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Calendar

For a listing of industry events and dates for the coming year, please visit:

<http://www.californiaavocadogrowers.com/commission/industry-calendar>

Western Water Systems Updates Webinar

The Ag in Uncertain Times team will host a free webinar to share information concerning Western Water Systems Updates. More information [here](#).

February 3

February 3

Time: 10:00am

Location: Webinar

CAC Web/Teleconference Board Meeting

February 8

February 8

Time: 10:00pm – 12:00pm

Location: Web/Teleconference

CAC Redistricting Committee Web/Teleconference

February 10

February 10

Time: 10:00pm – 12:00pm

Location: Web/Teleconference

Wildfire Refresher for Agricultural Producers Webinar

The Oregon State University Extension Service is offering a free Agricultural Wildfire Refresher Webinar. Registration required. More information [here](#).

February 10

February 10

Time: 12:00pm – 1:30pm

Location: Webinar

Avocado Laurel Wilt Ambrosia Beetle Online Workshop

The University of Florida researchers will host an online Avocado Laurel Wilt and Red Bay Ambrosia Beetle Workshop to provide updates concerning basic and applied LW-AB research and information concerning how this pest-disease complex impacts avocado production. Registration required. More information [here](#).

February 11

February 11

Time: 7:00am – 12:00pm

Location: Online

CAC Marketing Committee Web/Teleconference

February 16

February 16

Time: 10:00am – 12:00pm

Location: Zoom Web/Teleconference

California Avocado Commission Referendum Announced

Every five years the California Department of Food and Agriculture holds a state-mandated referendum vote to provide California avocado growers the opportunity to determine whether the California Avocado Commission will be reapproved to continue for the next five years.

“The referendum process is a vital component of the law that established the California Avocado Commission,” said Rob Grether, chairman of the CAC board of directors. “It provides growers the opportunity to cast their vote on continuing the operations of the organization.”

Ballots will be mailed to eligible California avocado commercial producers on February 15, 2021 and must be postmarked and sent to CDFA for tallying by March 16, 2021. Eligible commercial producers who do not receive a ballot should contact the CDFA Marketing Branch staff at 916-900-5018. Results are expected to be tallied by CDFA and announced no later than March 31, 2021.

“The California Avocado Commission exists to support California avocado growers and is governed by a board of directors comprised of their peers to ensure good stewardship of grower funds,” said CAC President Tom Bellamore.

The Commission focuses on fostering grower viability by building demand for California avocados at a price premium and increasing the fruit’s perceived value, preference and loyalty. About 70% of CAC’s current budget goes toward marketing, which includes developing strategic, targeted programs with retailers and foodservice operators. Other key activities include advocating for California avocado growers on issues such as water, trade and export, supporting production research and grower education.

There have been eight reaffirming referenda since the establishment of the California Avocado Commission in 1978.

CALIFORNIA AVOCADO GROWERS REFERENDUM VOTE

Every five years the California Department of Food and Agriculture holds a state-mandated referendum vote to provide growers with the opportunity to determine whether the California Avocado Commission will be re-approved and continue for the next five years. The referendum timeline is:

- **February 15, 2021:** Ballots will be mailed to eligible commercial producers
- **March 16, 2021:** Completed ballots must be postmarked and returned to CDFA for tallying

Eligible commercial producers not receiving a ballot should contact the CDFA Marketing Branch Staff at **916.900.5018**.

The California Avocado Commission exists to support California avocado growers and is governed by a Board of Directors comprised of their peers to ensure good stewardship of grower funds.

CAC FOCUSES ON FOSTERING GROWER VIABILITY BY:

- Building demand for California avocados at a price premium
- Differentiating California avocados to increase perceived value, preference and loyalty, to retain position as the most recognized, preferred and trusted avocado origin sold in the U.S.
- Developing strategic, targeted programs with retailers and foodservice operators
- Advocating for California avocado growers on issues such as water, trade and export
- Supporting production research and grower education



Referendum ballots will be mailed to eligible California avocado commercial producers on February 15, 2021 and must be postmarked and sent to CDFA for tallying by March 16, 2021.

CAC Seeks Districts 2 and 3 Producers for Board Alternate Member Positions

The California Avocado Commission seeks interested candidates to fill two vacancies on the Commission Board of Directors — Producer Alternate Member for District 2 and Producer Alternate Member for District 3. Nominations for both positions are due February 24, 2021. The vacancies are scheduled to be filled by a majority vote at the Commission Board meeting held March 4.

The persons appointed to fill these vacancies will serve for the unexpired portion of the term, through October 31, 2021.

To be eligible for these positions, the producer must:

- Be engaged within this state in the business of producing, or causing to be produced, avocados for market. This does not include any person with an average annual production of less than 10,000 pounds of avocados in the three preceding market years.
- Certify that his/her grove is located in district for which they are seeking nomination.
- Certify that he/she is not a handler or employee of a handler.
- Submit a qualification form, disclosure statement and any other required documents. These documents can be found in the right-hand navigation.

Candidate materials can be faxed to 949.208.3503, emailed to aaymami@avocado.org or mailed to: 12 Mauchly, Suite L, Irvine, CA, 92618-6305.

For additional information, contact April Aymami at 949.341.1955, ext. 118 or email at aaymami@avocado.org.

Preventing and Managing Wind Damage in California Avocado Groves

When it comes to potential wind damage, California avocado growers typically face two different scenarios: [chronic wind exposure or severe wind events](#).

Avocado trees housed in windy portions of a grove are often stunted and underperform production wise. They also may be water stressed, which will impact the uptake of minerals, and their roots may be stressed due to consistent rocking caused by the wind. The only remedy, in these cases, is to [create a wind shelter that minimizes wind exposure](#).

In windy groves, fruit often will exhibit markings that can be mistaken for diseases or pest damage. For example, black marks caused by wind may be mistaken for anthracnose post harvest rot or russet scars may lead growers to suspect their trees have persea thrips damage. While some superficial wind damage may not affect the quality of the fruit – particularly if that damage occurs when the fruit is young – some wind damage can lead to large scars or “alligator skin” that are more impactful to fruit quality.

Severe [wind events often blow avocado trees over](#). In these instances, unless the tree is very young, consider removing the tree. Attempting to move the tree back into an upright position can further damage the roots. If the fallen trees looks like it will recover, it can remain where it is. New shoots may emerge from the trunk and form the structure for a new tree. If this occurs, large, old branches can be removed later as the new portion of the tree takes shape. If you do remove the tree, avoid planting a new tree close to where the old tree existed unless you remove the stump and sterilize the soil. The roots from the old tree could become infected by Phytophthora root rot and thus infect a new tree.

Strong wind events also can break limbs or blow fruit off the trees. After a storm, windfall should be properly disposed of and broken branches removed. It is important to monitor trees after severe storms, paying close attention to signs of wilting that may indicate stressed roots or a broken branch that was missed during earlier assessments.

For more information about preventing and managing wind damage, visit the [California Avocado Commission’s wind protection online library](#).

Drier La Niña Winter Conditions Can Contribute to Sudden Freezes

Although the California avocado growing regions are expected to experience a moderate La Niña phase with warmer average temperatures through spring 2021, the lower rainfall amounts associated with this climate phase can lead to sudden cold spells or freezes. As Dr. Ben Faber noted in a recent [blog post](#), some of California’s most severe freezes have occurred during weak La Niña phases.

Advection and radiation freezes pose the most threat to California avocado groves. Advection freezes are caused by the movement of arctic air into the region. Radiation freezes occur at night when clear skies and calm conditions are present that allow cold pockets of air to settle in low areas of the grove.

To [prepare for potential frosts or freezes](#), it’s important to remember that different prevention measures may be used for a frost versus a freeze. A frost is caused when objects cool at night and radiate their heat loss, thus chilling the surrounding air. In Southern California, warm air is typically close to the ground due to a low ceiling, thus causing a temperature inversion that protects orchards. However, windy conditions can disrupt this inversion and press cold air to the ground. In comparison, a freeze occurs when cold air moves in and the air temperature decreases at both high and low levels.

- To prevent damage when cold weather events are in the forecast, consider the following.
- To protect against frost or freeze, orchard heaters can be used to distribute heat. The downside of heaters is the cost of running them and possible fire hazards.

- Wind machines should only be used in frost, not freeze, conditions and should not be used when it is windy. This economical option can be paired with orchard heaters to improve effectiveness.
- If frost threatens and no temperature inversion is present, the best practice is to run microsprinklers during the day and turn off the water prior to sunset. If the temperature drops below freezing, restart the water and run it until sunrise. If ice forms on the fruit or leaves, heat will be released as the ice melts and protect the plants.
- If watering the entire grove prior to a cold weather event is cost prohibitive, it is recommended that growers opt to water only those portions of their groves that tend to be coldest.

If your grove is affected by a frost/freeze event, please view [Post-freeze Avocado Grove Management](#) on the California Avocado Commission's website. For more complete information, visit the [Commission's online library of frost/freeze protection articles](#).

Yellow Leaves in Spring Indicative of Need to Adjust Nutrient Management

In spring, as California avocado trees begin to bloom, growers often report seeing yellow leaves at the ends of branches of otherwise healthy trees. Dr. Danny Klittich, of Redox, recently [posted an online article about the yellowing of leaves in spring](#), what this indicates, and what growers can do to remedy the situation.

When avocado trees begin producing flowers, the blooms become major sinks for nutrients — gathering the nutrients they need to set and retain fruit. The timing of fruit development also coincides with the cooler months of the California avocado growing season, when growers tend to fertilize less and the soils, adapting to cooler temperatures, tend to provide less nutrition to the trees. Thus, trees begin to reallocate nutrients from the roots and leaves to the more important task of developing blooms for fruit set. With nutrients reallocated, leaves on the ends of branches may begin to yellow.

According to research, nitrogen, zinc and iron leaf concentrations were lower in chlorotic (yellow) leaves. This makes sense when you consider the importance of each of these to bloom and fruit development. In general, Dr. Klittich recommends that trees should yield a fall tissue sample of 2.5 – 2.7% nitrogen for higher yields. This level provides the tree with an adequate reservoir for bloom development.

Dr. Klittich recommends growers complete the following to improve yield potential.

- Early bud development — During cauliflower bloom and floral elongation, apply nitrogen, zinc, iron, boron and calcium.
- Bloom spray — Nutrient applications should provide calcium, zinc, iron and amino acids and can be made from cauliflower stage through full bloom
- Fruit set — Weekly applications should be designed to support fruit set and development

To view Dr. Klittich's specific product and dosage recommendations, as well as an informative video concerning avocado bloom strategies, [visit his latest online article](#).

Webinar to Address Agriculture Water System Challenges

The Ag in Uncertain Times team will host a free webinar on February 3 at 10:00 a.m. to share information concerning Western Water Systems Updates. The session will feature the following two presentations:

- Economic Impacts from Water Reductions in Agriculture: Examples from the Colorado River Basin — Kristiana Hansen, Associate Professor in Agricultural and Applied Economics, University of Wyoming

- Climate Change Trends and Impacts on Agriculture and Water in the West — Tapan Pathak, Specialist in Climate Adaptation in Agriculture, University of California Division of Agriculture and Natural Resources

Interested persons can join the webinar by clicking one of the links below:

- [Adobe Connect](#)
- [YouTube](#)
- [Facebook](#)
- [Zoom](#)

Wildfire Refresher for Agricultural Producers Webinar

The Oregon State University Extension Service is offering a free Agricultural Wildfire Refresher Webinar on February 10 from 12:00 – 1:30 p.m.

The webinar will cover:

- Wildfire safety and prevention for operations
- Fire prevention plans
- What to do when there is a wildfire and how to collaborate with first responders — roundtable discussion with local fire managers

Online [registration for the wildfire webinar is now available online](#).

Avocado Laurel Wilt Ambrosia Beetle Online Workshop

On Thursday, February 11, University of Florida researchers will host an online Avocado Laurel Wilt and Red Bay Ambrosia Beetle Workshop from 7:00 a.m. – 12:00 p.m. Pacific time. The event will provide updates concerning basic and applied LW-AB research and how this pest-disease complex impacts avocado production.

Attendance is limited, so [interested persons are encouraged to register early](#).

The scheduled speakers and topics are as follows:

- Jeff Wasielewski — Welcome, logistics and purpose
- Jonathan Crane — Brief history and background of LW-AB avocado epidemic
- Jeffrey Rollins — Insights into *R. lauricola* pathogenicity and colonization
- Daniel Carrillo — Ambrosia beetle biology and management
- Octavio Menocal — A case of plasticity in the symbiotic associations of *Xyleborus bispinatus*
- Romina Gazis — Current and novel approaches for the control of Laurel Wilt
- Pedro Pablo Parra — New diagnostic tools and their application in surveillance programs
- Bruce Schaffer — Laurel wilt susceptibility of avocado rootstocks and scions in relation to physiology, stem anatomy and ecotype

- Freddy Ballen — Economic impact of laurel wilt: looking back and forward
- Lukas Stelinski and Xavier Martini — Pesticide alternatives for ambrosia beetle management: challenges and opportunities
- Kirsten Stelinski — Ambrosia beetle microbial communities associated with *R. lauricola*

The event will include periodic question and answer sessions, as well as a break for lunch.

California Avocado Merchandise Shop Holiday Promotions Garner Double and Triple-digit Sales Increases

With more consumers likely completing their holiday shopping online this year due to COVID, the California Avocado Commission ran engaging social and digital promotions featuring California avocado merchandise available exclusively at its online shop. The promotions were timed to coincide with key holiday shopping events and featured special merchandise codes to help budget-conscious consumers secure a percentage discount on their purchased items.

The first California avocado merchandise shop holiday campaign — “Green Friday” — was launched on the Commission’s social media channels during the key selling moments immediately following Thanksgiving: Black Friday and Cyber Monday. The visually striking posts featured photos of the online shop’s most popular items and a GREENFRIDAY 15% discount code. Paid social support targeted toward Premium Californians was leveraged on Instagram and Facebook to increase reach. The Commission also encouraged its email newsletter subscribers to browse the e-commerce site to find gift items for the California avocado lovers in their lives.

The Green Friday social posts reached more than 748,000 people, earned 450 engagements and 575 link clicks to the shop. The promotional email had an average open rate of 34%, well beyond the industry average of 23%, and secured 686 clicks to the online store. During the Green Friday promotional period (November 25 – December 1) the number of orders placed increased by 43% and total sales increased by 114% as compared to CAC’s weekly base sales metrics.

The second promotional push — “Deck the Hass” — coincided with shipping timelines to ensure any orders placed during December 9 – 14 would arrive in time for Christmas. The digital posts also offered consumers a 15% discount upon entering the DECKTHEHASS promo code in their shopping cart. To help holiday shoppers find the perfect gift, the Commission created an Instagram Story gift guide showcasing various shopper personas and California avocado merchandise suited for each of them. For example, one post recommended stickers, a tote bag and an Avocado Dreamin’ hoodie for The Creative Californian persona.

The Deck the Hass promotion reached more than 884,000 people and secured 500 engagements and 715 link clicks to the merchandise shop. The number of orders and total sales both rose by 57% in comparison to weekly base sale metrics.

The shop also was promoted via a custom content partnership with POPSUGAR, a premium female lifestyle site. A custom article on the site featured beautiful photography of various merchandise items with bold, interactive designs and witty copy written by the POPSUGAR editorial team. The colorful, eye-catching images also were shared on POPSUGAR’s Facebook, Twitter and Pinterest channels. Overall, the partnership delivered 3.4 million impressions and 18,000 clicks driving consumers directly to the online store. The Facebook post, in particular, resonated with consumers garnering a .15% click-through-rate, which was three times POPSUGAR’s previous benchmark.

The robust holiday sales of California avocado merchandise will help expand brand awareness and loyalty throughout the year as consumers showcase their favorite branded merchandise at home, in public and on their social media channels.



The best Black Fridays are green. **From Nov. 25 to Dec. 1 use code GREENFRIDAY for 15% off.** From T-shirts to socks, 'tis the season to show off your love of California Avocados.

The Commission encouraged California avocado fans to take advantage of the GREENFRIDAY sale via its email newsletter.

California Market Trends

To view all market trend graphs, including “Weekly Volume Summary,” “Weekly Avocado Prices” and “U.S. Avocado Supply,” please visit: <http://www.californiaavocadogrowers.com/industry/market-statistics>.

California Avocado Society Weekly Newslines* Avocado Prices – January 26, 2021

| California Hass | Conventional #1 (Field Price Per Lb) | Organic #1 (Field Price Per Lb) |
|--|---|------------------------------------|
| #32's | | |
| 36's | | |
| 40's | | |
| 48's | Insufficient Volume to Quote | |
| 60's | | |
| 70's | | |
| 84's | | |
| *To subscribe to the Weekly Newslines, please contact the California Avocado Society at (949) 940-8869 or www.CaliforniaAvocadoSociety.org . | | |

California Avocado Commission Weekly Volume Summary (Pounds)

| | Week Ending 1/24/2021 | Season-to-Date (since 11/01/2020) | 2021 Year to Date |
|-------------------------|-----------------------|-----------------------------------|--------------------|
| Hass | 404,058 | 6,742,635 | 404,058 |
| Lamb | 0 | 0 | 0 |
| Other (Greens) | 29,710 | 79,577 | 47,190 |
| California Total | 433,768 | 6,822,212 | 451,248 |
| Florida | 242,825 | 4,901,655 | 998,415 |
| Chile | 0 | 0 | 0 |
| Mexico | 73,431,424 | 650,752,651 | 261,907,433 |
| Peru | 0 | 0 | 0 |
| Other (Imports) | 860,000 | 12,500,000 | 4,800,000 |
| Import Total | 74,291,424 | 663,252,651 | 266,707,433 |
| USA Total | 74,968,017 | 674,976,518 | 268,157,096 |

Sources:

California = CAC (AMRIC)

Florida = Florida Avocado Admin Committee

Chile = Comite de Paltas, Chile

Mexico = APEAM

Peru = ProHass

Other Imports = USDA AMS website

Crop Statistics

Below are the weekly harvest projections and actuals for the first quarter of 2021, which show under half a million pounds harvested through week ending January 24. It is estimated another 250,000 pounds of fruit was harvested for week ending January 31, bringing the total 2021 harvest number to 630,000 pounds. Of the total 630,000 pounds harvested, about 75-percent of that represents the Hass variety, with the remaining volume attributed to Other varieties. The Commission is aware that the wind events from both December and January have impacted the industry to varying degrees, and so will be conducting a survey among the handlers to gather updated volume and harvest projections. These updated estimates and projections will be available the last week of February, for March through the end of the season. As growers prepare for the start of the season, the Commission recommends that they communicate with their handlers and grove managers on a regular basis to plan their harvest strategy.

| 2021 California Crop Weekly Harvest Projection | | | | |
|---|----------------------------|------------------------|------------------------|---------------------|
| Weekly Crop Movement vs. Distribution Projections | | | | |
| All Varieties | | | | |
| | 4-Year Historical Forecast | AMRIC Handler Forecast | Industry Adjusted | |
| Week Ending (CAC Week) | 2021 Crop Estimate | Dec 2020 Update | AMRIC Harvest | AMRIC Shipments |
| Jan 10 - (10) | 69,000 | 56,000 | 8,096 | 38,858 |
| Jan 17 - (11) | 434,000 | 361,900 | 10,120 | 40,143 |
| Jan 24 - (12) | 965,400 | 793,400 | 433,768 | 436,739 |
| Jan 31 - (13) | 1,926,800 | 1,566,000 | - | - |
| Feb 7 - (14) | 2,202,100 | 2,567,600 | - | - |
| Feb 14 - (15) | 1,601,200 | 1,878,300 | - | - |
| Feb 21 - (16) | 2,346,000 | 2,757,000 | - | - |
| Feb 28 - (17) | 3,998,900 | 4,696,500 | - | - |
| Mar 7 - (18) | 5,414,600 | 6,751,600 | - | - |
| Mar 14 - (19) | 5,832,100 | 7,274,700 | - | - |
| Mar 21 - (20) | 5,812,600 | 7,249,900 | - | - |
| Mar 28 - (21) | 4,253,400 | 5,307,200 | - | - |
| 1st QTR SubTotal | 34,856,100 | 41,260,100 | 451,984 | 515,740 |
| 2nd QTR SubTotal | 167,788,200 | 161,586,100 | - | - |
| 3rd QTR SubTotal | 103,720,000 | 107,900,600 | - | - |
| 4th QTR SubTotal | 10,635,700 | 6,253,200 | - | - |
| Season-to-Date | 1,468,400 | 1,211,300 | 451,984 | 515,740 |
| % of Crop | 0% | 0% | 0% | 0% |
| Crop Size | 317,000,000 | 317,000,000 | Left to Harvest | Left to Ship |
| Crop Variance | (1,016,416) | (759,316) | 316,548,016 | 316,484,260 |

Weather: 30-Day Outlook For California's Coastal & Valley Areas

(January 26 – February 27)

Summary- A *La Niña* pattern is expected to persist through Mar 2021. It continues in February and well into March. For California, this argues for drier than normal in central and S California in Feb and Mar, while a wet and active period for the Pacific Northwest and Northern California, and Northcentral California (north Bay Area – Tahoe). Heaviest rainfall will tend to focus Mendocino County to the north, and in the Pacific Northwest states. On infrequent occasions, cold cutoff upper lows develop, and draw cold airmasses into SOCAL for brief periods.

Activity of Fronts - We will see seasonably frequent frontal passages into northern California, Oregon and Washington with rains, and a tendency for higher than normal snow levels overall. Mixed in with the predominantly mild pattern will be an occasional cold and snowy event with low snow levels extending south through the state to S California as some deeper troughs are expected at times.

La Niña and Precipitation Trend – La Nina's produce the best support environment for atmospheric rivers into NW California, Oregon-Washington, and British Columbia. Main focus is into coastal Pacific Northwest. The north parts of the

Rockies and Great Basin also see above normal precipitation. Some of these atmospheric river conditions can move a bit south into northern California at times.

Although more seasonable conditions for rain may develop in N and NW California for short periods, the long term seasonal trend for most of the state, and especially SOCAL, will tend to be drier than normal. This is related, somewhat, to the continued tendency for cyclogenesis in the mid North Pacific (per IVTinit-SSTA contribution).

Current Most Likely NORCAL Precipitation Dates (from our CFSDaily

products out 30 days): Wet and cold storm January 26th thru 29th. More good rain from the 31st thru the 2nd. Drier and cold from the 3rd through the 11th with some warming but dry from the 12th thru the 16th. A weak system will bring light rain from the 17th thru the 19th. A wetter trough from the 22nd thru the 25th.

In S California - Most Likely Precipitation Dates: 28th thru the 29th with another rain from the 2nd thru the 3rd. A cold trough with some showers from the 5th thru the 8th. Turning dry as the storm track pulls north with some high pressure building from the 9th thru the 17th. Cooler but dry on the 18th and 19th. Another chance of rain from the 23rd thru the 25th of February.

SOCAL Santa Anas and Freezes from our CFSDailyAI - Freezes and wetbulb freezes (wetbulb temperature below 32), often occur in cold Santa Ana events. Hard freezes (ambient air temperature 29 or lower) can occur on dry clear nights if wind speeds decrease to calm in valley areas overnight.

SOCAL freezes occur on Jan 27th, 31st, Feb 1st. Freezes are likely with very cold air after the rains on the 5th with frost/freezes likely from the 6th thru the 10th.

February appears to have support for above normal precipitation during the first half of the month from Tahoe-Bay Area northward, then a drier than normal scenario from the 9th thru the start of March. Jan and Feb are normally the best months for winter precipitation. Temperatures also appear near or above normal for the most part during the early spring (mid Feb-Mar).

The NORCAL Coast Precipitation periods: - (Mendocino County north): Precipitation dates: Jan 26th thru 28th and 29th thru 30th. A wetter system from the 31st thru Feb 2nd. Cold but dry most areas from the 5th thru the 8th of Feb. Maybe a few showers are possible with this cold and deep trough. Dry with high pressure building from the 10th thru the 16th. Light rain from the 17th thru the 19th. Better rain and wetter from the 22nd thru the 25th.

Sierra Nevada best chance for Precipitation: Jan 26-28, 1-3, Feb 7-8th. Dry from the 9th thru the 16th. A weak trough will bring light precipitation from the 17th thru the 19th with a wetter trough from Feb 22-25. Dry again late in the month into the start of March.

From our CFSDailyAI system, freezes in north and northcentral California: several occasions within the period Jan 26th, Feb 3-4, Feb 6-9 with very cold temps expected!

La Niña seasons are not favorable for subtropical jet formation, or significant rains into SOCAL. However, this winter, the anomalously warm SST's (positive SSTA) continuing to the west of California and out into the central Pacific may contribute additional support for upper high pressure to persist at times in Feb as well as contribute moisture for infrequent SOCAL storms and the occasional formation of upper lows that can bring rain at times to SoCal.

The listing of dates normally included for hot and cold spells, and precipitation are based on our CFSDaily and CFSDailyAI forecast products, and present generally expected trends in precipitation (both products) and temperature (CFSDailyAI) to 4km. Our system gives some consideration of terrain and coastal influence. We consider the CFSv2 as one of the better

ways to represent basic weather down in the sub-monthly time scale beyond the 15 day GFS or monthly maps from CFSv2 or NMME.

Southern California Deserts Outlook for Jan 27-Feb 28: Periods of rain and showers Jan 28th & 29th. Some good rain and showers with wet conditions as a deep trough and developing upper low move thru the region. Another system will bring more rain/showers from the 2nd thru 3rd. Cold showers with some arctic air from the 5th thru the 8th.

Eastern deserts could see some showers on the 29th, 3rd, 5th-7th.

*****Looking Ahead – Long Range Outlook Feb 21- Apr 04 with Comments for Apr-June*****

Warmer and drier than normal overall. Exceptions appear to be: Colder than normal Feb 26th thru Mar 2nd. Good chance of frost/freezes are expected the end of the Feb thru the start of March in SOCAL and throughout the state. This could affect the early season fruit crop. If lows are strong enough, then rains, instead of frosts/freezes are possible. In either case, troughing is expected to be more frequent in early March for California as a whole.

...Mar 2-Apr 6 2021 Highlights...

A well defined *La Niña* is currently indicated for the early spring period. However, if troughing focuses into the area NW of Hawaii, we may continue to see occasional returns of cold troughs and rains in all of California, with some low snow levels in late Feb and Mar. This supports predominantly weak westerlies in the southern storm track off southcentral and SoCal through this normally active period for early spring 2021. Continued rain/snow periods or possibly above normal precipitation in Pacific Northwest states (Washington, Oregon and Idaho), and below normal precipitation, i.e. warmer/drier than normal in California, interrupted, as mentioned above, by an occasional cold troughs in California with showers and low snow levels.

From the latest CFSDaily 45 day forecast product, rains are currently indicated by the model, but amounts are persistently small.

This pattern also argues for recurrent offshore wind events as fronts with small rain amounts push through from NW to SE.

For late Feb and Mar 2021, NMME guidance suggests: near normal temperatures at the NORCAL coast with recurrent dry N wind events. The statistically wet periods of Mar are 1-4, 10-14, and 26-31.

Mar 2-Apr 6... the pattern is basically unchanged. Strong *La Niña* conditions with cold sea surface temperature anomalies are forecasted along the equatorial central and east Pacific. This pattern supports below normal energy to drive the southern branch of the westerlies again in April and May. Potentially seasonal to wet across northern California and wetter than normal thru the Pacific NW.

For SOCAL in March, due to *La Niña*, it may be difficult to realize precipitation approaching normal. There continues a chance for cold troughs to develop in California and perhaps some occasional relief from the stark dry scenario with occasional upper lows developing off these troughs.

April-May-June 2021... are still indicated drier than normal in the current CFSv2 model simulation. Under these conditions, we would suggest an early start to the 2021 fire season. In fact, the North American Multi-Model Ensemble shows above normal sea surface temperatures in April-June in the midlatitude eastern N Pacific, and associated drier and warmer than normal conditions for May-June.

Alan Fox...Fox Weather, LLC

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