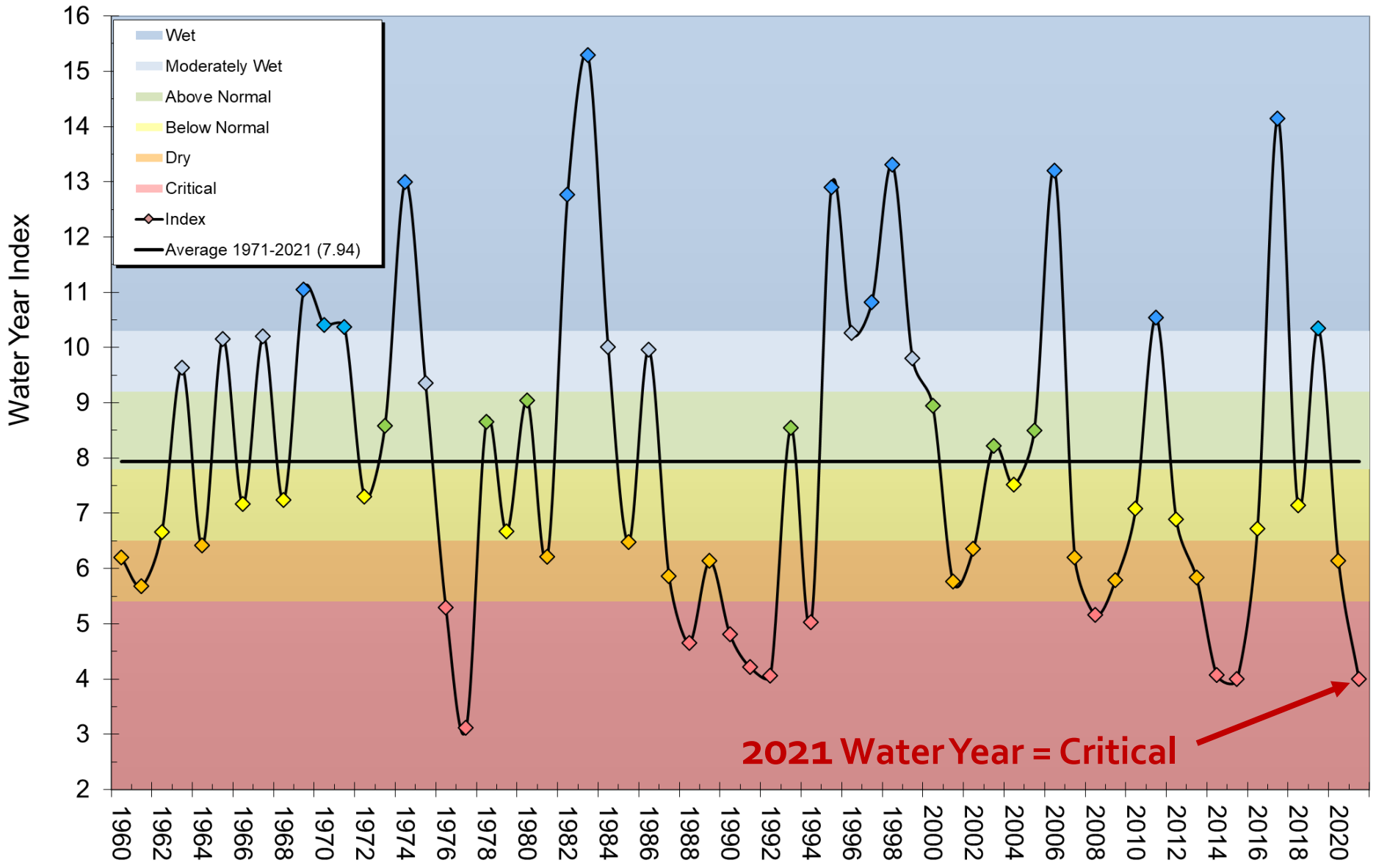
Water Year Indices for the Sacramento River Basin are based on runoff from 4 rivers over 2 years.

- Sacramento River
- Feather River
- Yuba River
- American River



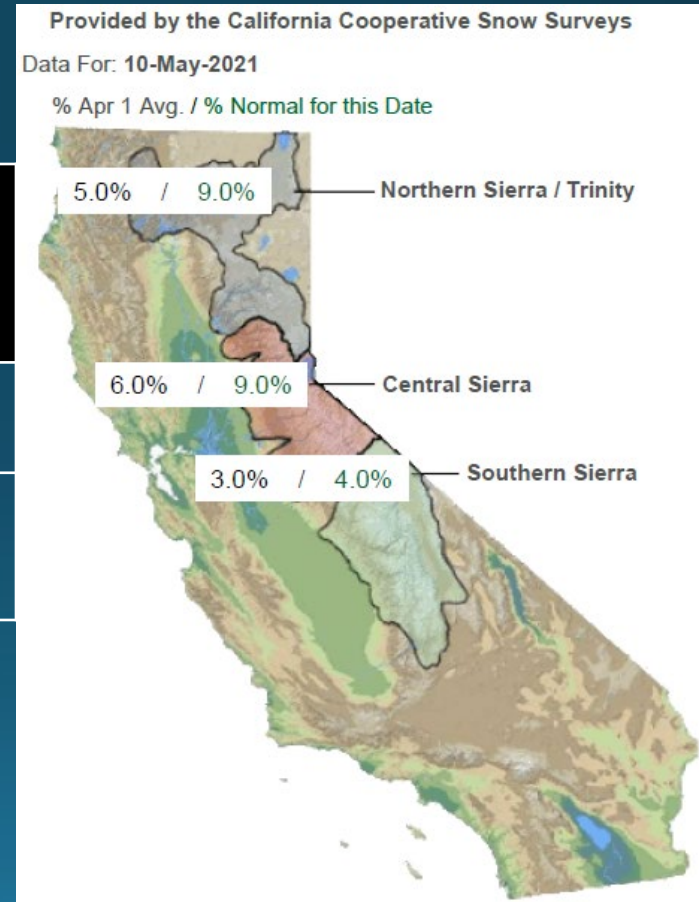
- Current Year Oct. - Mar.
- Previous Year WYI
- Current April - July

Water Year Hydrologic Classification Indices 1960-2021



Snowpack Conditions Northern Region

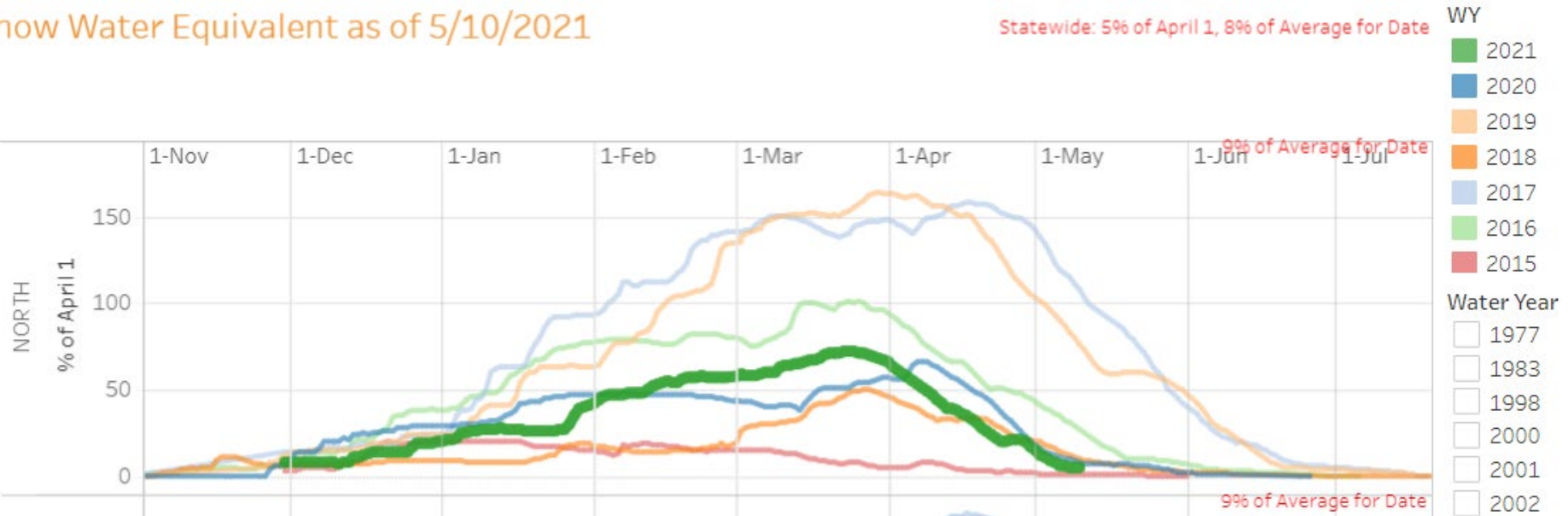
This Year April 1st	Last Year April 1st
66 % Normal for Date	57 % Normal for Date
18.4" Average Snow Water Equivalent	17.2" Average Snow Water Equivalent



Snowpack Conditions Northern Region

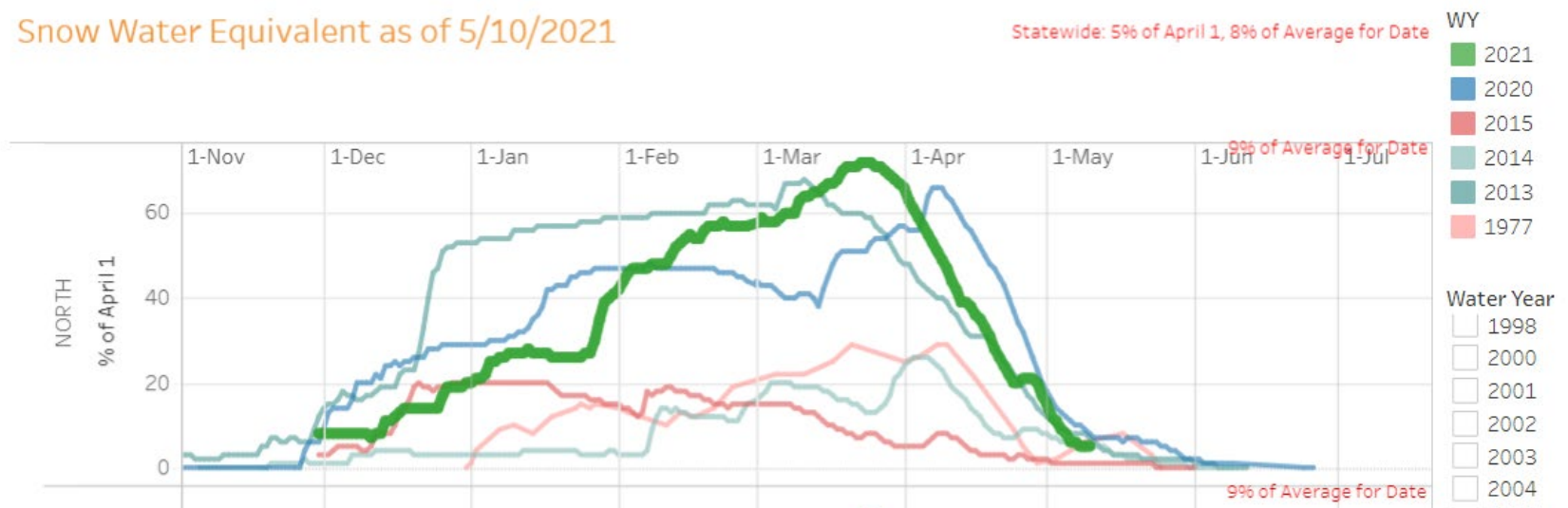
Snow Water Equivalent as of 5/10/2021

Statewide: 5% of April 1, 8% of Average for Date



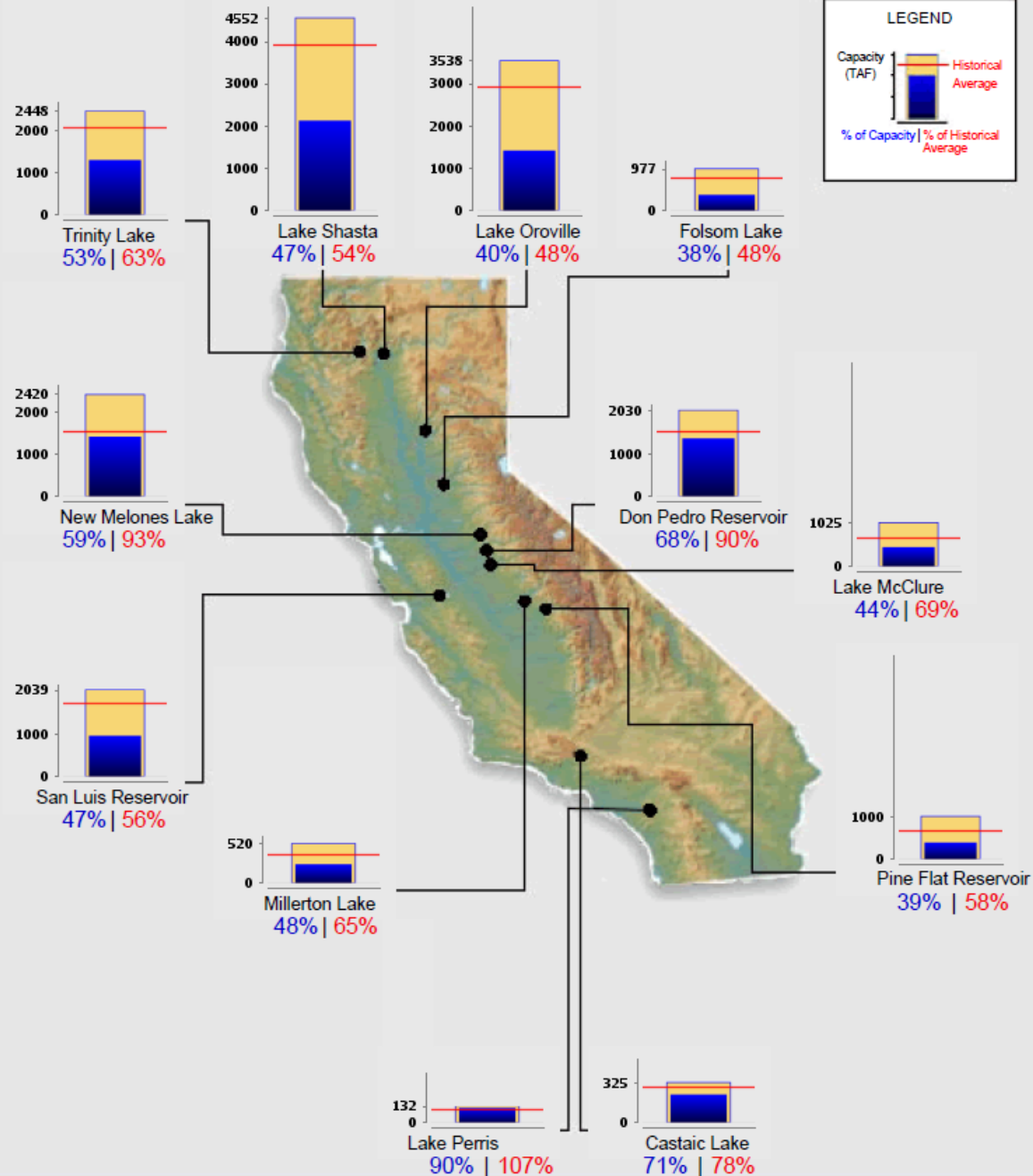
Snow Water Equivalent as of 5/10/2021

Statewide: 5% of April 1, 8% of Average for Date

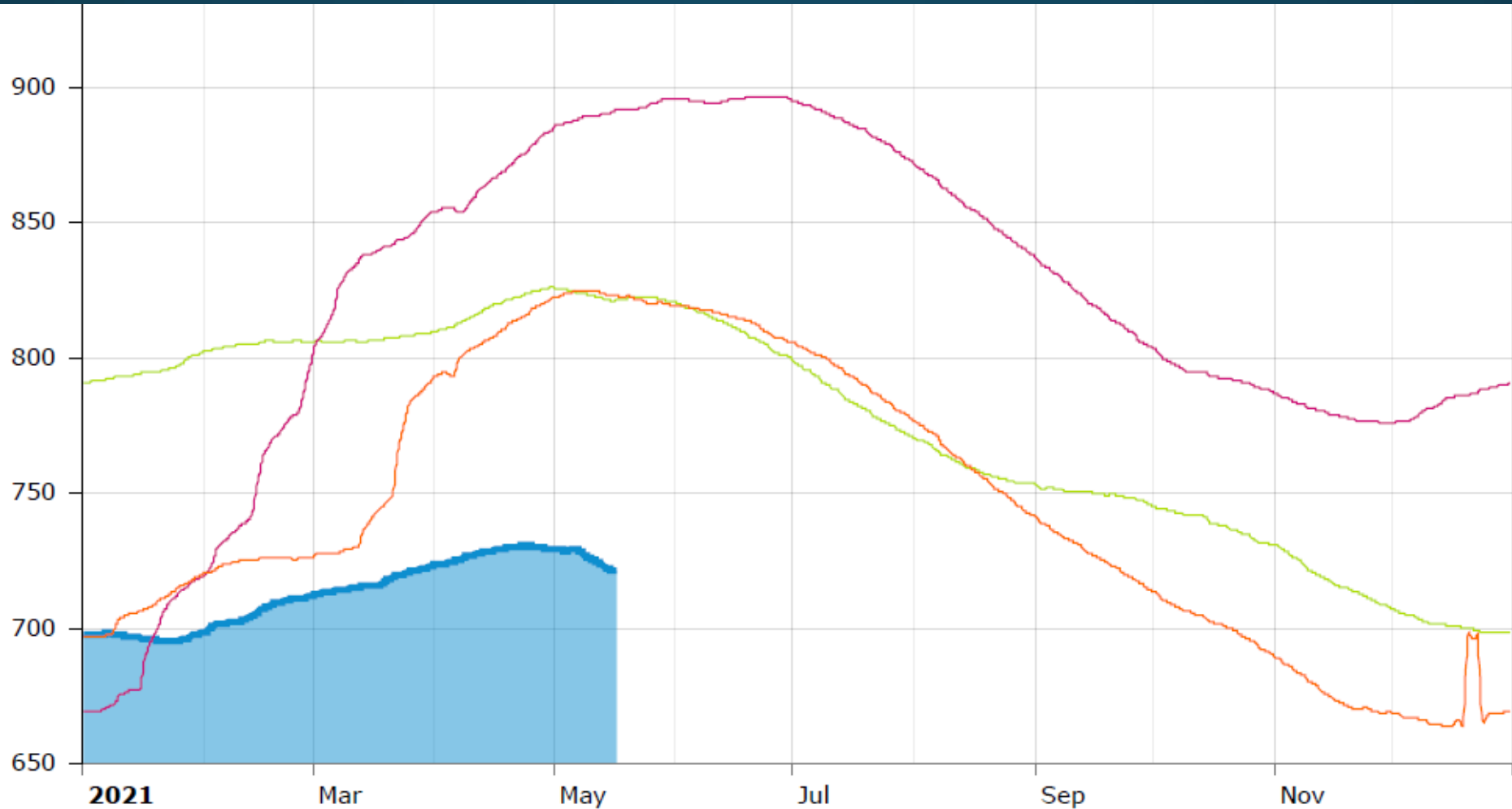


CURRENT RESERVOIR CONDITIONS

Reservoir Storage

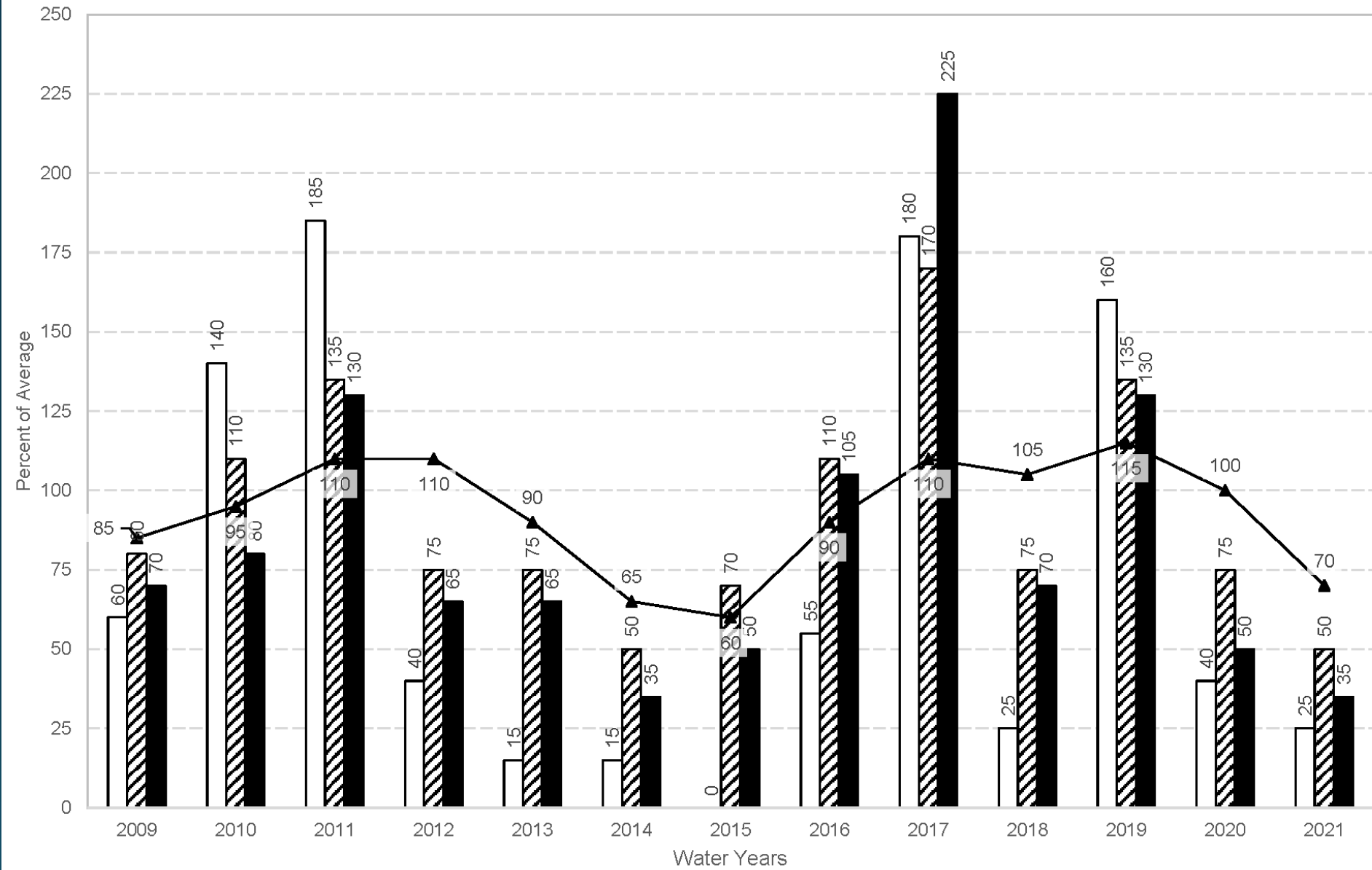


Lake Oroville Water Levels (feet)



2021 2020 2019 2018

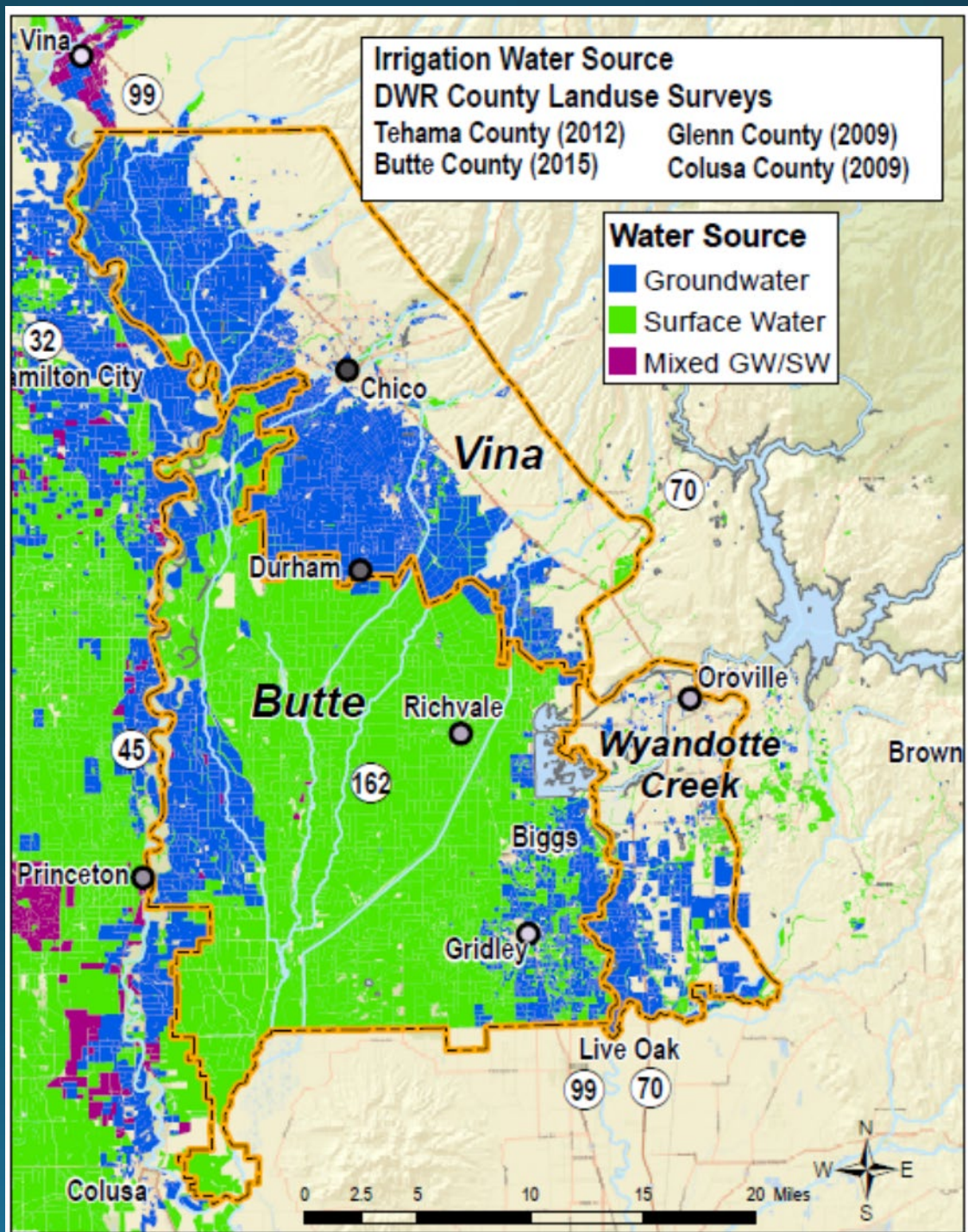
May 1 Statewide Conditions



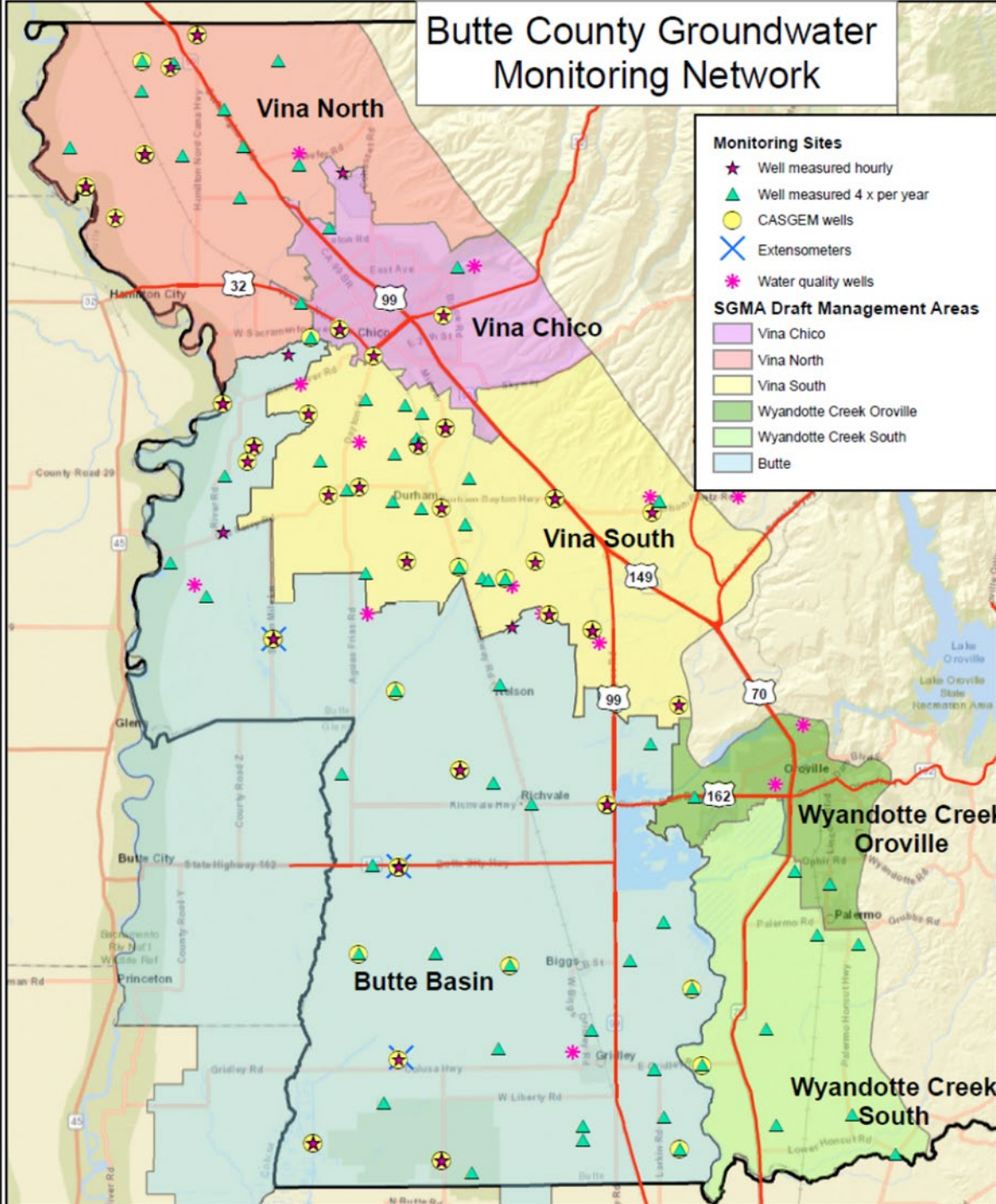
□ Snowpack ▨ Precipitation ■ Runoff ▲ Reservoir Storage

Groundwater Conditions Spring 2021

Where do we use groundwater most?

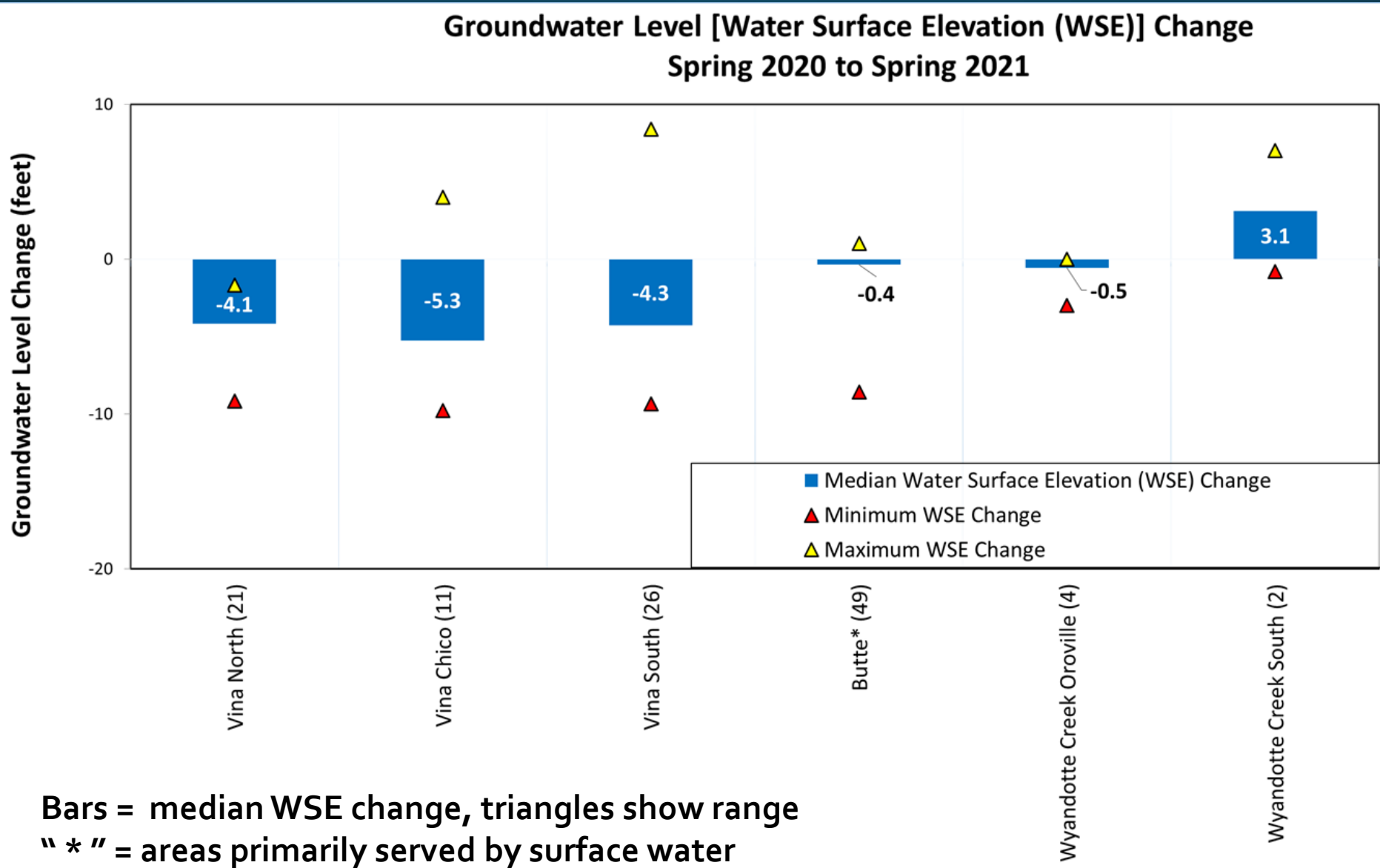


Butte County Groundwater Monitoring Network



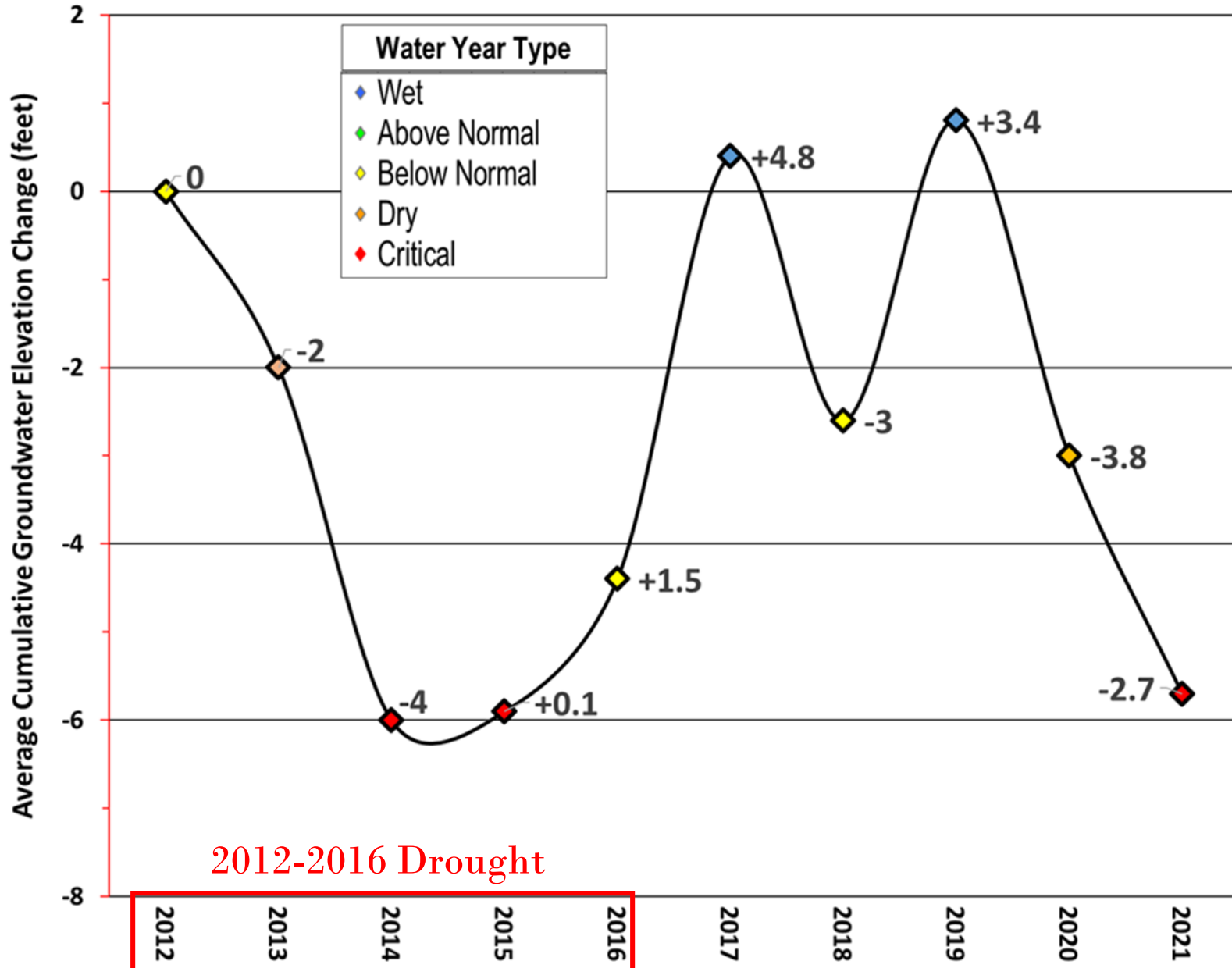
Spring 2020 vs. Spring 2021

Overall decrease of ~ 2.7 feet between years



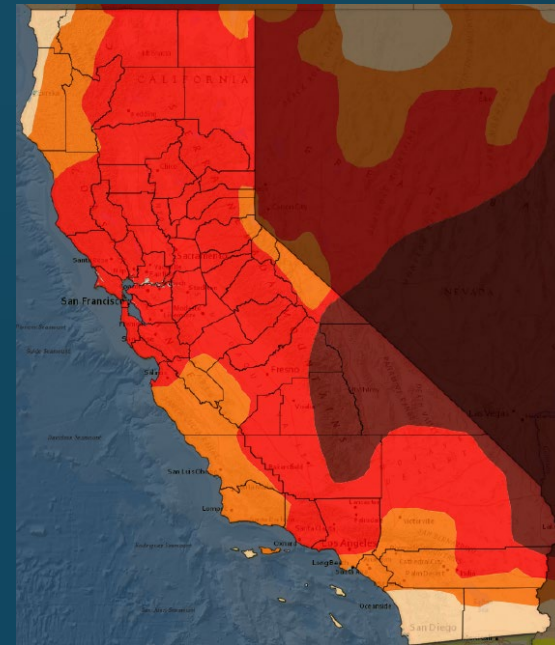
How do the groundwater level changes from last spring to this spring compare to other recent years?

Spring Groundwater Level Change Water Years 2012 to 2021



Note: This includes all wells County-wide

Current U.S. Drought Monitor Conditions for California



D0 - Abnormally Dry



- Soil is dry; irrigation delivery begins early
- Dryland crop germination is stunted
- Active fire season begins

100.00%
of Butte
County
(D0-D4)

D1 - Moderate Drought



- Dryland pasture growth is stunted; producers give supplemental feed to cattle
- Landscaping and gardens need irrigation earlier; wildlife patterns begin to change
- Stock ponds and creeks are lower than usual

100.00%
of Butte
County
(D1-D4)

D2 - Severe Drought



- Grazing land is inadequate
- Fire season is longer, with high burn intensity, dry fuels, and large fire spatial extent
- Trees are stressed; plants increase reproductive mechanisms; wildlife diseases increase

100.00%
of Butte
County
(D2-D4)

D3 - Extreme Drought



- Livestock need expensive supplemental feed; cattle and horses are sold; little pasture remains; fruit trees bud early; producers begin irrigating in the winter
- Fire season lasts year-round; fires occur in typically wet parts of state; burn bans are implemented
- Water is inadequate for agriculture, wildlife, and urban needs; reservoirs are extremely low; hydropower is restricted

100.00%
of Butte
County
(D3-D4)

D4 - Exceptional Drought



- Fields are left fallow; orchards are removed; vegetable yields are low; honey harvest is small
- Fire season is very costly; number of fires and area burned are extensive
- Fish rescue and relocation begins; pine beetle infestation occurs; forest mortality is high; wetlands dry up; survival of native plants and animals is low; fewer wildflowers bloom; wildlife death is widespread; algae blooms appear

0.00%
of Butte
County
(D4)

April 21 & May 10, 2021 Drought Proclamations

- STATE OF CALIFORNIA - PROCLAMATION OF A STATE OF EMERGENCY

DROUGHT EMERGENCY COUNTIES:

ALAMEDA	LAKE	SHASTA
ALPINE	LASSEN	SIERRA
AMADOR	MADERA	SISKIYOU
BUTTE	MARIPOSA	SONOMA
CALAVERAS	MENDOCINO	SOLANO
COLUSA	MERCED	STANISLAUS
CONTRA COSTA	MODOC	SUTTER
DEL NORTE	NAPA	TEHAMA
EL DORADO	NEVADA	TRINITY
FRESNO	PLACER	TULARE
GLENN	PLUMAS	TUOLUMNE
HUMBOLDT	SACRAMENTO	YOLO
KERN	SAN BENITO	YUBA
KINGS	SAN JOAQUIN	



May 10, 2021 Drought Proclamation

- April 21, 2021 provisions in full force (except paragraph 4)
- Suspends procurement requirements
- Expedites requests to move water to areas of need
- Prioritizes transfers that keep more water in Sacramento, Feather, and American River reservoirs



May 10, 2021 Drought Proclamation

- April 21, 2021 provisions in full force (except paragraph 4)
- Suspends procurement requirements
- Expedites requests to move water to areas of need
- Prioritizes transfers that keep more water in Sacramento, Feather, and American River reservoirs
- Better enables voluntary movements of water
- Modifies requirements for reservoir releases or diversion limitations
- Considers emergency regulations to curtail water diversions
- Evaluates minimum instream flows / other actions needed to protect fisheries

April 21 & May 10, 2021 Drought Proclamations

- Contain more detail than presented here

May 10, 2021 Proclamation available @:

<https://www.gov.ca.gov/wp-content/uploads/2021/05/5.10.2021-Drought-Proclamation.pdf>

- Also proposed a \$5.1 billion package of immediate drought response and long-term water resilience investments to address:
 - immediate, emergency needs, build regional capacity to endure drought and safeguard water supplies for communities, the economy and the environment.

Questions/Discussion