National Weather Service
National Oceanic and Atmospheric Administration

River Forecast Center
California Nevada
Monday, Feb 14, 2022

Water Resources Update - February 14th, 2022

KEY POINTS

- **Jan/Feb precipitation on pace to be the driest on record.**
- **Baseflows during Jan/Feb have exceeded the historical median flows.**
- **CFSv2 March precipitation outlook trend has started to shift drier than a week ago.**
- **Central Valley Water Supply outlook for WY2022 has steadily dropped over the last 5 weeks and sits at 75% of average. Central Valley Water Supply outlook for April – July runoff is at 69% of average.**

DETAILS

- **Details**
  - Thus far, January and February precipitation for California and Nevada has been a bust (Fig 1). High pressure sitting off the coast has diverted the storm tracks to the north and into the eastern United States. Snowmelt has increased steadily over the last week with above average temperatures and sunny conditions. The lack of new snowfall for an extended period of time, coupled with burn scar areas has contributed to a lowering of albedo. Low to mid elevation snowmelt from December storms has allowed seasonal baseflow in mountain areas to exceed historical normals. Snowpack has reversed course since early January and is now below normal due to the lack of precipitation (Fig 2). Despite a brief break in the ridging, this week's forecasted precipitation of up to 0.75" will not prevent this January and February from being the driest on record. This is evident when aggregating precipitation across the 3 California station indexes (Fig 3). High pressure is expected to re-establish itself and limit potential for precipitation for the latter half of February (Fig 4, Fig 5). March outlooks for precipitation have been mixed (Fig 6). While once optimistic about March precipitation, the CFSv2 progression has trended towards drier than normal probabilities over the last few days (Fig 7).

- **Water Supply Impacts**
  - Central Valley Water Supply outlook has steadily dropped since early January. October and December precipitation supported a peak WY2022 median runoff of 27.5 MAF on December 29th, 2022. With dry conditions experienced for January and February, the revised outlook has dropped to 18 MAF, 75% of average, as of February 14th. Observed flows to date of 6.2 MAF are 89% of average (Fig 8). Similarly, the April – July runoff outlook has steadily dropped and now stands at 7.2 MAF, 69% of average (Fig 9). The HEFS outlook incorporates a 14-day weather forecast so the recent flattening of the projections accounts for the limited forecasted precipitation this week.

- **Conclusion**
  - Despite a record breaking December, current below normal snowpack conditions have started to resemble snowpack from WY2020 and WY2021. Based on current conditions, a much wetter than normal pattern is needed in March to avoid a below normal WY.

FOR MORE INFORMATION

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GRAPHICS

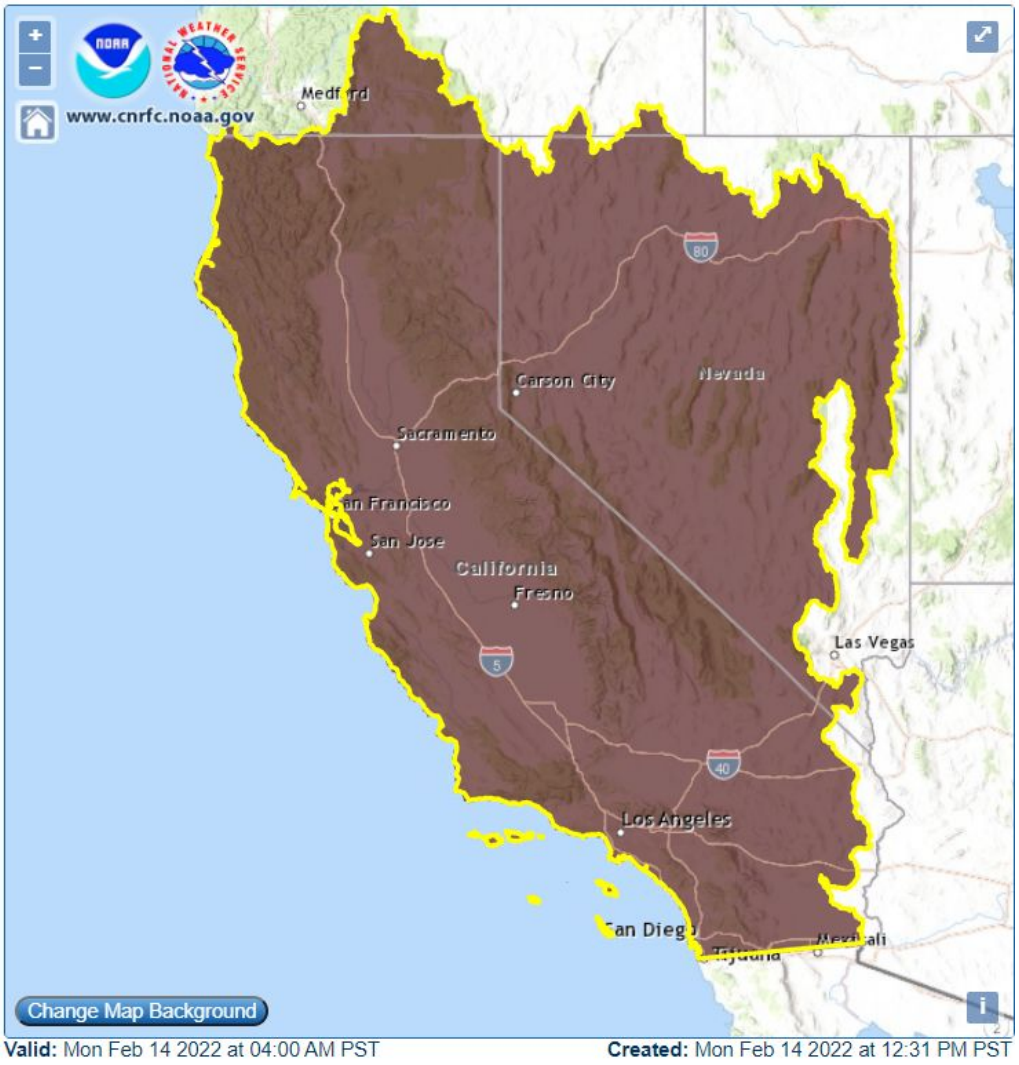

Fig 1. February Precipitation, Percent of Normal (https://cnrfc.noaa.gov/?product=QPEmonthlyPercentNormal&lat=37.970&lng=-119.662&PNGtypeID=QPEmonthlyPercentNormal)

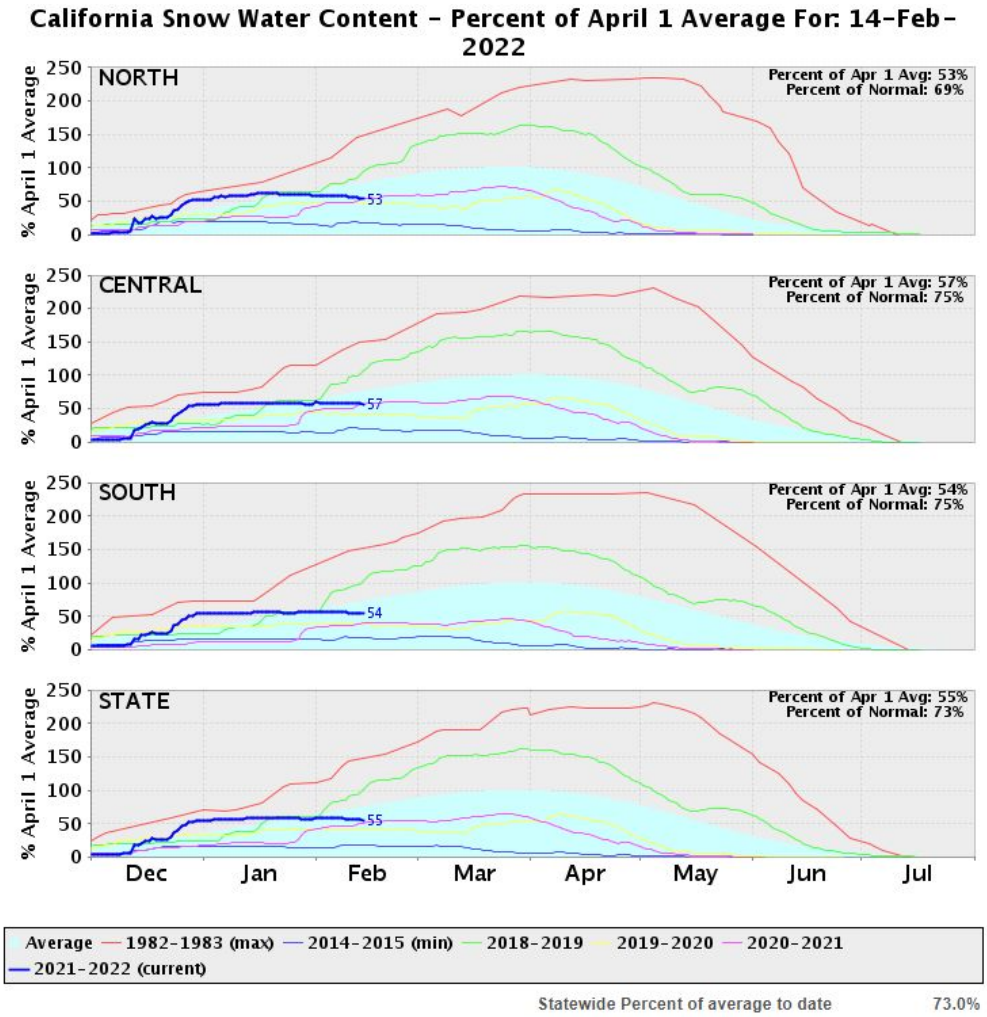

Fig 2. California Snow Water Content (https://cdec.water.ca.gov/snowapp/swcchart.action)

	Jan (6 Stn)	Feb (6 Stn)	Jan (5 Stn)	Feb (5 Stn)	Jan (8 Stn)	Feb (8 Stn)	All Jan+Feb
2022	0.00	0.00	0.00	0.00	1.30	0.00	1.30
2013	1.86	1.56	1.28	0.69	1.35	0.77	7.51
2020	0.70	0.55	1.36	0.25	4.81	0.02	7.69
1991	1.30	1.39	0.82	2.17	0.88	3.11	9.67
1924	1.30	0.85	2.74	1.34	3.55	3.94	13.72
1971	2.34	1.21	3.38	1.53	5.93	0.78	15.17
1976	0.09	3.41	0.38	4.69	0.74	5.93	15.24
1977	2.22	1.53	2.77	2.42	3.14	3.18	15.26
1947	0.85	2.28	1.73	2.92	1.88	5.65	15.31
1984	0.18	3.48	0.19	5.03	0.59	6.29	15.76

Fig 3. Combined 8-station, 5-station and 6-station precipitation indices for Jan/Feb accumulation

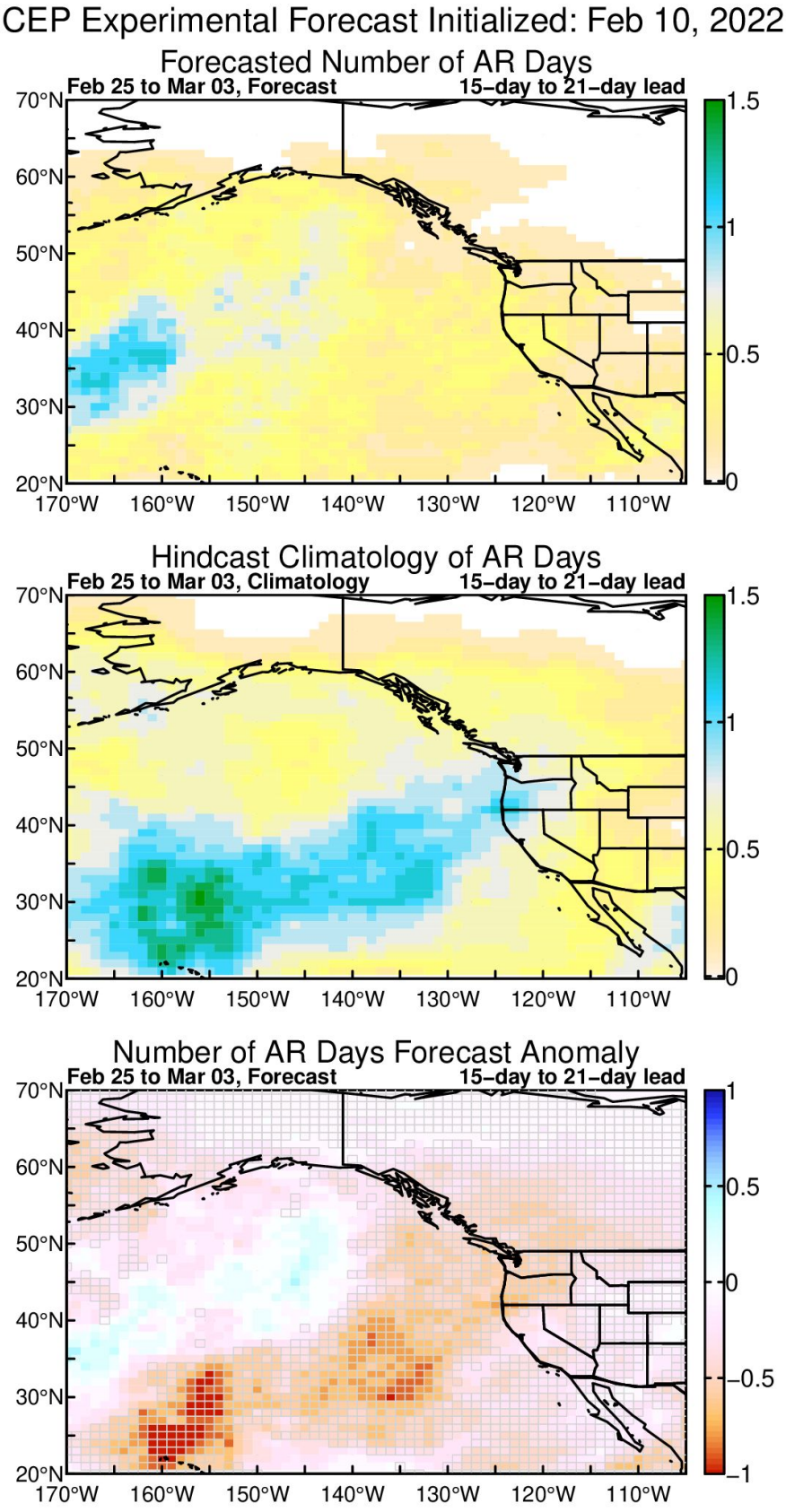

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Fig 5. NCEP Experimental Forecast/CW3E (http://cw3e.ucsd.edu/iwv-and-ivt-forecasts/)

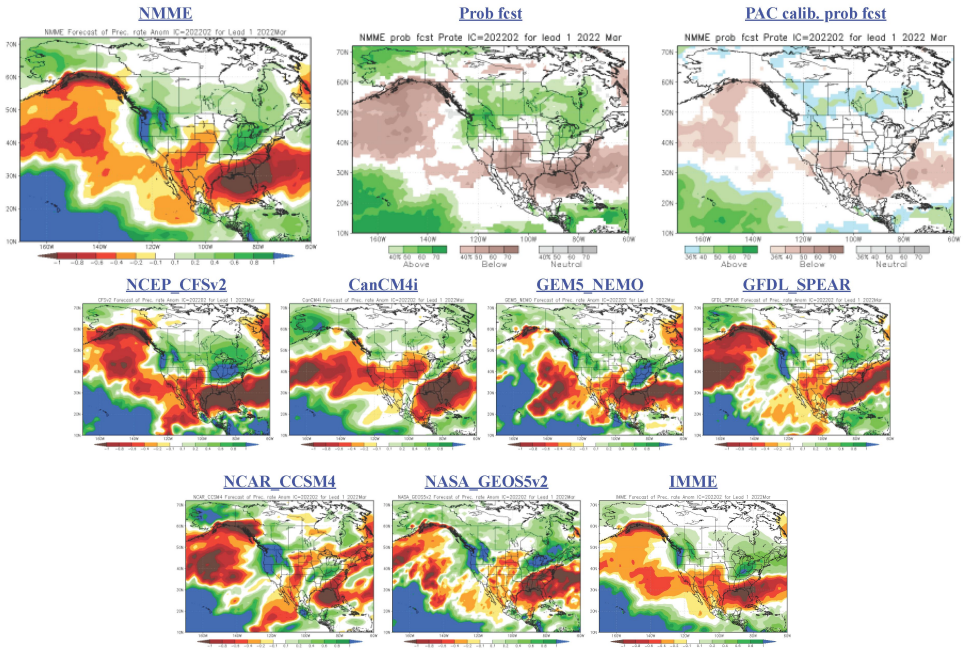

Fig 6. March Climate Precipitation Comparison
(https://www.cpc.ncep.noaa.gov/products/NMME/current/usprate_Lead1.html)

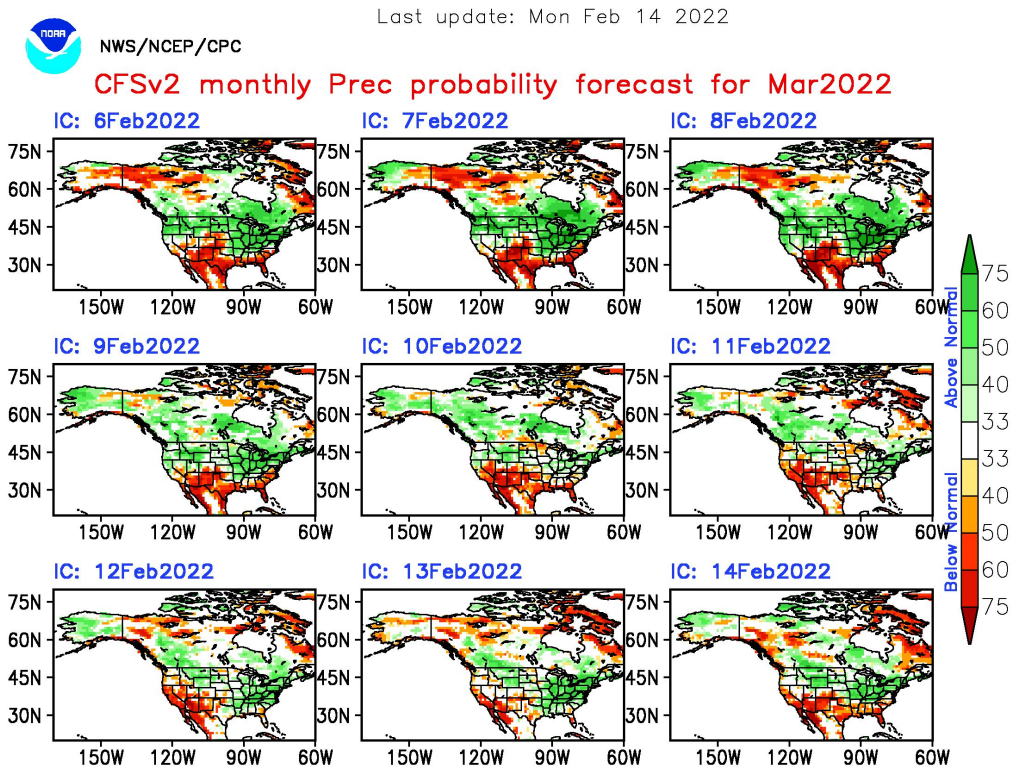

Fig 7. CFSv2 March Precipitation Probability
(https://www.cpc.ncep.noaa.gov/products/people/mchen/CFSv2FCST/monthly/images/summaryCFSv2.NaPrecProb

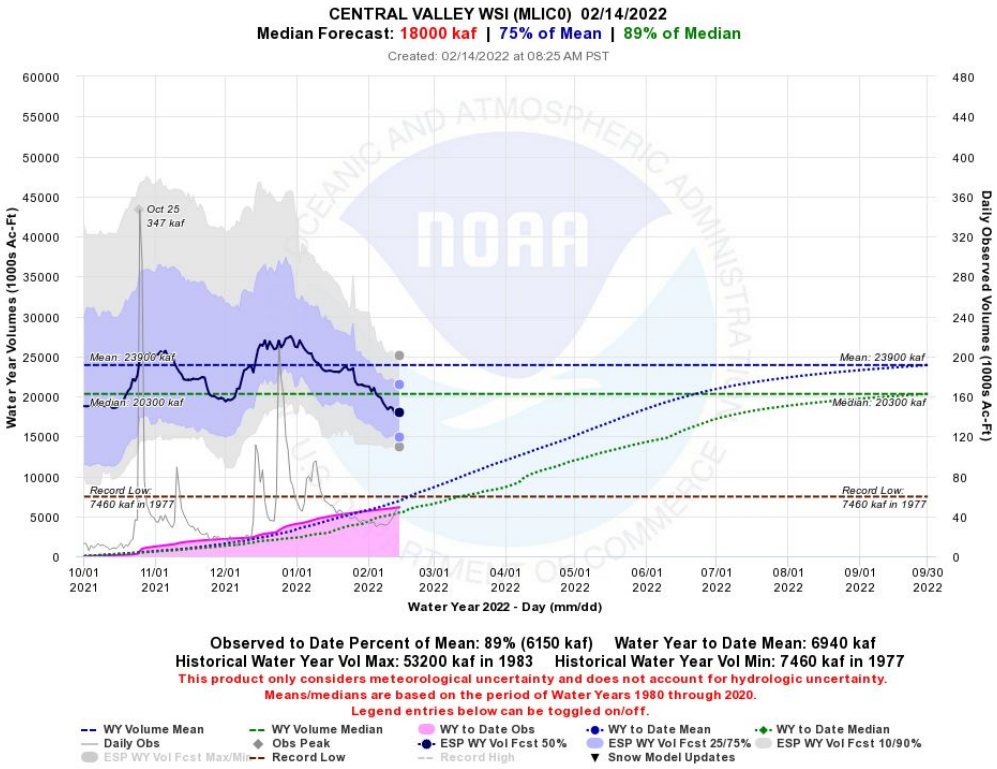

Fig 8. Central Valley Water Supply WY2022 Outlook (https://cnrfc.noaa.gov/ensembleProduct.php?id=MLIC0&prodID=9)

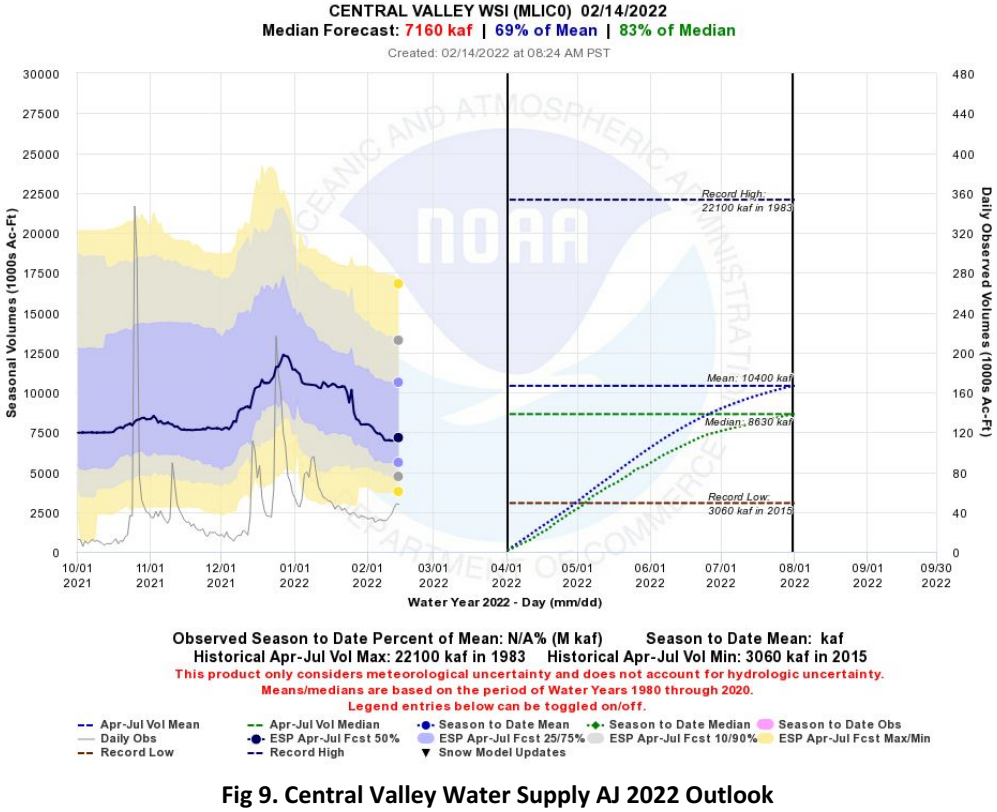

Fig 9. Central Valley Water Supply AJ 2022 Outlook (https://cnrfc.noaa.gov/ensembleProduct.php?id=MLIC0&prodID=7)