Veles Water Weekly Report

1. **WATERTALK**
   TECHNICAL ANALYSIS BY ROBIN BIEBER

2. **NQH2O INDEX VS H2O FUTURES PRICE PERFORMANCE**

3. **NQH2O INDEX AND H2O FUTURES VOLATILITY ANALYSIS**

4. **CENTRAL VALLEY PRECIPITATION REPORT**

5. **RESERVOIR STORAGE**

6. **SNOWPACK WATER CONTENT**

7. **CALIFORNIA DROUGHT MONITOR**

8. **CLIMATE FORECAST**

9. **CALIFORNIA WEATHER DISCUSSION**

10. **REGULATORY NEWS**

11. **WATER NEWS**

March 4<sup>th</sup> 2021
info@veleswater.com
+44 20 7754 0342
Welcome to **WATERTALK**

**CLICK THE LINK BELOW**

“A 2 minute technical analysis video of H2O futures by Robin Bieber.”

https://gbr01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fvimeo.com%2F519410996%2F3e485ef95f&data=04%7C01%7Crb%40rboil.co.uk%7C07da13be27b3f406086449d86deed62f%7C6953f73de1a49a7b7bad803b70b8cd%7C0%7C0%7C637504460900350679%7CUnknown%7C7CTWpGZsb3d8eyJWlioI4wi4AwMDAlLCQjoiV2luMzllLCBhIi0k1haWwiLCJXVCi8Mm0%3D%7C1000&sdata=0qFli4RKdxXSHU%2BEDkKhuEvOsj4fW9rjhalhUyOSM%3D&reserved=0
The week starting on the 24th February began with a new index level of $529.43 up $0.28 from the previous week. The futures ranged from a low yesterday of $546 to a high of $560 earlier in the week, continually trading at a premium to the index of 17 to 31 points. The new index level was published at 529.66 yesterday a small increase of $0.23. While the futures are continuing to trade at a premium this appears to be diminishing indicating convergence of the index and futures prices.
In the week beginning the 24th February the two month futures volatility are at a premium of 6.2% to the index up 0.07%. One month futures volatility are at a premium of 7.71% up 1.66%. One week futures volatility are at a premium of 2.13% to the index, which represents a significant drop of 3.08%. The volatility of the futures is still trending at a premium to the index, but the trend is that the short-term volatility is decreasing, which may imply that there will be some further consolidation in the volatility differential in the short term.

**DAILY VOLATILITY**

The daily volatility high for futures for the week was 1.66% on the 1st March which is down 3.3%. The volatility low was 0.64% on the 2nd March, up 0.39% and this bounced to 1.02% on the 3rd March.

*Above prices are all historic volatilities and implied volatilities will be introduced once an options market has been established.*
Central Valley average is calculated using data from 19 weather stations in the Central Valley, California.

<table>
<thead>
<tr>
<th>STATION</th>
<th>MTD (INCHES)</th>
<th>WEEK ON WEEK % CHANGE</th>
<th>% OF 20 YEAR AVERAGE MTD</th>
<th>2021 WYTD VS 2020 WYTD %</th>
<th>2021 WY VS 20 YEAR AVERAGE TO DATE %</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAN JOAQUIN 5 STATION (SSI)</td>
<td>0</td>
<td>-100</td>
<td>0</td>
<td>43</td>
<td>52</td>
</tr>
<tr>
<td>TULARE 6 STATION (SSI)</td>
<td>0</td>
<td>-100</td>
<td>0</td>
<td>45</td>
<td>39</td>
</tr>
<tr>
<td>NORTHERN SIERRA 8 STATION (8SI)</td>
<td>0</td>
<td>-100</td>
<td>0</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>CENTRAL VALLEY TOTAL</td>
<td>0</td>
<td>-100</td>
<td>0</td>
<td>46</td>
<td>47</td>
</tr>
</tbody>
</table>

**RESERVOIR STORAGE**

<table>
<thead>
<tr>
<th>RESERVOIR</th>
<th>STORAGE (AF)</th>
<th>% CAPACITY</th>
<th>LAST YEAR % CAPACITY</th>
<th>HISTORIC ANNUAL AVERAGE CAPACITY %</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRINITY LAKE</td>
<td>1,273,459</td>
<td>52</td>
<td>83</td>
<td>70</td>
</tr>
<tr>
<td>SHASTA LAKE</td>
<td>2,281,749</td>
<td>50</td>
<td>78</td>
<td>68</td>
</tr>
<tr>
<td>LAKE OROVILLE</td>
<td>1,348,431</td>
<td>38</td>
<td>64</td>
<td>55</td>
</tr>
<tr>
<td>SAN LUIS RES</td>
<td>1,178,895</td>
<td>58</td>
<td>69</td>
<td>68</td>
</tr>
</tbody>
</table>
**SNOWPACK WATER CONTENT**

Snow Water Equivalent Dashboard

Snow Water Equivalent as of 3/2/2021

*Snow Water Equivalent, or SWE, is a commonly used measurement used by hydrologists and water managers to gauge the amount of liquid water contained within the snowpack. In other words, it is the amount of water that will be released from the snowpack when it melts. SWE has regional variance.

** April 1st is used as the benchmark as it when the snow pack in California is generally deepest. It has been used the benchmark date since 1941 by DWR and can be used to predict spring riverflow.*
CURRENT SATELLITE IMAGERY

Forecasts indicated that Southern California will be warm and windy with little to no precipitation, but with the potential of 2 frontal systems providing precipitation later in the week. Northern California has seen conditions ease slightly with small amounts of precipitation seen last week.

Whilst drought conditions have improved in parts of California they still encompass 99% of the state.

See “Climate Forecast” for 1-10 day outlook and full weather discussion.
CLIMATE FORECAST

1-10 Day Outlook

NOAA’s forecasting indicates that over the next 10 days temperatures will sit above average for this time of year. Small amounts of precipitation has been forecast in Northern California and the Sierra Mountain range, however most of Southern California looks to remain relatively dry. With high winds and above average temperatures for this time of year, residents have been issued advisory water restrictions.

CALIFORNIA WEATHER DISCUSSION

California is likely to face a critically dry year. The Sierra snowpack which normally supplies about 30% of California’s water is sitting at 61% of the seasonal average and 54% of the April 1st benchmark when the snowpack is typically deepest. These figures paired extremely low reservoir levels and well below average precipitation over the past few months paint a bleak picture. Lake Trinity and Lake Shasta sit at 52% and 50% capacity respectively, with Lake Oroville sitting at worryingly 38% capacity. On the back of 2020 which was the third warmest year on record in the state, the situation now is looking worrying similar to 2014-2015. A small change in weather patterns are forecast for the beginning March, however precipitations levels are not expected to alleviate current conditions.

Long term forecasting does not raise much hope of returning to a normal water year. Water officials across California have watched the dry weather nervously, and have begun to plan for water conservation, and in some cases possible mandatory water restrictions. Many agencies are expected to make their final decisions later this month or in early April.
REGULATORY NEWS

Central Valley Project and State Water Project Allocation
Last week it was reported that the Bureau of Reclamation and the Department of Water Resources would only deliver 5% and 10% of the initial allocations to agricultural water users who rely on the water systems. This has been met with backlash from users. South of the Delta contractors have stated that whilst the allocations come as no surprise given current hydrological conditions the news is devastating nonetheless. Recent studies have shown that reductions in surface water availability in the Central Valley can cause approximately 194,000 acres of land to be taken out of production, more than $1.3 billion in lost crop revenue and thousands of job losses.

$650 million Santa Ana River Habitat Plan
The 50-year Upper Santa Ana River Habitat Conservation Plan (HCP) covers 850,000 acres of the river and riparian habitat in Riverside and San Bernardino counties. If approved, it could allow for about 85 new water-capture projects that would add 87,000 acre-feet of water on average to the supplies of 12 cooperating agencies. That’s equal to water used by about 175,000 households per year, or more than 500,000 people.
WATER NEWS

DWR Conduct 3rd Manual Snow Survey at Phillips Station
The latest snow survey highlighted the disparity in California snow levels between regions. The Department of Water Resources (DWR) performed the third manual snow survey at Phillips Station. Readings indicated that the snowpack in the Central and Northern Sierras is faring significantly better than the Southern Sierras.

“For our snow survey today, we recorded a snow depth of 56 inches and a snow water content of 21 inches. This results in 86 percent of the average for this date and 83 percent for the April 1 average at this location,” said Sean de Guzman, Chief of DWR’s Snow Surveys and Water Supply Forecasting Section. “Additionally, our statewide automated snow sensor network is reporting 61 percent of average to date as of this morning.”

California snow levels highlight the lack of precipitation that has come through the state. Conditions have been particularly hard on the Southern Sierra snow level. As of March 2, the snow level is at 45 percent of average. De Guzman referenced some of the long-term forecasts they have been monitoring, with some weather changes coming in the weeks ahead. The pending weather patterns will likely bring some needed precipitation but are unlikely to be significant. “Without any series of storms on the horizon, it’s safe to say that we’ll end this year dry,” de Guzman noted.

Ref. AgNetWest.com

California’s Aging Infrastructure Deemed Unsafe
Federal engineers have found that three major dams in Southern California — Whittier Narrows, Prado and Mojave River — are structurally unsafe and could collapse in a significant flood event and potentially inundate millions of people downstream. These dams have been classified as ‘High Urgency Structures’ amid concerns that they were not built to withstand the frequency and severity natural weather phenomena previously thought to happen once in a lifetime.

According to California dam safety officials, dams in the state were built to last 50 years. Today, about 75% of the 1,250 dams regulated by the state Department of Safety of Dams are more than 50 years old. In addition, 250 are classified as “extremely high hazard,” indicating that their failure or mis-operation is expected to result in loss of life and economic damage.
Vallejo issues bonds that will fund $51.27 million in drinking water system improvement projects.

Last week the City of Vallejo took a step forward to improve the drinking water pipes, pumps, treatment plants, and water meters of the drinking water system by issuing its Series 2021A Water Revenue Bonds. The bonds will fund $51.27 million in drinking water system improvement projects, according to a news release from the city.

“The Series 2021A Water Revenue Bonds will fund $51.27 million in repairs and upgrades to the Vallejo drinking water system such as pipe repair and replacement, the purchase, and installation of upgraded pumps for better water delivery, and upgrades to the various water treatment plants and storage reservoirs in our drinking water system and upgrading water meters and meter reading technology,” said Mike Malone, Vallejo’s Water Department Director.

*Note the attachment is not an inducement to trade and Veles Water does not give advice on investments.*