Clay Faber
Director – Regulatory Affairs
8330 Century Park Court
San Diego, CA 92123-1548

Tel: 858-654-3563
Fax: 858.654.1788
cfaber@SempraUtilities.com

A.08-12-021
REG 10-12

January 2, 2018

Ms. Elizaveta Malashenko
Director, Safety and Enforcement Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

SUBJECT: SAN DIEGO GAS & ELECTRIC COMPANY (SDG&E) DE-ENERGIZATION REPORT

Dear Ms. Malashenko:

In accordance with Ordering Paragraph (OP) 2 of Decision 12-04-024, SDG&E is submitting this report in response to the De-Energization Events that occurred in SDG&E's service territory on December 14- 15, 2017. As noted in the reporting requirements, this report has been verified by an SDG&E officer in accordance with Rule 1.11 of the Commission's Rules of Practice and Procedure.

If you have any questions regarding this report, please contact Tim Lyons at (858) 654-6403, or at TLyons@semprautilities.com.

Sincerely,

/s/ Clay Faber

Clay Faber
Director — Regulatory Affairs

The following report is submitted in response to the De-Energization Events that occurred in SDG&E's service territory on December 14-15, 2017. SDG&E hereby submits this report to the Director of Safety and Enforcement Division (SED) and includes the following information pursuant to Decision (D.)12-04-024.

1. Explanation of SDG&E's decision to de-energize

Response:

The decisions to de-energize for public safety were made at SDG&E's Emergency Operations Center (EOC), which was fully staffed by a cross-functional team of electric operations, safety, engineering, external affairs, and other personnel, as well as a designated Officer-In-Charge (OIC). The EOC was activated at 7:00 a.m. on Thursday, December 14, 2017 in response to a Red Flag Warning (RFW) weather event declared at 4:00 a.m. on Thursday, December 14 by the National Weather Service (NWS). SDG&E activates the EOC to provide event coordination, ensure that an OIC receives operational updates, coordinate customer communications and regulatory and governmental notifications, and coordinate as-needed logistical support whenever the NWS declares a RFW, among other events.

Official NWS forecasts indicated widespread wind gusts exceeding 50 mph with isolated gusts up to 70 mph. The RFW, in combination with available data showing dire fuel-moisture content, relative humidity, 10-minute wind measurements, a recent fire in the service territory that destroyed over 150 structures, and large-fire activity in the Los Angeles area indicated the threat of additional large and destructive wildfires should an ignition occur. SDG&E determined that conditions warranted de-energizing certain facilities which might otherwise provide a source of ignition of a fire.

2. All factors considered by SDG&E in its decision to de-energize, including visual observations by pre-positioned and mobile field personnel where possible, wind speed, temperature, humidity, and vegetation moisture content in the vicinity of the de-energized circuits.

Response:

The decisions for SDG&E to de-energize circuits and tie lines were made due to extremely high winds and associated extreme fire danger given the low humidity and dry fuel conditions at the time, among other factors. In each of these events, SDG&E carefully reviewed the situation and ultimately decided to de-energize to protect public safety and longer-term system reliability. Key bases for these decisions included:

- Fire conditions were extreme throughout the SDG&E service territory, including high winds, low humidity, and critically dry fuels;
- The Fire Potential Index (FPI) was extreme and indicated that large fires were

possible should ignitions occur. One fire in the SDG&E service territory had already consumed over 150 structures;
- The Santa Ana Wildfire Threat Index (SAWTI) was at Moderate ("Upon ignition, fires will grow rapidly and will be difficult to control.");
- Recorded wind gusts around the de-energized circuits were in the 50s, with localized gusts near 70 MPH;
- Input from mobile field observers;
- Surrounding areas were forecast to and did see winds gusts exceeding 50 MPH;
- Fire-suppression-air resources thought to be unavailable due to high winds and time of day;
- Other fires in and around the service territory demonstrated the fire risk and were utilizing fire suppression resources;
- State of emergency declarations by both the President of the United States and the Governor of California related to the Southern California wildfires;
- The outages could be targeted to minimize impacts to customers; and
- A review of active outages on SDG&E's system.

3. The time, place, and duration of the event.

Response:

Please see below for each separate De-Energization Event. Note that some circuits were de-energized more than once due to ongoing risk.

Circuit	Start Date/Time	Communities	Final Restoration
79	12/14/17 19:06	DESCANSO, MT LAGUNA, VIEJAS	12/15/17 12:23
79	12/15/17 1:49	DESCANSO, MT LAGUNA, VIEJAS	12/15/17 12:50
441	12/15/2017 02:32	BOULEVARD, JAPATUL	12/15/17 11:58
445	12/15/2017 02:27	BOULEVARD	12/15/17 13:00
1215	12/15/2017 02:29	BOULEVARD, JAPATUL	12/15/17 11:36
1215	12/15/2017 02:32	BOULEVARD, JAPATUL	12/15/17 12:07

4. The number of affected customers, broken down by residential, medical baseline, commercial/industrial, and other.

Response:

Circuit	Start Date	Total # Out	RESIDENTIAL	Commercial / Industrial	Life Support
79	12/14/17 19:06	87	61	26	3
79	12/15/17 1:49	5	2	3	0

441	12/15/2017 02:32	75	48	27	3
445	12/15/2017 02:27	348	291	57	11
1215	12/15/2017 02:29	11	0	11	0
1215	12/15/2017 02:32	132	102	30	5

SDG&E's De-Energization Events affected approximately 650 customers.

5. Describe any wind-related damage to SDG&E's overhead power-line facilities in the areas where power is shut off.

Response:

SDG&E crews patrolled the de-energized lines to ensure safe operating conditions prior to re-energization. Crews found no wind-related damage.

6. Provide a description of the customer notice and any other mitigation provided by SDG&E.

Response:

a) SDG&E notified customers in the area about the potential for de-energization for public safety during this RFW.

b) SDG&E cancelled planned outages in the area and updated the planned outage map once the cancellations were confirmed.

c) SDG&E provided the following notifications to customers:

1. 12/13/2017 5:45pm, the following Emergency Notification System (ENS) message was sent to ~12,000 customers in the area in which SDG&E anticipated a need to de-energize for public safety:

"This is SDG&E calling with an important message. San Diego County will again be experiencing strong gusty winds and low humidity, creating the potential for dangerous fire conditions. The National Weather Service has issued a Red Flag Warning starting at 4 a.m. tomorrow and ending Friday morning. High winds could cause outages, or in an effort to keep the public and your communities safe, SDG&E may be required to turn off power. We understand losing power is incredibly inconvenient. If power is lost, we want to assure you that crews will be staged in your communities to immediately start inspecting power lines so that we can restore power as soon as it is safe. We sincerely apologize for any negative impacts the possible power outages may cause you – we do it only as a last resort for the safety of us all. For more information visit sdge.com, or call SDG&E at 1-800-411-7343."

2. 12/14/2017 6:30pm, the following ENS message was sent to all customers on C79:

   "This is SDG&E calling with an important message. Due to current conditions affecting our overhead electrical system, we expect we will have to turn off the power in your area soon for public safety. Power will be off for as long as these conditions last and will not be turned back on until it is safe. Please be prepared to activate your personal emergency plan. For more information, visit sdge.com or call SDG&E at 1-800-411-7343."

3. 12/15/2017 09:30 AM, the following ENS message was sent to customers on 79-673R, 79-685R, 79-673R, 79-673R 441-23R, 445-23R and circuit 1215:

   "This is SDG&E calling with an update on your power outage. Due to extremely strong winds in your area, the power was turned off for public safety. Right now, our crews are assessing the electrical system to determine how quickly power can be restored safely. Some inspections could take place on your property. If no damage is found, power should be restored today. We thank you in advance for your cooperation, and we do appreciate your patience. For up-to-date information on outages and restoration times, visit sdge.com.outages or call us at 1-800-411-7343."

4. 12/15/2017 12:15 PM – 1:06 PM, ENS messages were sent to customers as their electric service was restored:

   "This is SDG&E calling with an important message. We understand the inconvenience of power outages and we appreciate your patience during this time. We have patrolled the electric grid in your area to ensure it is safe and your power should be back on. If your power is still out, please call us at 1-800-411-7343. You also can get more information at sdge.com."

7. Include any other matters that SDG&E believes are relevant to the Commission's assessment of the reasonableness of SDG&E's decision to de-energize.

Response:

The 2017 California wildfire season is the deadliest, most destructive in state history. The extreme fire conditions plaguing California this fall are the result of a 'perfect storm' of factors. Record rainfall during the preceding winter spurred abundant vegetation growth across the state, which quickly dried out during the hottest summer in 122 years of state history. Heading into the fall season, a lack of early season rain in what was the second driest start to winter (Oct. 1st to Dec. 15th) for the San Diego region since record-keeping began in the 1850s, followed by several episodes of severe winds and extreme fire danger, set the stage for a catastrophic wildfire season.

The National Weather Service (NWS) declared a RFW that was in effect from 4:00 a.m. on Thursday, December 14, 2017 through 10:00 a.m. on Friday, December 15, 2017. This

was the second RFW in a week. The Thomas Fire north of the service territory was still burning and had already destroyed over 700 homes with 18,000 structures still threatened and may prove to be the largest fire in California history. The Lilac Fire during the last Red Flag Warning had destroyed over 150 structures in San Diego County just days before. The current weather was trending on forecast as we were expecting peak wind gusts over 50mph and the NWS Forecasts indicated "isolated gusts 65 to 70 mph on remote coastal slopes and through wind-prone canyons". Fuel moisture across the service territory was critically low with extremely dry conditions.[1] The FPI was an Extreme 15 and the SAWTI rating was Moderate, meaning "Upon ignition, fires will grow rapidly and will be difficult to control". Air resources were grounded much of the time due to the extreme winds.[2] Such conditions appear to be unprecedented in December, particularly due to the extreme volatility of the fuels.[3]

References:

[1] Attachment 1: Southern California Geographic Area Coordination Center's Fuels and Fire Behavior Advisory, December 15, 2017.

[2] Attachment 2: Southern California Geographic Area Coordination Center's Bi-Monthly Fuels Discussion for Southern and Central California, December 16, 2017.

[3] Attachment 3: Southern California Geographic Area Coordination Center's Bi-Monthly Fuels Discussion for Southern and Central California, December 7, 2017.

VERIFICATION

I am an officer of the applicant corporation herein, and am authorized to make this verification on its behalf. I am informed and believe that the matters stated in the foregoing document are true.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 26th day of December 2017, at San Diego, California.

Katherine M. Speirs
Vice President, Electric System Operations
SAN DIEGO GAS & ELECTRIC COMPANY

8330 Century Park Court
San Diego, CA 92123

Attachment 1

Southern California Geographic Area Coordination Center's Fuels and Fire Behavior Advisory, December 15, 2017

Fuels and Fire Behavior Advisory

Southern California Geographic Area Coordination Center

December 15, 2017

Subject: **The combination of the lack of precipitation, along with a prolonged period of warm, dry, and windy weather has caused fuels to be at record dry levels across portions of Southern California.**

Discussion: With the absence of any significant precipitation this fall, fuels have become critically dry across much of Southern California. In addition, there has been a prolonged period of warm, dry, and windy weather which has worked in concert with the lack of rainfall to produce catastrophic wildfires The Thomas Fire is now nearing the top of the list of largest fires in California history. This would be very significant if it were summer, but it is absolutely unprecedented in December, and it serves as a testimony to the extreme volatility of the fuels.

The combination of critical fire weather and dangerously dry fuels has caused extreme fire behavior to occur on recent incidents. Also, the abundant grasses from last winter's plentiful rains have resulted in heavy fuel loading which has greatly contributed to the rapid rates of spread being observed on recent fires.

Little change in the overall weather pattern is expected through the end of the year with the continuation of warm and dry weather with periods of Santa Ana winds. Fuel are expected to remain highly receptive to new ignitions with the potential for new large fires during windy conditions.

Difference From Normal Conditions: Dead fuels away from the coast in Southern California are either at, or are near all-time record dry levels. The 100-hour dead fuel moisture is normally in the mid-teens, but values of around 2% have been commonly observed across the Angeles, San Bernardino, and Cleveland national forests, as well as over the southern portions of the Los Padres National Forest. Live fuel moisture by this time of year would normally start to recover from the minimums typically reached in early October. However, moisture levels in much of the native vegetation have either remained steady, or have drifted downward.

The fire behavior that has been observed on the Thomas Fire as well as some of the other recent fires has been extreme. Fires are actively backing downhill and into the wind in both the fine dead fuels as well as in the heavier chaparral. Fires have exhibited extremely high resistance to control, and retardant in many cases has proven to be ineffective.

Concerns to Firefighters:

- Fires will be uncontrollable during windy episodes.
- Extreme rates of spread with both long and short range spotting can be expected on any new or existing fires with active burning at night.
- Stagnant weather patterns and long duration fires can lead to complacency.

Mitigation Measures:

- Local and inbound fire personnel need to be aware that fire behavior is exceeding normal expectations for this time of the year. **Local briefings need to be thorough and highlight specific fire environment conditions. These include but are not limited to local weather forecasts, Pocket Cards, ERC's, live and dead fuel moistures.**
- PPE, including shrouds and eye protection shall be utilized during suppression operations.
- Suppression actions need to be based on good anchor points, escape routes, and safety zones. **Remember LCES. Experienced lookouts are essential under these conditions.**
- **Base all actions on current *AND EXPECTED* behavior of the fire.** Augment initial attack resources as incident activity dictates.

Area of Concern: This advisory is **valid through 12/29/2017** for the following PSAs…**South Coast (SC08), Western Mountains (SC09), Eastern Mountains (SC10), and the Southern Mountains (SC11).**

Issued: December 15, 2017 (Note this advisory will be in effect for 14 days and will be reviewed/updated at that time.)

Attachment 2

Southern California Geographic Area Coordination Center's Bi-Monthly Fuels Discussion for Southern and Central California, December 16, 2017

BI-MONTHLY FUELS DISCUSSION

For Southern and Central California

Updated: Saturday, December 16th, 2017...updated LAC & LPNF
Next Routine Update: Thursday, December 21st, 2017

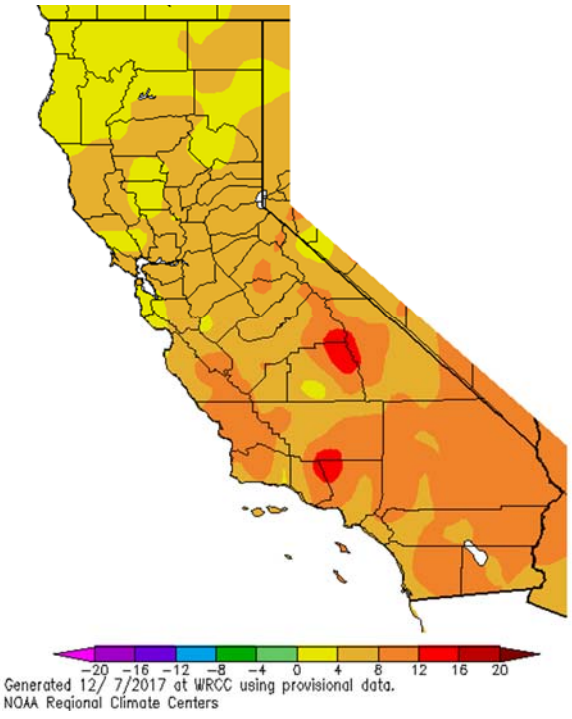
General Discussion:

Thanksgiving was like much of the fall this year; hot and dry. Record high temperatures occurred over much of Southern California as high pressure along with offshore winds brought strong drying conditions to the area. Widespread 90+ degree readings were recorded over coastal and valley areas with sunny skies. This caused fuel moisture values to drop back to record low readings after recovering a bit during the middle of last month.

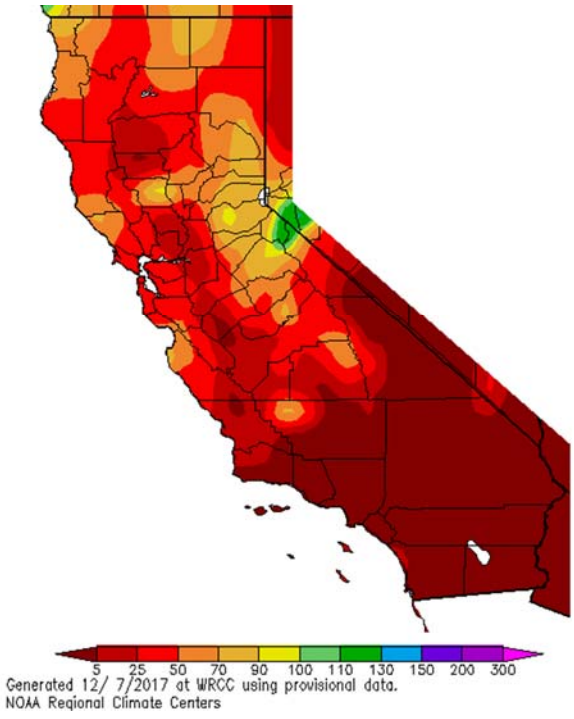
The first full week of December brought one of the strongest offshore flow events in recent years. Wind gusts surpassed 80 mph on December 5th and 7th and RH dropped below 5% over many areas below 7,000 feet. Several large fires exploded in response to the very dry and windy conditions with extreme fire behavior over most incidents. Rates of spread were tremendous and the wind driven fires caused crews to perform rescue operations as opposed to direct attack. Air resources were grounded much of the time due to the extreme winds. The explosive fire conditions well past the normal time of year when fires cease to occur is a dramatic example of the dryness of the fuels and the overall health of area vegetation.

Long range models offer little hope for precipitation. A strong ridge is expected to remain stationary along the West Coast the rest of the month which will keep the storm track far away from the state. A high amount of initial attack and resource demand is likely through the 21st of December, if not longer.

Departure from average temperature



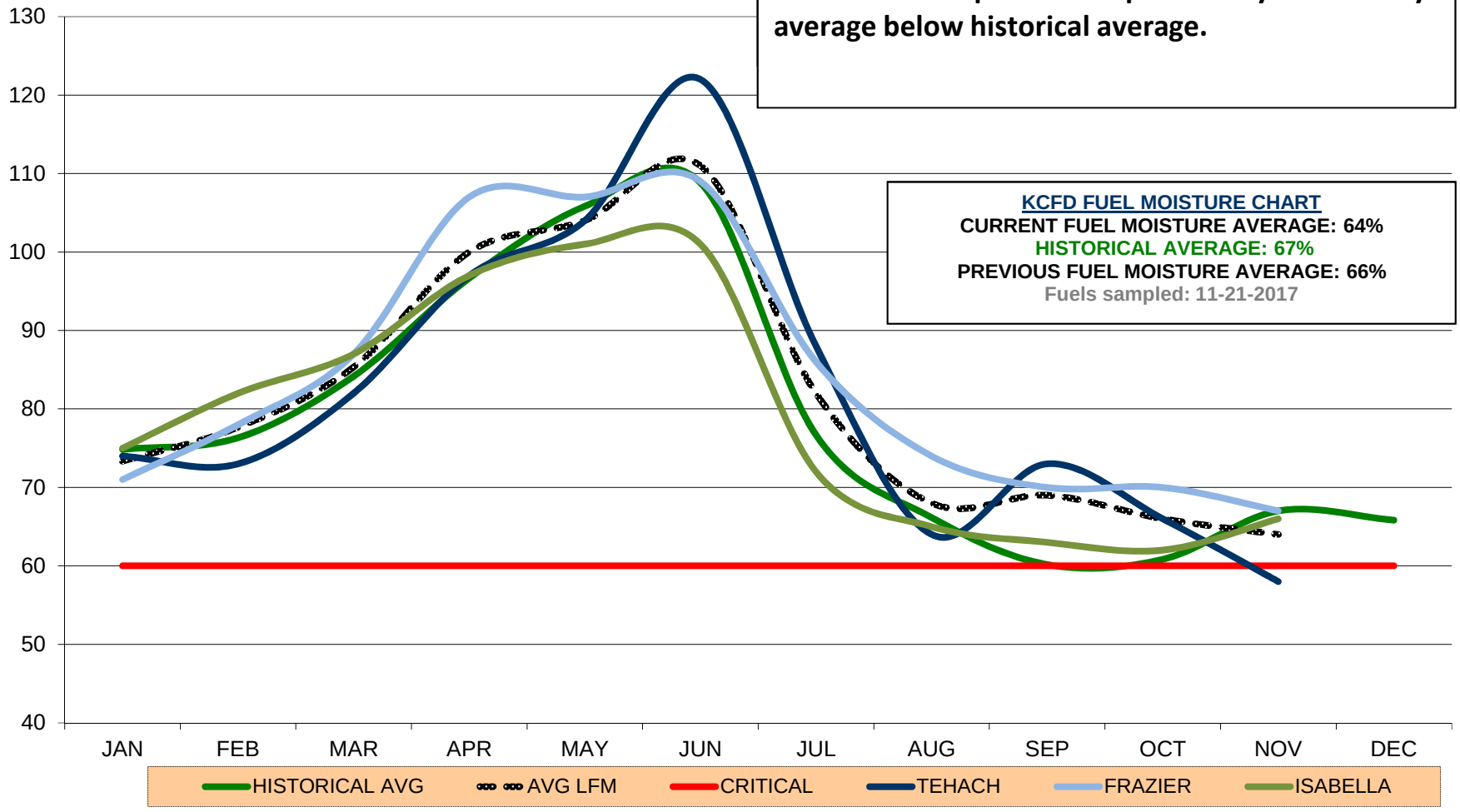
% of normal precipitation



KERN COUNTY FIRE DEPARTMENT
LIVE FUEL MOISTURE NOVEMBER 2017
AVERAGE OF DOMINANT FUELS

Fuels/Fire Discussion

Fuels measured were Mtn Mahagony, Ceanothus, Sage and Manzanita between 3400'-4600'. LFM's continue to drop to lowest point this year. County average below historical average.



KCFD FUEL MOISTURE CHART

CURRENT FUEL MOISTURE AVERAGE: 64%

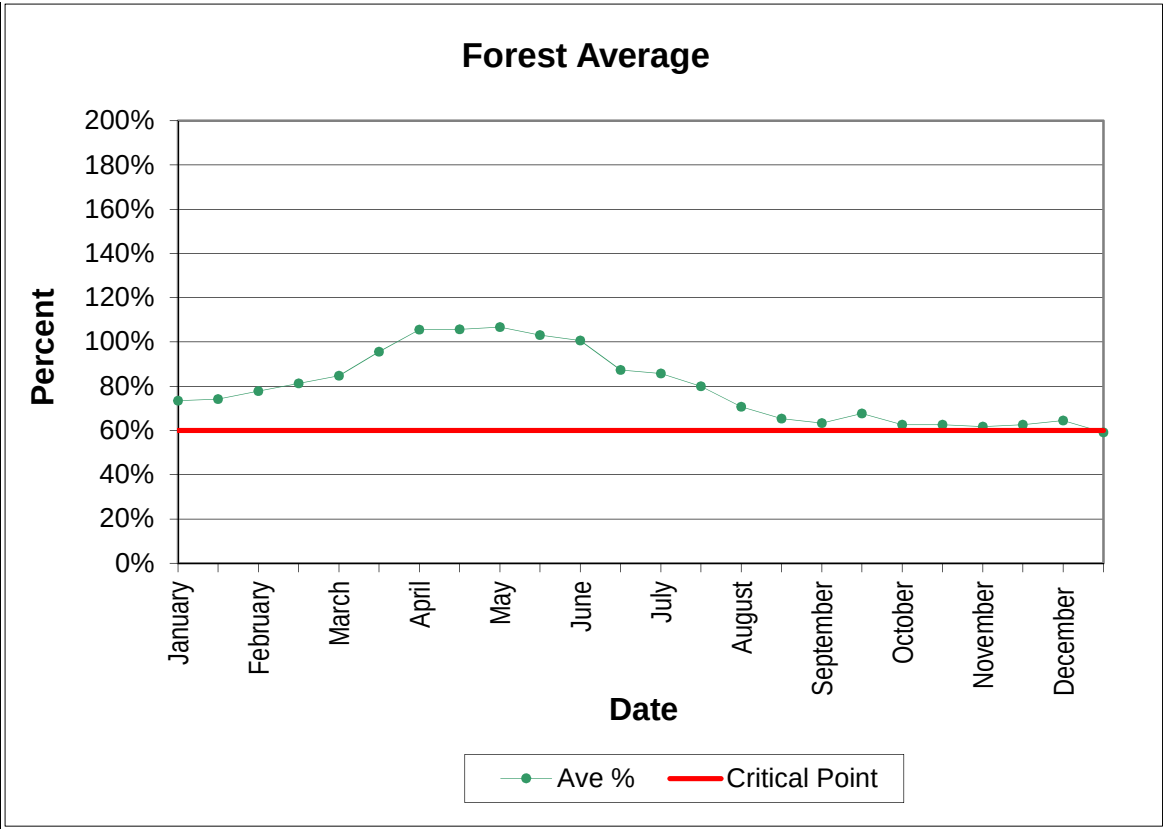
HISTORICAL AVERAGE: 67%

PREVIOUS FUEL MOISTURE AVERAGE: 66%

Fuels sampled: 11-21-2017

Fuel Moisture Average for the Los Padres National Forest

	Date	Ave %	Critical Point
January	1/1/2017	73.52%	60%
	1/15/2017	74%	60%
February	2/1/2017	77.83%	60%
	2/15/2017	81.26%	60%
March	3/1/2017	84.68%	60%
	3/15/2017	95.53%	60%
April	4/1/2017	105.54%	60%
	4/15/2017	105.69%	60%
May	5/1/2017	106.74%	60%
	5/15/2017	103.13%	60%
June	6/1/2017	100.66%	60%
	6/15/2017	87.31%	60%
July	7/1/2017	85.78%	60%
	7/15/2017	79.93%	60%
August	8/1/2017	70.73%	60%
	8/15/2017	65.37%	60%
September	9/1/2017	63.35%	60%
	9/15/2017	67.62%	60%
October	10/1/2017	62.61%	60%
	10/15/2017	62.59%	60%
November	11/1/2017	61.69%	60%
	11/15/2017	62.58%	60%
December	12/1/2017	64.52%	60%
	12/15/2017	59.18%	60%



updated: 12/16/2017

LOS PADRES NATIONAL FOREST
LIVE FUEL MOISTURE DATA 2017

Forest Fire/Fuels Discussion (December 15st):

Encellados - AFV- 380 acres 11/24/2017

Thomas - VNC/SBC/LPF - 259,000 Acres + , 12/4/2017

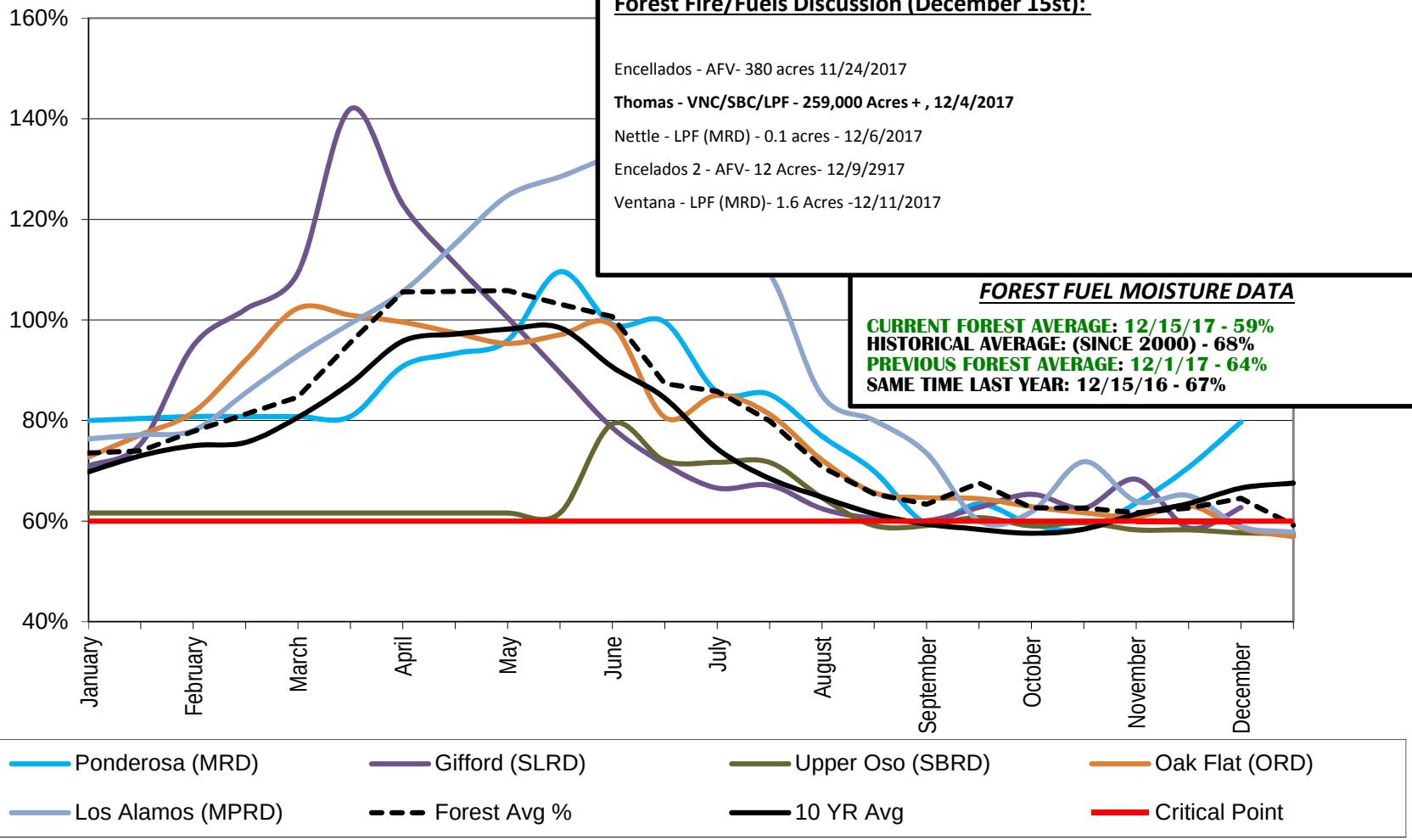
Nettle - LPF (MRD) - 0.1 acres - 12/6/2017

Encelados 2 - AFV- 12 Acres- 12/9/2917

Ventana - LPF (MRD)- 1.6 Acres -12/11/2017

FOREST FUEL MOISTURE DATA

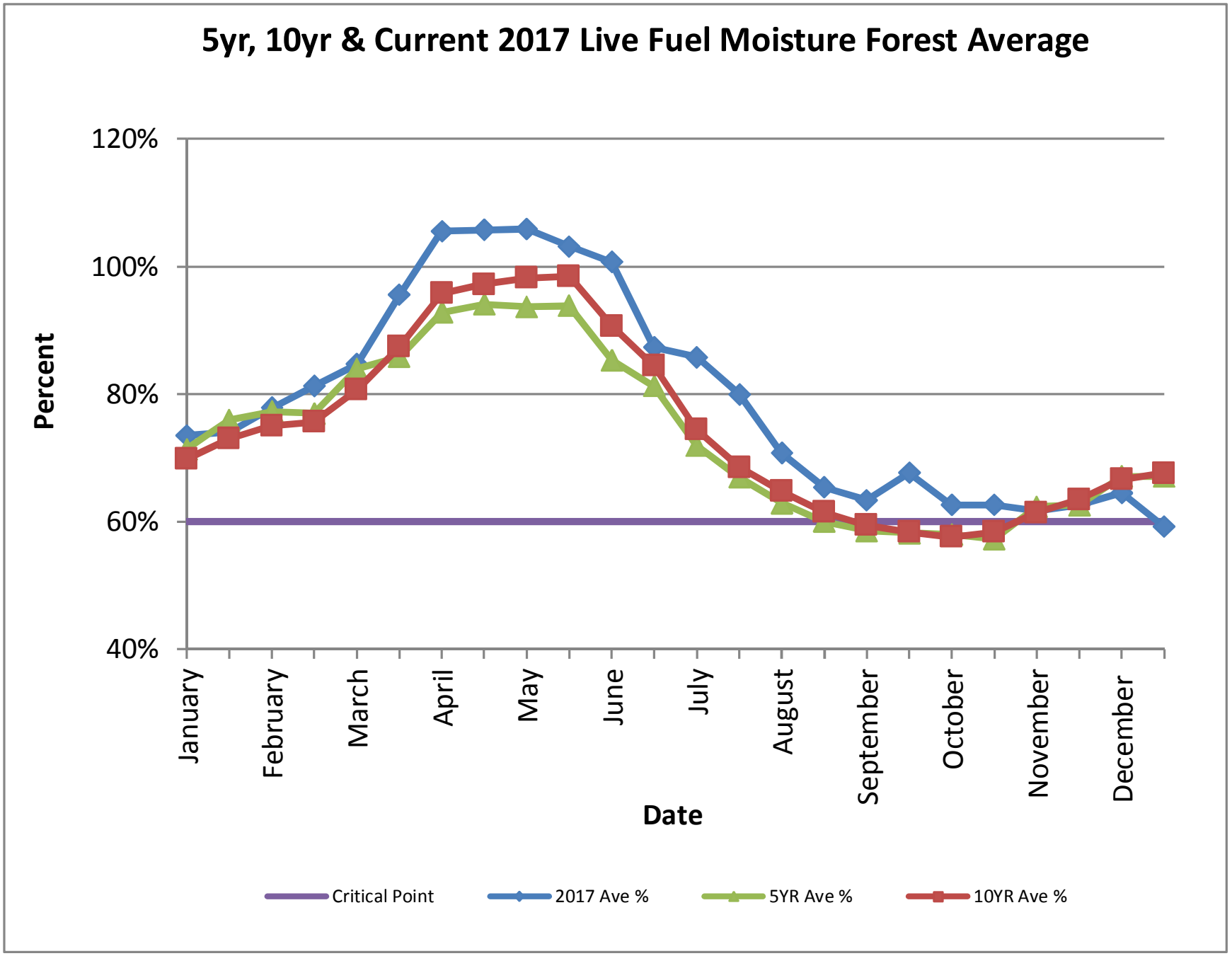
CURRENT FOREST AVERAGE: 12/15/17 - 59%
HISTORICAL AVERAGE: (SINCE 2000) - 68%
PREVIOUS FOREST AVERAGE: 12/1/17 - 64%
SAME TIME LAST YEAR: 12/15/16 - 67%



	Date	Ponderosa (MRD)	Gifford (SLRD)	Upper Oso (SBRD)	Oak Flat (ORD)
January	1/1/2017	80.00%	70.88%	61.61%	72.74%
	1/15/2017	80.40%	75.39%	61.61%	77.19%
February	2/1/2017	80.80%	94.87%	61.61%	81.65%
	2/15/2017	80.80%	102.13%	61.61%	92.00%
March	3/1/2017	80.80%	109.39%	61.61%	102.35%
	3/15/2017	80.80%	141.96%	61.61%	100.95%
April	4/1/2017	90.80%	122.94%	61.61%	99.56%
	4/15/2017	93.35%	111.17%	61.61%	97.43%
May	5/1/2017	95.90%	100.48%	61.61%	95.31%
	5/15/2017	109.60%	89.52%	61.61%	97.05%
June	6/1/2017	99.10%	78.57%	79.34%	98.89%
	6/15/2017	99.60%	71.33%	72.02%	80.64%
July	7/1/2017	85.70%	66.57%	71.68%	85.03%
	7/15/2017	85.20%	67.13%	71.68%	81.24%
August	8/1/2017	76.90%	62.48%	64.65%	72.17%
	8/15/2017	69.90%	60.53%	59.11%	65.65%
September	9/1/2017	59.60%	60.07%	59.11%	64.67%
	9/15/2017	63.40%	62.73%	60.71%	64.46%
October	10/1/2017	59.40%	65.34%	59.05%	62.88%
	10/15/2017	58.40%	62.59%	59.66%	61.67%
November	11/1/2017	63.60%	68.31%	58.26%	60.87%
	11/15/2017	70.70%	58.67%	58.26%	63.08%
December	12/1/2017	79.70%	62.69%	57.67%	58.60%
	12/15/2017			57.51%	56.89%

Los Alamos (MPRD)	Forest Avg %	10 YR Avg	Critical Point
76.35%	73.52%	69.81%	60%
77.18%	74.00%	73.02%	60%
78.02%	77.83%	75.00%	60%
85.46%	81.26%	75.65%	60%
92.91%	84.68%	80.66%	60%
99.25%	95.53%	87.39%	60%
105.60%	105.54%	95.78%	60%
115.15%	105.69%	97.19%	60%
124.70%	105.85%	98.15%	60%
128.46%	103.13%	98.45%	60%
132.23%	100.66%	90.65%	60%
132.23%	87.31%	84.46%	60%
117.11%	85.78%	74.41%	60%
109.28%	79.93%	68.48%	60%
85.00%	70.73%	64.76%	60%
80.03%	65.37%	61.44%	60%
73.47%	63.35%	59.40%	60%
60.06%	67.62%	58.36%	60%
61.84%	62.63%	57.58%	60%
71.81%	62.59%	58.39%	60%
63.91%	61.69%	61.39%	60%
65.07%	62.58%	63.49%	60%
58.92%	64.52%	66.58%	60%
57.78%	59.18%	67.55%	60%

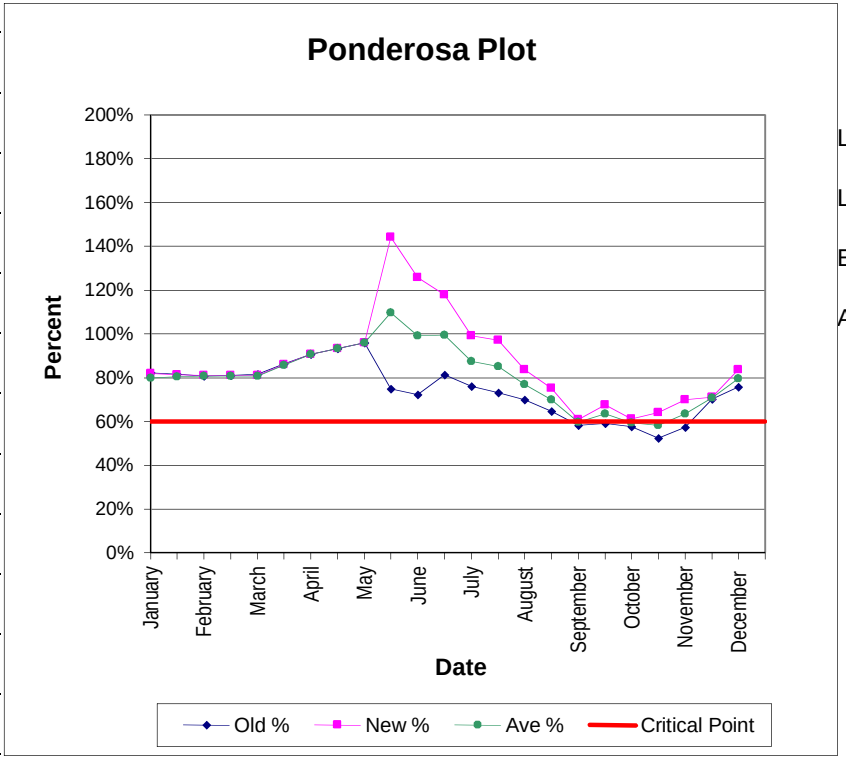
Fuel Moisture Data for Nacimiento Plot



updated: 12/16/2017

Fuel Moisture Data for Ponderosa Plot

	Date	Old %	New %	Ave %	Critical Point
January	1/1/2017	82.30%	81.80%	80.00%	60%
	1/15/2017	81.55%	81.40%	80.40%	60%
February	2/1/2017	80.80%	81.00%	80.80%	60%
	2/15/2017	81.20%	81.00%	80.80%	60%
March	3/1/2017	81.60%	81.00%	80.80%	60%
	3/15/2017	86.20%	85.90%	85.80%	60%
April	4/1/2017	90.80%	90.80%	90.80%	60%
	4/15/2017	93.35%	93.35%	93.35%	60%
May	5/1/2017	95.90%	95.90%	95.90%	60%
	5/15/2017	74.90%	144.30%	109.60%	60%
June	6/1/2017	72.20%	125.90%	99.10%	60%
	6/15/2017	81.40%	117.80%	99.60%	60%
July	7/1/2017	76.00%	99.10%	87.50%	60%
	7/15/2017	73.30%	97.00%	85.20%	60%
August	8/1/2017	70.10%	83.70%	76.90%	60%
	8/15/2017	64.70%	75.20%	69.90%	60%
September	9/1/2017	58.40%	60.90%	59.60%	60%
	9/15/2017	59.10%	67.70%	63.40%	60%
October	10/1/2017	57.60%	61.20%	59.40%	60%
	10/15/2017	52.50%	64.20%	58.40%	60%
November	11/1/2017	57.30%	70.00%	63.60%	60%
	11/15/2017	70.20%	71.10%	70.70%	60%
December	12/1/2017	75.70%	83.80%	79.70%	60%
	12/15/2017				60%



Lat: 36, 00.288

Long: 121, 23.199

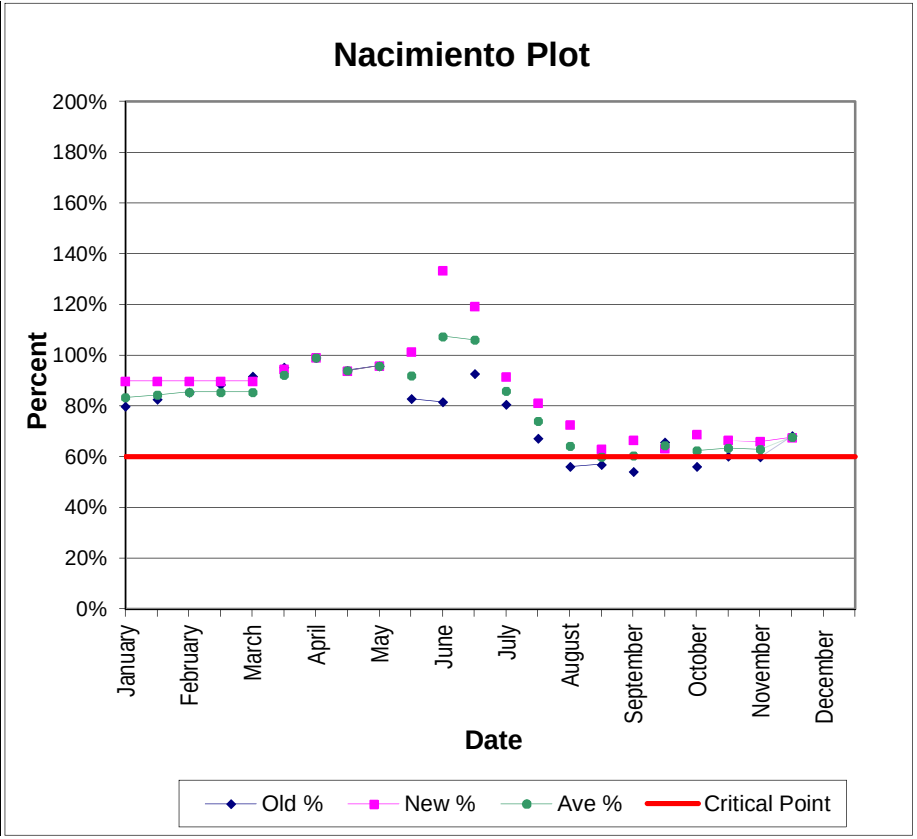
Elev: 1,600'

Apect: South

updated: 12/16/2017

Fuel Moisture Data for Nacimiento Plot

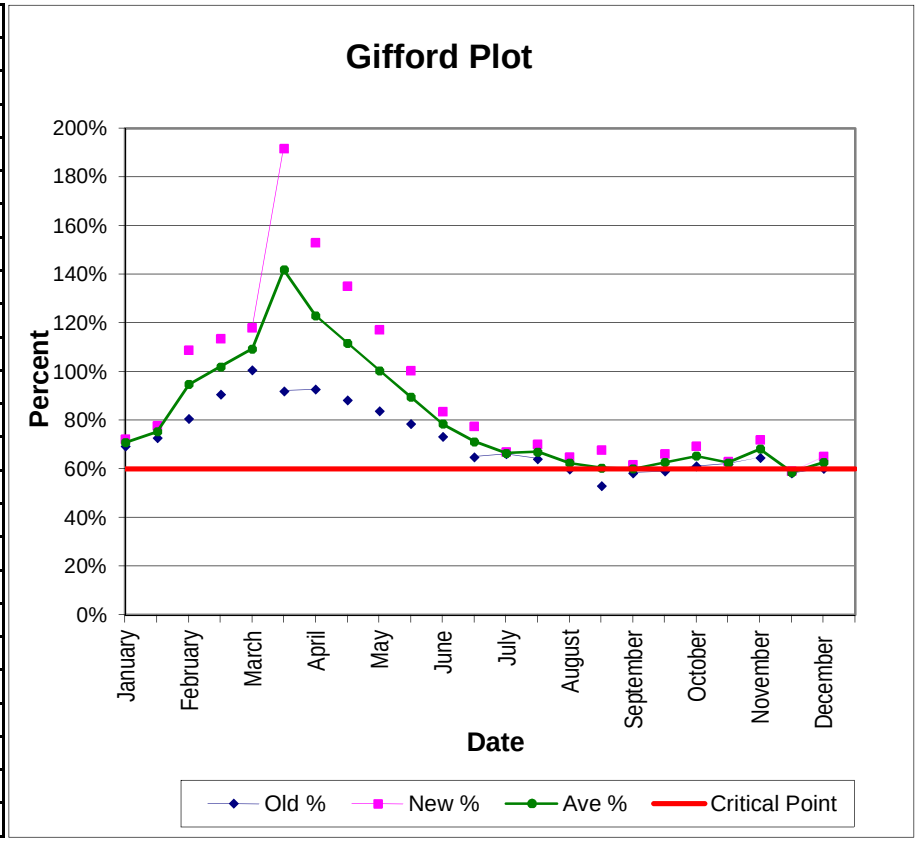
	Date	Old %	New %	Ave %	Critical Point
January	1/1/2017	80.00%	89.80%	83.40%	60%
	1/15/2017	82.75%	89.80%	84.45%	60%
February	2/1/2017	85.50%	89.80%	85.50%	60%
	2/15/2017	88.60%	89.80%	85.50%	60%
March	3/1/2017	91.70%	89.80%	85.50%	60%
	3/15/2017	95.40%	94.45%	92.30%	60%
April	4/1/2017	99.10%	99.10%	99.10%	60%
	4/15/2017	94.05%	93.80%	93.95%	60%
May	5/1/2017	95.90%	95.90%	95.90%	60%
	5/15/2017	82.90%	101.30%	92.10%	60%
June	6/1/2017	81.60%	133.50%	107.50%	60%
	6/15/2017	92.80%	119.30%	106.10%	60%
July	7/1/2017	80.70%	91.40%	86.00%	60%
	7/15/2017	67.30%	81.10%	74.20%	60%
August	8/1/2017	56.10%	72.50%	64.30%	60%
	8/15/2017	57.00%	62.90%	59.90%	60%
September	9/1/2017	54.30%	66.60%	60.50%	60%
	9/15/2017	65.80%	63.30%	64.60%	60%
October	10/1/2017	56.20%	68.70%	62.40%	60%
	10/15/2017	60.20%	66.50%	63.40%	60%
November	11/1/2017	59.90%	66.00%	62.90%	60%
	11/15/2017	68.20%	67.60%	67.90%	60%
December	12/1/2017	74.50%	80.80%	77.70%	60%
	12/15/2017				60%



updated: 12/16/2017

Fuel Moisture Data for Buckhorn Plot

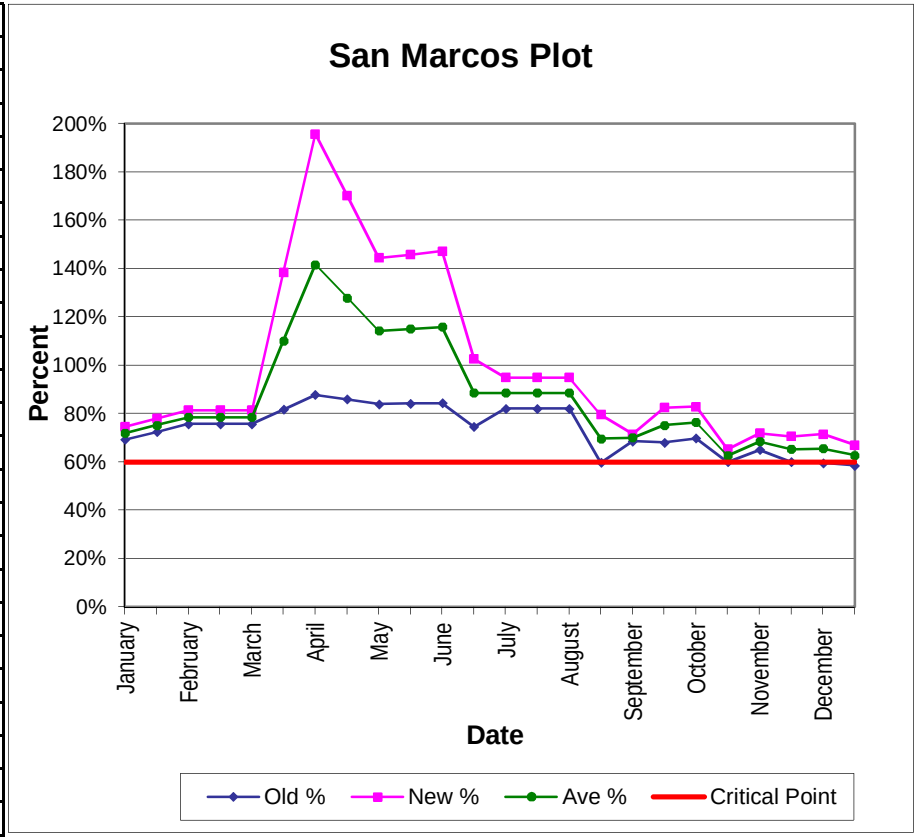
	Date	Old %	New %	Ave %	Critical Point
January	1/1/2017	69.44%	72.31%	70.88%	60%
	1/15/2017	72.89%	77.88%	75.39%	60%
February	2/1/2017	80.83%	108.92%	94.87%	60%
	2/15/2017	90.80%	113.46%	102.13%	60%
March	3/1/2017	100.77%	118.01%	109.39%	60%
	3/15/2017	92.10%	191.82%	141.96%	60%
April	4/1/2017	92.71%	153.17%	122.94%	60%
	4/15/2017	88.24%	135.18%	111.71%	60%
May	5/1/2017	83.78%	117.19%	100.48%	60%
	5/15/2017	78.62%	100.43%	89.52%	60%
June	6/1/2017	73.47%	83.68%	78.57%	60%
	6/15/2017	65.01%	77.64%	71.33%	60%
July	7/1/2017	66.13%	67.02%	66.57%	60%
	7/15/2017	64.16%	70.09%	67.13%	60%
August	8/1/2017	59.93%	65.03%	62.48%	60%
	8/15/2017	53.14%	67.92%	60.53%	60%
September	9/1/2017	58.41%	61.72%	60.07%	60%
	9/15/2017	59.10%	66.35%	62.73%	60%
October	10/1/2017	61.20%	69.47%	65.34%	60%
	10/15/2017	62.06%	63.13%	62.59%	60%
November	11/1/2017	64.68%	71.94%	68.31%	60%
	11/15/2017	58.26%	59.07%	58.67%	60%
December	12/1/2017	60.27%	65.11%	62.69%	60%
	12/15/2017				60%



updated: 12/16/2017

Fuel Moisture Data for
San Marcos Plot

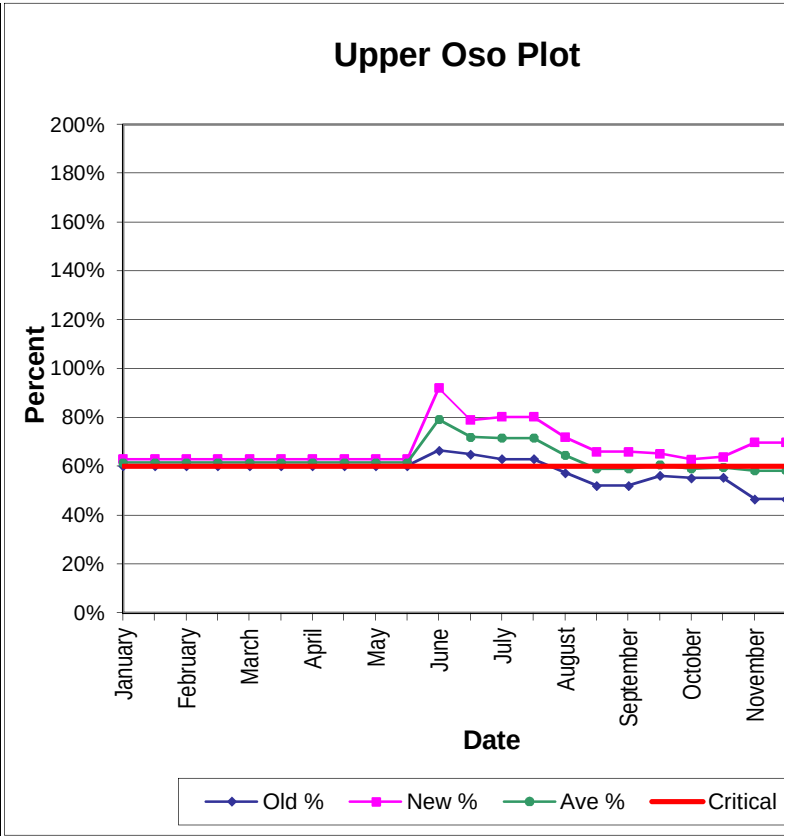
	Date	Old %	New %	Ave %	Critical Point
January	1/1/2017	69.28%	74.62%	71.95%	60%
	1/15/2017	72.54%	78.03%	75.29%	60%
February	2/1/2017	75.80%	81.44%	78.62%	60%
	2/15/2017	75.80%	81.44%	78.62%	60%
March	3/1/2017	75.80%	81.44%	78.62%	60%
	3/15/2017	81.82%	138.61%	110.21%	60%
April	4/1/2017	87.84%	195.78%	141.81%	60%
	4/15/2017	85.94%	170.16%	128.04%	60%
May	5/1/2017	84.04%	144.53%	114.28%	60%
	5/15/2017	84.23%	145.91%	115.07%	60%
June	6/1/2017	84.42%	147.29%	115.86%	60%
	6/15/2017	74.62%	102.67%	88.64%	60%
July	7/1/2017	82.22%	94.94%	88.58%	60%
	7/15/2017	82.22%	94.94%	88.58%	60%
August	8/1/2017	82.22%	94.94%	88.58%	60%
	8/15/2017	59.82%	79.62%	69.72%	60%
September	9/1/2017	68.62%	71.59%	70.11%	60%
	9/15/2017	68.12%	82.55%	75.33%	60%
October	10/1/2017	69.90%	82.91%	76.40%	60%
	10/15/2017	59.98%	65.36%	62.67%	60%
November	11/1/2017	65.05%	71.96%	68.50%	60%
	11/15/2017	60.06%	70.63%	65.35%	60%
December	12/1/2017	59.60%	71.50%	65.55%	60%
	12/15/2017	58.59%	67.02%	62.80%	60%



updated: 12/16/2017

Fuel Moisture Data for
Upper Oso Plot

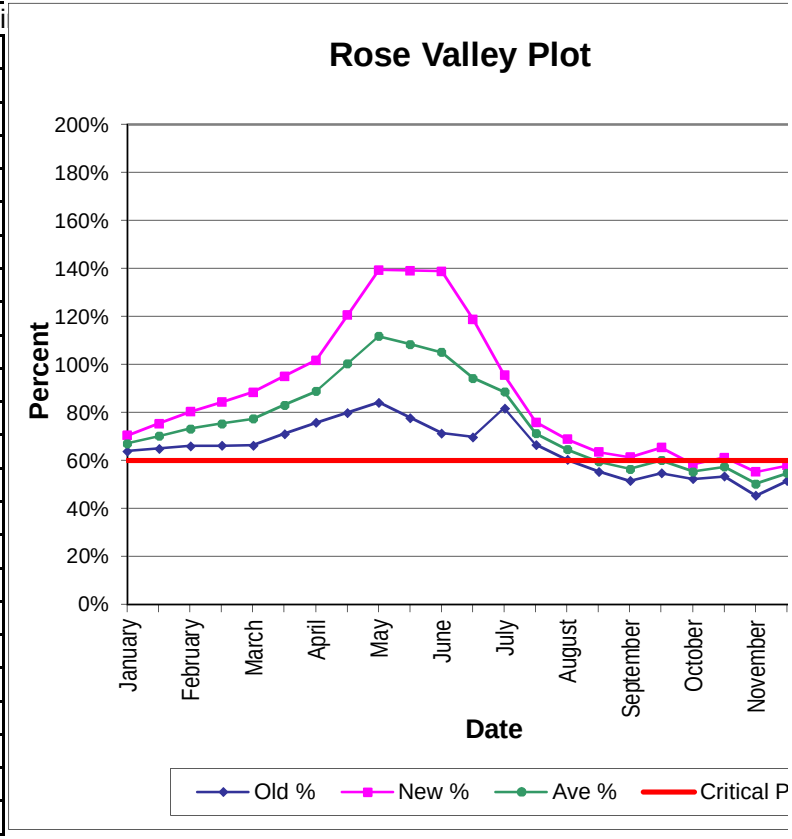
		Date	Old %	New %	Ave %	Critical Point
January	January	1/1/2017	60.24%	62.98%	61.61%	60%
		1/15/2017	60.24%	62.98%	61.61%	60%
February	February	2/1/2017	60.24%	62.98%	61.61%	60%
		2/15/2017	60.24%	62.98%	61.61%	60%
March	March	3/1/2017	60.24%	62.98%	61.61%	60%
		3/15/2017	60.24%	62.98%	61.61%	60%
April	April	4/1/2017	60.24%	62.98%	61.61%	60%
		4/15/2017	60.24%	62.98%	61.61%	60%
May	May	5/1/2017	60.24%	62.98%	61.61%	60%
		5/15/2017	60.24%	62.98%	61.61%	60%
June	June	6/1/2017	66.57%	92.12%	79.34%	60%
		6/15/2017	65.04%	78.97%	72.01%	60%
July	July	7/1/2017	63.06%	80.31%	71.68%	60%
		7/15/2017	63.06%	80.31%	71.68%	60%
August	August	8/1/2017	57.41%	71.89%	64.65%	60%
		8/15/2017	52.19%	66.03%	59.11%	60%
September	September	9/1/2017	52.19%	66.03%	59.11%	60%
		9/15/2017	56.20%	65.22%	60.71%	60%
October	October	10/1/2017	55.25%	62.84%	59.05%	60%
		10/15/2017	55.37%	63.95%	59.66%	60%
November	November	11/1/2017	46.68%	69.84%	58.26%	60%
		11/15/2017	46.68%	69.84%	58.26%	60%
December	December	12/1/2017	54.09%	61.26%	57.67%	60%
		12/15/2017	56.44%	58.58%	57.51%	60%



updated: 12/16/2017

Fuel Moisture Data For Rose Valley Plot

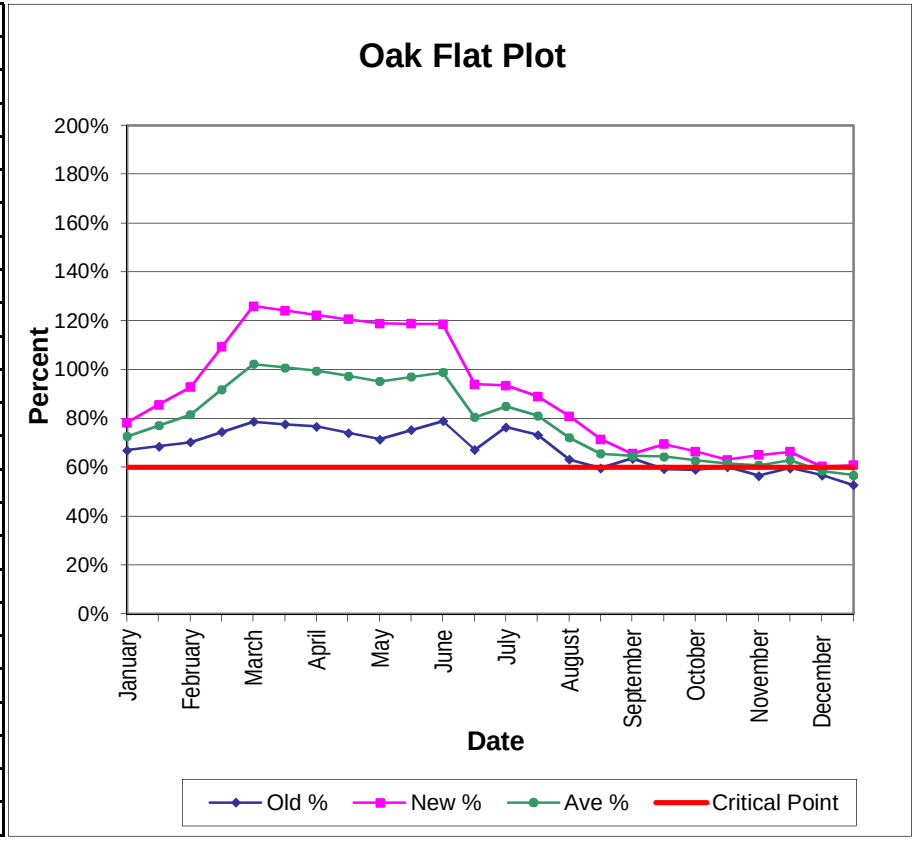
		Date	Old %	New %	Ave %	Critical Poi
January	January	1/1/2017	63.90%	70.54%	67.22%	60%
		1/15/2017	65.02%	75.45%	70.24%	60%
February	February	2/1/2017	66.15%	80.37%	73.26%	60%
		2/15/2017	66.29%	84.43%	75.45%	60%
March	March	3/1/2017	66.42%	88.49%	77.45%	60%
		3/15/2017	71.15%	95.17%	83.16%	60%
April	April	4/1/2017	75.87%	101.86%	88.87%	60%
		4/15/2017	80.02%	120.69%	100.36%	60%
May	May	5/1/2017	84.18%	139.53%	111.86%	60%
		5/15/2017	77.78%	139.23%	108.51%	60%
June	June	6/1/2017	71.39%	138.94%	105.16%	60%
		6/15/2017	69.79%	118.90%	94.34%	60%
July	July	7/1/2017	81.87%	95.56%	88.71%	60%
		7/15/2017	66.63%	75.98%	71.31%	60%
August	August	8/1/2017	60.39%	68.88%	64.63%	60%
		8/15/2017	55.47%	63.55%	59.51%	60%
September	September	9/1/2017	51.54%	61.49%	56.52%	60%
		9/15/2017	54.73%	65.39%	60.06%	60%
October	October	10/1/2017	52.39%	58.53%	55.46%	60%
		10/15/2017	53.49%	61.33%	57.41%	60%
November	November	11/1/2017	45.46%	55.27%	50.36%	60%
		11/15/2017	51.59%	57.93%	54.76%	60%
December	December	12/1/2017	55.57%	59.34%	57.45%	60%
		12/15/2017				60%



updated: 12/16/2017

Fuel Moisture for the Oak Flat Plot

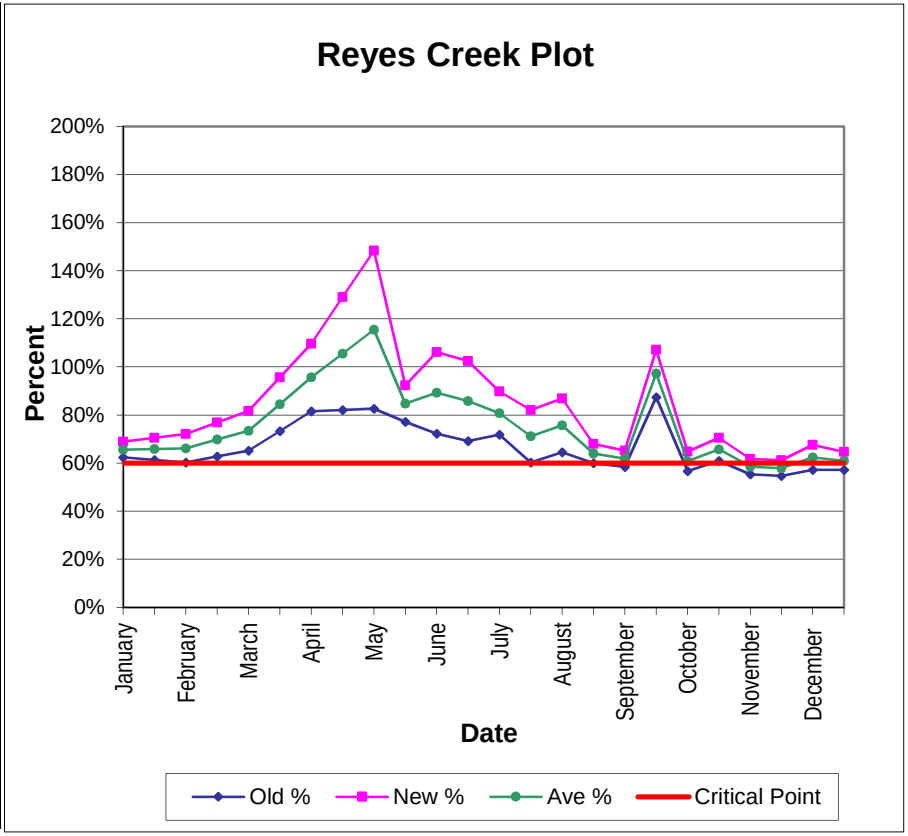
	Date	Old %	New %	Ave %	Critical Point
January	1/1/2017	67.08%	78.39%	72.74%	60%
	1/15/2017	68.73%	85.66%	77.19%	60%
February	2/1/2017	70.37%	92.94%	81.65%	60%
	2/15/2017	74.54%	109.46%	92.00%	60%
March	3/1/2017	78.71%	125.99%	102.35%	60%
	3/15/2017	77.73%	124.17%	100.95%	60%
April	4/1/2017	76.76%	122.36%	99.56%	60%
	4/15/2017	74.17%	120.69%	97.43%	60%
May	5/1/2017	71.59%	119.03%	95.31%	60%
	5/15/2017	75.30%	118.89%	97.05%	60%
June	6/1/2017	79.02%	118.75%	98.89%	60%
	6/15/2017	67.17%	94.11%	80.64%	60%
July	7/1/2017	76.53%	93.53%	85.03%	60%
	7/15/2017	73.37%	89.10%	81.24%	60%
August	8/1/2017	63.30%	81.03%	72.17%	60%
	8/15/2017	59.77%	71.52%	65.65%	60%
September	9/1/2017	63.70%	65.63%	64.67%	60%
	9/15/2017	59.32%	69.59%	64.46%	60%
October	10/1/2017	59.14%	66.63%	62.88%	60%
	10/15/2017	60.25%	63.10%	61.67%	60%
November	11/1/2017	56.61%	65.13%	60.87%	60%
	11/15/2017	59.72%	66.44%	63.08%	60%
December	12/1/2017	56.86%	60.35%	58.60%	60%
	12/15/2017	52.80%	60.98%	56.89%	60%



updated: 12/16/2017

Fuel Moisture for the Reyes Creek Plot

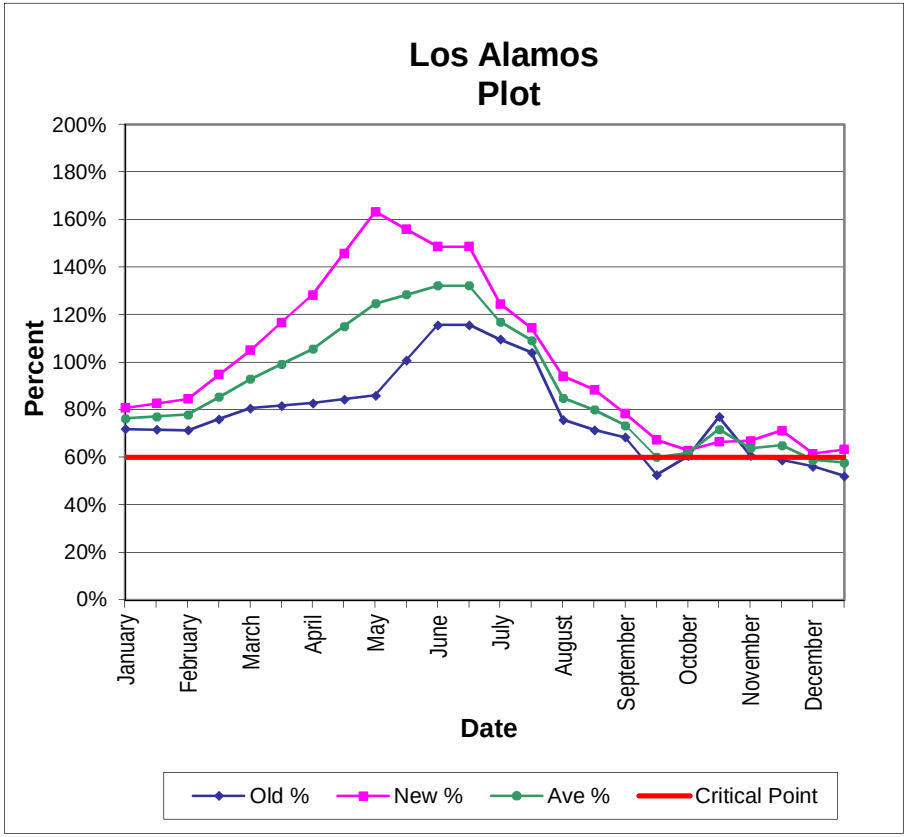
	Date	Old %	New %	Ave %	Critical Point
January	1/1/2017	62.34%	68.95%	65.64%	60%
	1/15/2017	61.33%	70.49%	65.91%	60%
February	2/1/2017	60.32%	72.04%	66.18%	60%
	2/15/2017	62.74%	76.89%	69.81%	60%
March	3/1/2017	65.16%	81.74%	73.45%	60%
	3/15/2017	73.34%	95.70%	84.52%	60%
April	4/1/2017	81.52%	109.67%	95.60%	60%
	4/15/2017	82.05%	129.04%	105.54%	60%
May	5/1/2017	82.58%	148.41%	115.49%	60%
	5/15/2017	77.15%	92.30%	84.73%	60%
June	6/1/2017	72.28%	106.21%	89.26%	60%
	6/15/2017	69.14%	102.45%	85.80%	60%
July	7/1/2017	71.85%	89.80%	80.82%	60%
	7/15/2017	60.29%	82.02%	71.16%	60%
August	8/1/2017	64.49%	86.86%	75.67%	60%
	8/15/2017	60.05%	67.96%	64.00%	60%
September	9/1/2017	58.45%	65.22%	61.84%	60%
	9/15/2017	87.46%	107.08%	97.27%	60%
October	10/1/2017	56.62%	64.84%	60.73%	60%
	10/15/2017	60.92%	70.47%	65.70%	60%
November	11/1/2017	55.36%	61.73%	58.54%	60%
	11/15/2017	54.62%	61.15%	57.88%	60%
December	12/1/2017	57.13%	67.59%	62.36%	60%
	12/15/2017	57.17%	64.71%	60.94%	60%



updated: 12/16/2017

Fuel Moisture for the Hardluck Plot

	Date	Old %	New %	Ave %	Critical Point
January	1/1/2017	71.91%	80.79%	76.35%	60%
	1/15/2017	71.66%	82.70%	77.18%	60%
February	2/1/2017	71.42%	84.61%	78.02%	60%
	2/15/2017	76.08%	94.84%	85.46%	60%
March	3/1/2017	80.74%	105.07%	92.91%	60%
	3/15/2017	81.78%	116.72%	99.25%	60%
April	4/1/2017	82.82%	128.37%	105.60%	60%
	4/15/2017	84.44%	145.84%	115.15%	60%
May	5/1/2017	86.07%	163.32%	124.70%	60%
	5/15/2017	100.89%	156.02%	128.46%	60%
June	6/1/2017	115.72%	148.73%	132.23%	60%
	6/15/2017	115.72%	148.73%	132.23%	60%
July	7/1/2017	109.63%	124.58%	117.11%	60%
	7/15/2017	104.07%	114.49%	109.28%	60%
August	8/1/2017	75.83%	94.18%	85.00%	60%
	8/15/2017	71.52%	88.55%	80.03%	60%
September	9/1/2017	68.46%	78.48%	73.47%	60%
	9/15/2017	52.70%	67.42%	60.06%	60%
October	10/1/2017	60.70%	62.98%	61.84%	60%
	10/15/2017	77.06%	66.56%	71.81%	60%
November	11/1/2017	60.84%	66.97%	63.91%	60%
	11/15/2017	58.84%	71.30%	65.07%	60%
December	12/1/2017	56.22%	61.63%	58.92%	60%
	12/15/2017	52.23%	63.33%	57.78%	60%

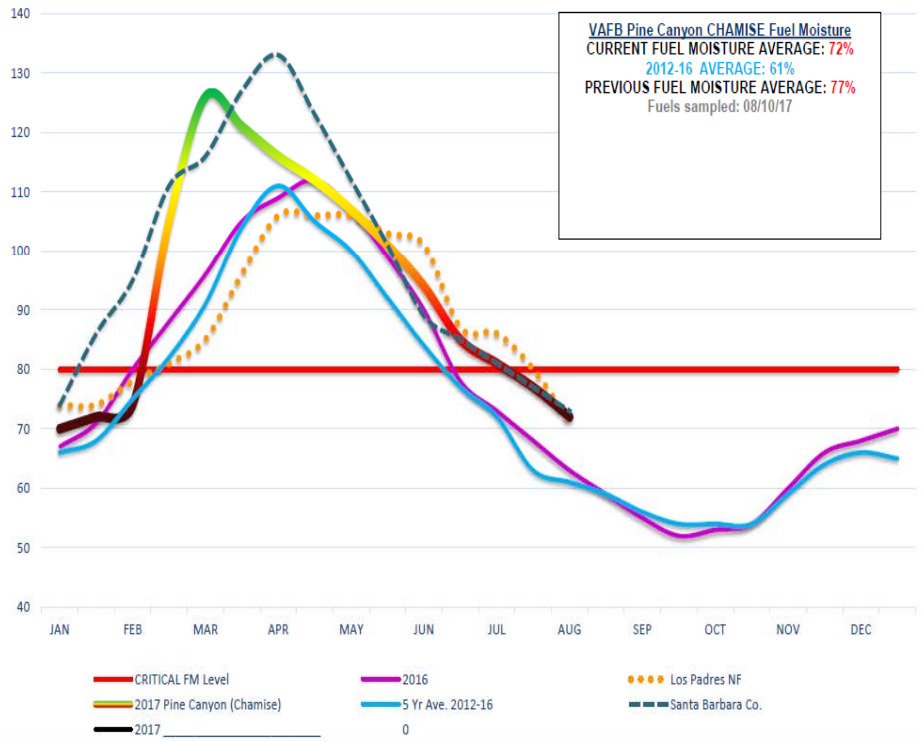


updated: 12/16/2017

AFV LFM Chart - Windows Photo Viewer

File Print E-mail Burn Open

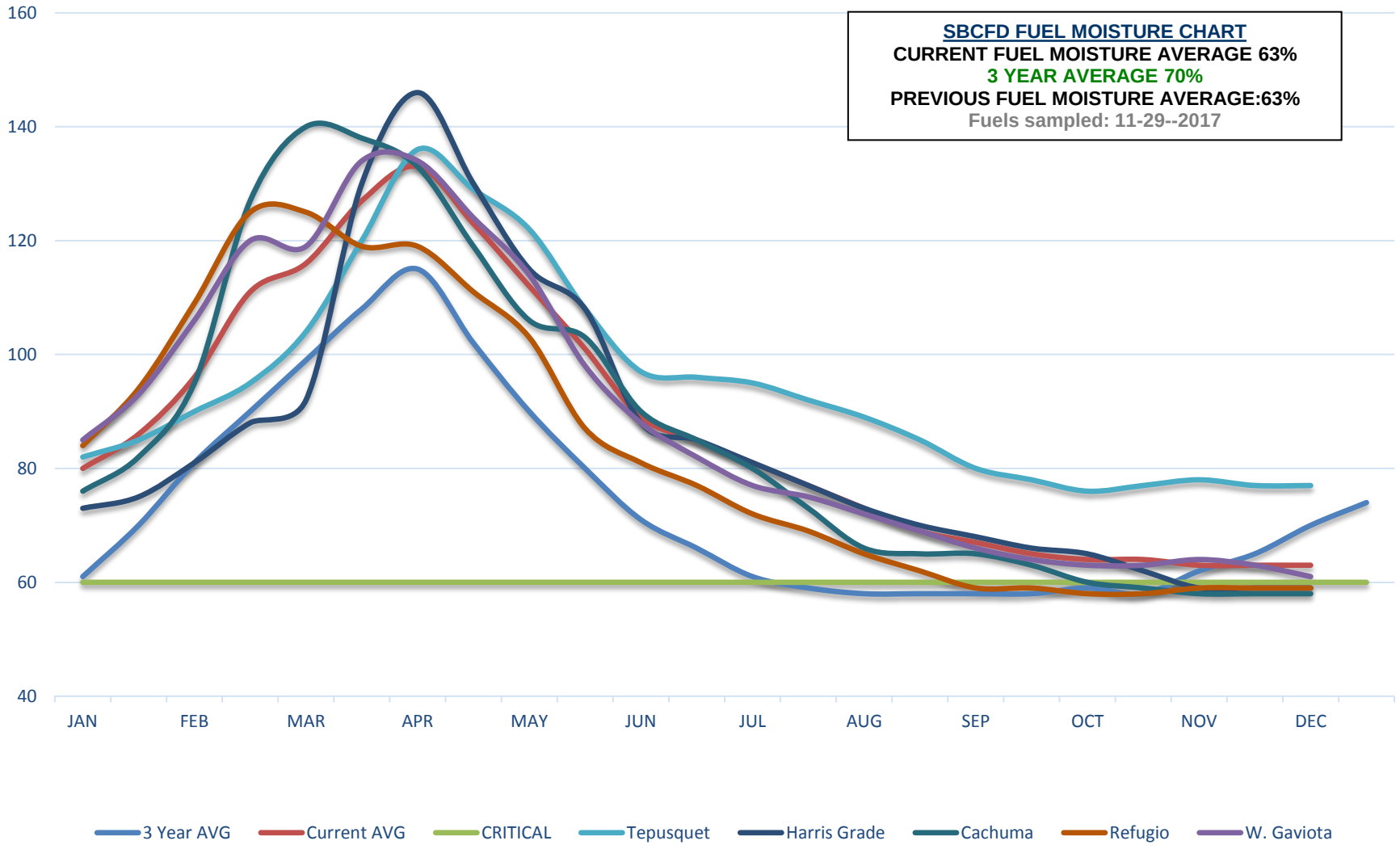
VANDENBERG FIRE DEPARTMENT
2017 LIVE FUEL MOISTURE
FUEL TYPE - Chamise
Plot Averages



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Date	Ave %	Ave %	Ave %	Ave %	Ave %	Ave %	Ave %	Ave %	Ave %
1/1	66.50%	60.24%	71.38%	80.21%	74.31%	78.86%	68.30%	65.20%	65.00%
1/15	64.74%	64.13%	70.47%	81.67%	71.69%	79.52%	67.60%	64.00%	69.70%
2/1	68.48%	68.02%	74.35%	83.12%	69.06%	82.20%	67.30%	70.90%	71.40%
2/15	73.17%	74.39%	78.23%	85.98%	77.02%	92.48%	66.90%	66.00%	73.00%
3/1	77.87%	80.77%	82.12%	88.84%	84.97%	102.76%	71.40%	61.00%	74.70%
3/15	91.61%	87.15%	75.67%	94.17%	81.87%	111.16%	75.80%	79.50%	89.70%
4/1	105.35%	93.52%	69.22%	99.49%	78.76%	119.56%	80.30%	86.10%	104.60%
4/15	122.08%	107.02%	76.95%	105.55%	97.45%	117.88%	87.30%	80.80%	112.40%
5/1	138.82%	120.53%	84.67%	111.61%	101.75%	116.19%	94.30%	81.50%	120.20%
5/15	129.53%	117.03%	79.02%	116.83%	85.74%	115.56%	114.40%	82.20%	106.60%
6/1	120.25%	100.22%	64.63%	113.97%	76.25%	103.02%	116.00%	72.60%	92.90%
6/15	99.61%	93.53%	69.58%	100.49%	73.98%	87.86%	104.50%	67.80%	88.90%
7/1	68.54%	71.97%	58.61%	88.67%	66.80%	86.72%	88.30%	62.90%	74.20%
7/15	67.99%	77.65%	44.40%	76.92%	62.69%	74.54%	77.90%	59.50%	75.60%
8/1	66.50%	66.21%	56.34%	72.16%	58.56%	70.92%	70.40%	56.50%	71.90%
8/15	66.63%	74.86%	57.41%	65.90%	55.74%	65.62%	63.50%	57.80%	63.70%
9/1	66.19%	61.44%	57.48%	67.12%	57.62%	63.89%	64.40%	53.20%	61.80%
9/15	64.78%	52.66%	54.43%	61.54%	51.18%	51.20%	62.80%	54.40%	58.70%
10/1	61.05%	62.67%	55.91%	58.68%	54.52%	58.40%	57.00%	56.20%	59.00%
10/15	61.87%	58.40%	54.61%	59.55%	52.19%	60.41%	60.70%	57.00%	56.90%
11/1	65.30%	59.49%	53.15%	66.54%	66.27%	64.26%	58.10%	57.80%	56.70%
11/15	66.34%	67.38%	63.59%	64.96%	70.25%	66.43%	60.10%	58.50%	64.70%
12/1	67.38%	70.05%	77.00%	63.37%	74.22%	69.88%	60.20%	57.50%	68.90%
12/15	68.42%	72.29%	78.61%	63.12%	74.20%	69.03%	62.70%	61.10%	67.60%

2009	2010	2011	2012	2013	2014	2015	2016	Hist Avg
Ave %	Ave %	Ave %	Ave %	Ave %	Ave %	Ave %	Ave%	Ave%
66.30%	74.88%	Ave %	Ave %	75.52%	56.36%	81.28%	67.80%	70.14%
69.80%	76.88%	80.73%	66.52%	82.00%	57.00%	84.00%	71.00%	71.85%
73.20%	78.88%	93.52%	67.69%	69.00%	55.66%	89.05%	74.45%	73.90%
74.00%	90.40%	106.30%	68.85%	72.98%	58.25%	89.00%	74.45%	77.73%
74.80%	101.92%	99.89%	67.24%	82.27%	62.19%	104.92%	94.95%	83.09%
86.40%	114.90%	93.48%	65.62%	81.57%	66.70%	104.92%	94.95%	87.95%
97.90%	127.88%	96.21%	70.63%	86.12%	93.59%	95.34%	107.16%	94.81%
102.70%	121.19%	98.94%	75.63%	90.42%	99.53%	80.60%	107.16%	99.03%
107.40%	114.50%	102.97%	84.05%	76.79%	103.24%	83.43%	98.88%	102.40%
104.20%	112.54%	106.99%	92.46%	72.67%	91.91%	77.56%	98.88%	100.24%
93.20%	110.57%	111.40%	110.56%	69.60%	89.76%	74.03%	87.70%	94.51%
80.70%	99.56%	96.22%	94.53%	63.89%	82.90%	73.14%	81.94%	85.83%
75.80%	85.98%	104.11%	81.58%	59.66%	71.83%	70.22%	69.89%	75.63%
60.50%	78.01%	91.52%	68.20%	56.60%	67.53%	68.14%	64.27%	68.94%
64.60%	71.45%	87.62%	57.61%	54.20%	61.36%	67.93%	59.60%	65.52%
64.70%	65.77%	76.83%	57.60%	54.00%	58.00%	66.00%	55.00%	62.89%
58.90%	63.74%	71.21%	56.16%	51.42%	57.06%	63.13%	52.68%	60.44%
58.00%	58.92%	69.06%	58.02%	54.21%	54.38%	63.10%	57.46%	57.93%
55.40%	57.97%	64.03%	55.91%	54.37%	56.05%	61.09%	55.83%	57.89%
64.40%	59.45%	63.99%	56.43%	52.88%	53.21%	60.95%	55.78%	58.16%
68.00%	60.92%	63.99%	57.00%	55.10%	57.32%	59.77%	68.30%	61.06%
73.90%	65.80%	75.48%	57.84%	54.91%	65.51%	61.90%	63.44%	64.77%
72.90%	70.65%	73.24%	56.36%	60.03%	69.12%	64.54%	69.38%	67.34%
73.90%	75.51%	71.00%	68.20%	57.88%	71.27%	64.85%	67.67%	68.67%

SANTA BARBARA COUNTY FIRE DEPARTMENT
2017 LIVE FUEL MOISTURE
ALL FUEL BEDS - CHAMISE



2017 Chamise Summary

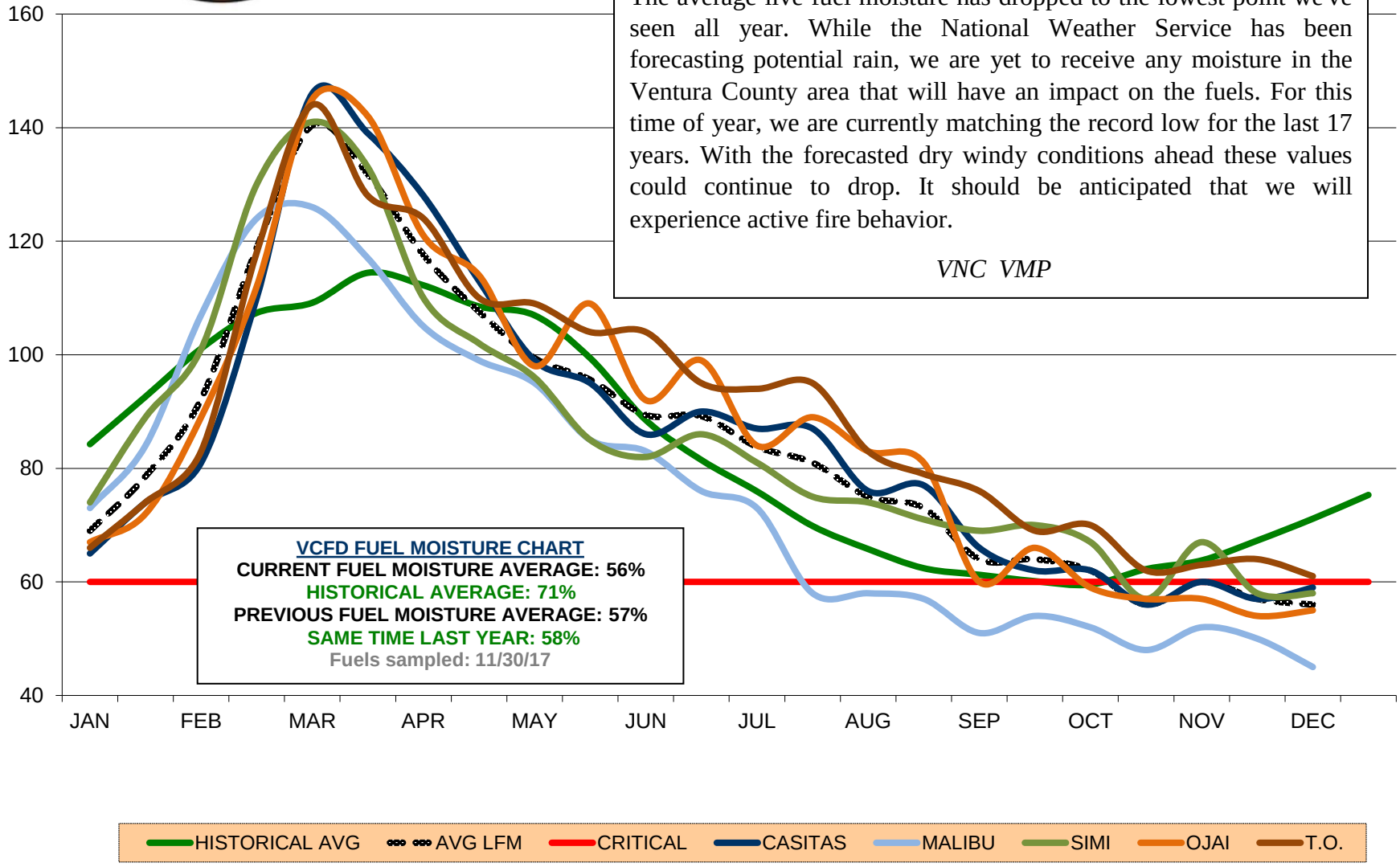
	3 Year AVG	Current AVG	CRITICAL	Tepusquet	Harris Grade	Cachuma	Refugio	W. Gaviota
JAN	61	80	60	82	73	76	84	85
	70	86	60	85	75	82	94	93
FEB	81	96	60	90	81	95	109	106
	90	111	60	95	88	127	125	120
MAR	99	116	60	104	92	140	125	119
	108	127	60	120	130	138	119	134
APR	115	133	60	136	146	133	119	134
	102	123	60	129	130	119	111	124
MAY	90	112	60	122	115	106	103	114
	80	101	60	108	108	103	87	98
JUN	71	89	60	97	88	90	81	88
	66	85	60	96	85	85	77	82
JUL	61	81	60	95	81	80	72	77
	59	77	60	92	77	73	69	75
AUG	58	73	60	89	73	66	65	72
	58	69	60	85	70	65	62	69
SEP	58	67	60	80	68	65	59	66
	58	65	60	78	66	63	59	64
OCT	59	64	60	76	65	60	58	63
	58	64	60	77	62	59	58	63
NOV	62	63	60	78	59	58	59	64
	65	63	60	77	59	58	59	63
DEC	70	63	60	77	59	58	59	61
	74		60					

VENTURA COUNTY FIRE DEPARTMENT
LIVE FUEL MOISTURE 2017
ALL FUEL BEDS - CHAMISE

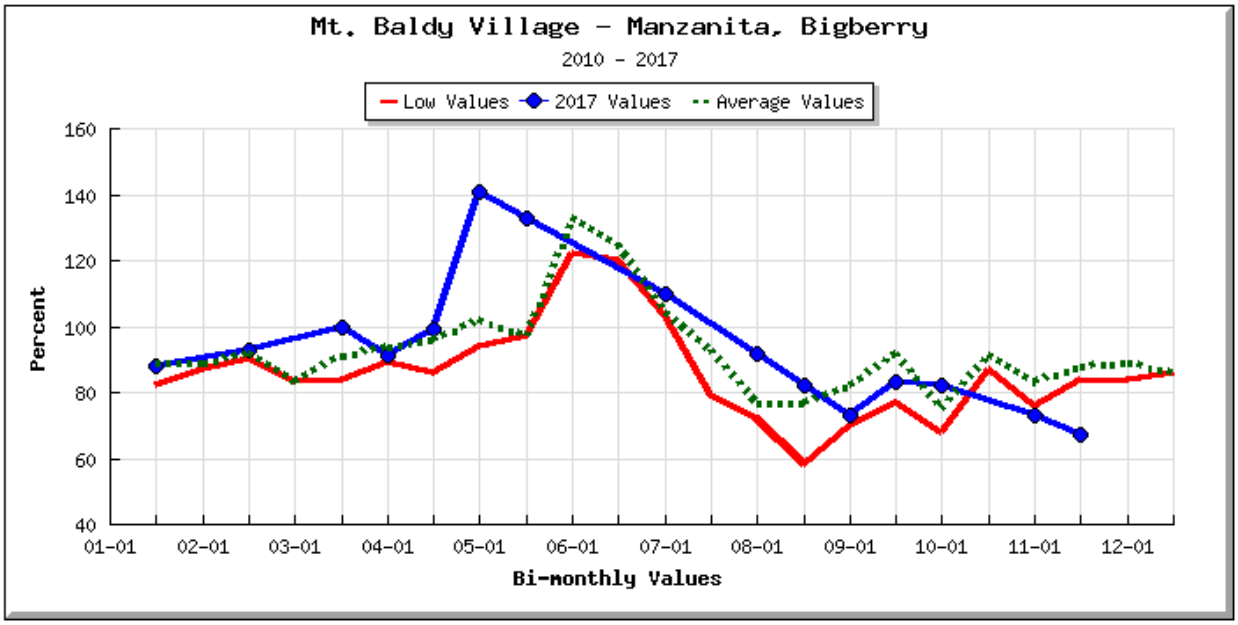
Fuels/Fire Discussion

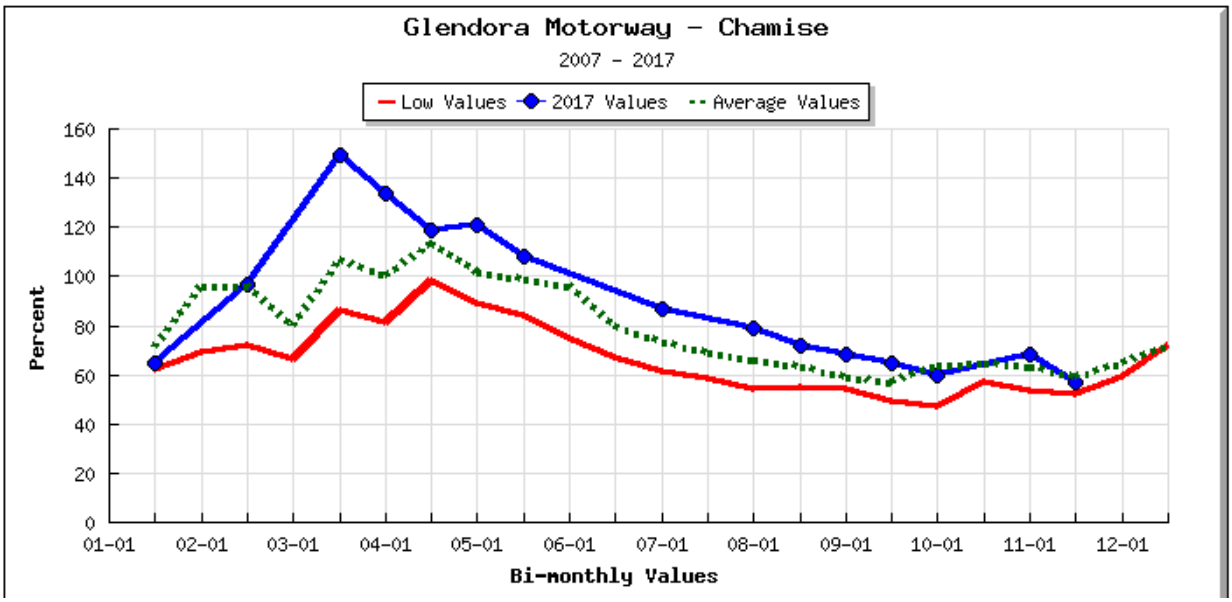
The average live fuel moisture has dropped to the lowest point we've seen all year. While the National Weather Service has been forecasting potential rain, we are yet to receive any moisture in the Ventura County area that will have an impact on the fuels. For this time of year, we are currently matching the record low for the last 17 years. With the forecasted dry windy conditions ahead these values could continue to drop. It should be anticipated that we will experience active fire behavior.

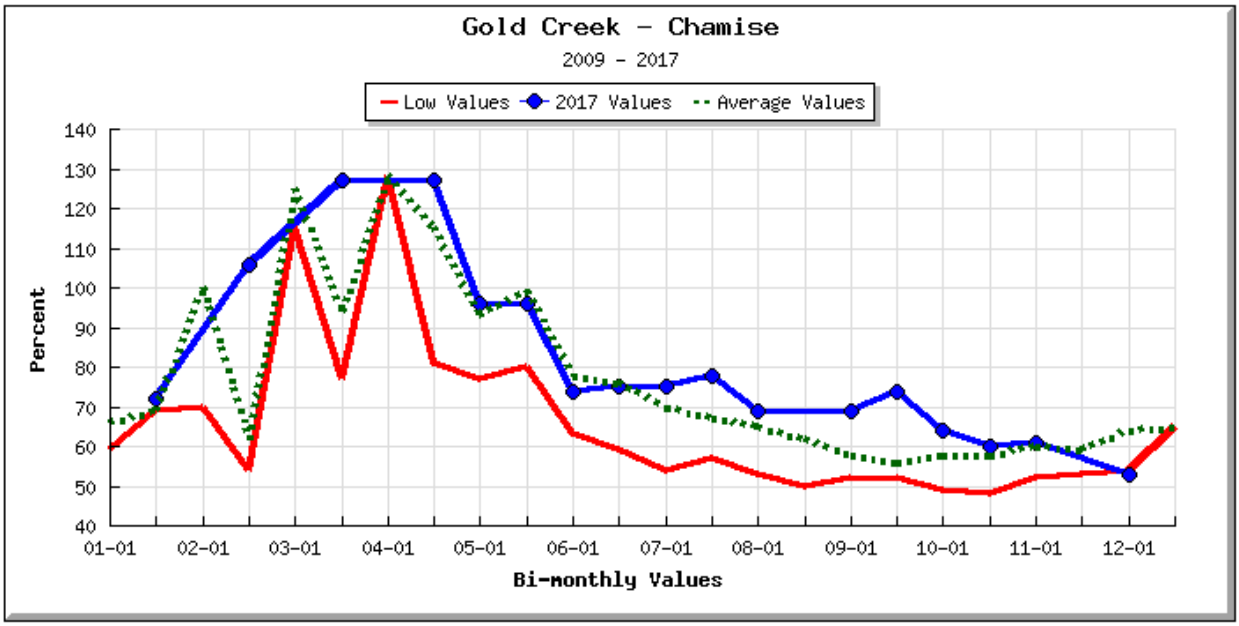
VNC VMP

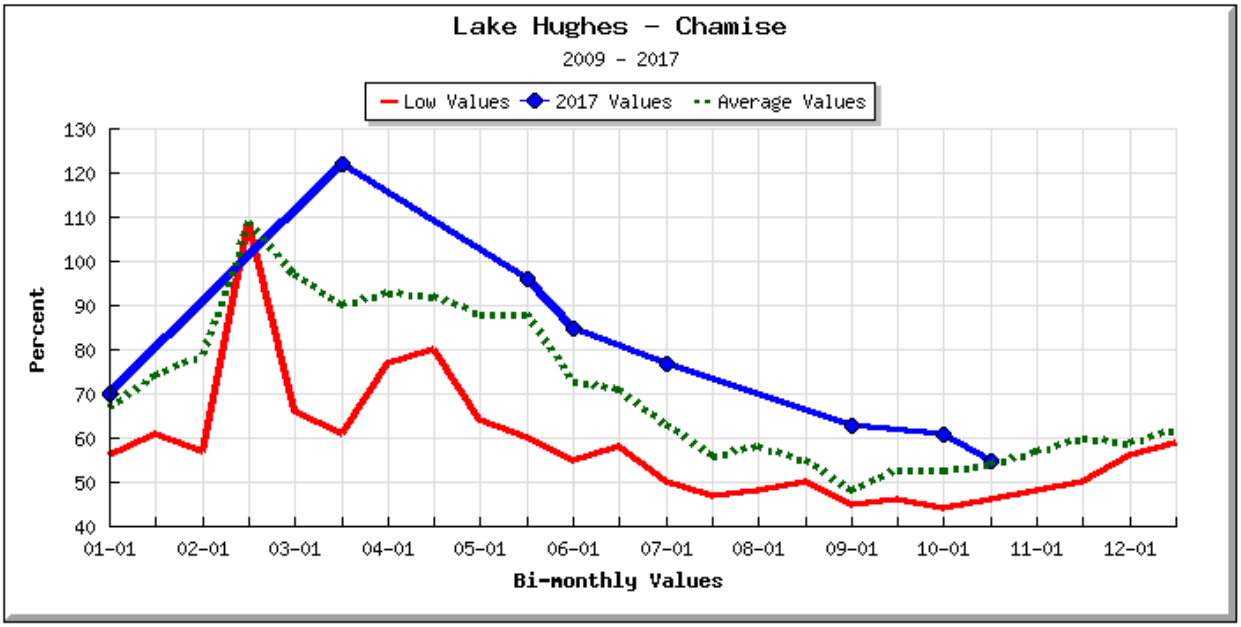


Angeles National Forest








Lake Hughes - Chamise
2009 - 2017
Low Values
2017 Values
Average Values
Percent
130
120
110
100
90
80
70
60
50
40
01-01
02-01
03-01
04-01
05-01
06-01
07-01
08-01
09-01
10-01
11-01
12-01
Bi-monthly Values

County of Los Angeles Fire Department
Prevention Services Bureau / Forestry Division

Vegetation Management Unit
12605 Osborne Street
Pacoima, CA 91331-2129
818.890.5720

Live Fuel Moisture Summary
December 15, 2017

LOCATION	THOMAS GUIDE	SPECIES	LIVE MOISTURE		
LOS ANGELES BASIN			CURRENT	PREVIOUS	%CHANGE
GLENDORA RIDGE, GLENDORA	569 E1	CHAMISE	**63%**	**64%**	-1.6%
LA TUNA CANYON, TUJUNGA	503 J5	CHAMISE	**N/A**	**N/A**	N/A
LAUREL CANYON, MT. OLYMPUS	593 A1	CHAMISE	**62%**	**62%**	0%
WOOLSEY CANYON, CHATSWORTH	499 C7	CHAMISE	**65%**	**62%**	4.8%
GLENDORA RIDGE, GLENDORA	569 E1	HOARYLEAF CEANOTHUS	**49%**	**50%**	-2%
SANTA MONICA MOUNTAINS			CURRENT	PREVIOUS	%CHANGE
CLARK MOTORWAY, MALIBU	586 G7	CHAMISE	**63%**	**57%**	10.5%
STUNT ROAD, CALABASAS	589 D5	CHAMISE	**59%**	**53%**	11.3%
SCHUEREN ROAD, MALIBU	629 E1	CHAMISE	**59%**	**66%**	-10.6%
TRIPPET RANCH, TOPANGA	590 B6	CHAMISE	**58%**	**56%**	3.6%
CLARK MOTORWAY, MALIBU	586 G7	BIGPOD CEANOTHUS	**53%**	**54%**	-1.9%
TRIPPET RANCH, TOPANGA	590 B6	BLACK SAGE	**60%**	**52%**	15.4%
SANTA CLARITA VALLEY			CURRENT	PREVIOUS	%CHANGE
BITTER CANYON, CASTAIC	4370 A4	CHAMISE	**67%**	**64%**	4.7%
PEACH MOTORWAY, SANTA CLARITA	4640 J5	CHAMISE	**N/A**	**N/A**	N/A
PLACERITA CANYON, SANTA CLARITA	4642 B2	CHAMISE	**N/A**	**N/A**	N/A
BOUQUET CANYON, SAUGUS	4461 G1	CHAMISE	**71%**	**66%**	7.6%
BITTER CANYON, CASTAIC	4370 A4	BLACK SAGE	**81%**	**77%**	5.2%
BITTER CANYON, CASTAIC	4370 A4	PURPLE SAGE	**73%**	**68%**	7.4%
BITTER CANYON, CASTAIC	4370 A4	CALIFORNIA SAGEBRUSH	**N/A**	**76%**	N/A
HIGH COUNTRY			CURRENT	PREVIOUS	%CHANGE
TEMPLIN HIGHWAY, CASTAIC	4279 A3	CHAMISE	**61%**	**62%**	-1.6%
SOLEDAD CANYON RD, ACTON	4464 B7	CHAMISE	**N/A**	**N/A**	N/A
TANBARK FLATS, GLENDORA	540 F2	CHAMISE	**68%**	**67%**	1.5%
TANBARK FLATS, GLENDORA	540 F2	HOARYLEAF CEANOTHUS	**49%**	**45%**	8.9%

SUMMARY	CURRENT	PREVIOUS	%CHANGE
LOS ANGELES BASIN CHAMISE (average)	**63%**	**63%**	1.1%
SANTA MONICA MOUNTAINS CHAMISE (average)	**60%**	**58%**	3%
SANTA CLARITA VALLEY CHAMISE (average)	**69%**	**65%**	6.2%
HIGH COUNTRY CHAMISE (average)	**65%**	**65%**	0%
ALL AREAS ALL FUELS (average)	**62%**	**61%**	2%

- LFM is calculated by the formula (Live Sample Weight–Dry Sample Weight)/Dry Sample Weight.
- 60% is generally recognized as approaching a critical level of live-fuel moisture.
- Sampling date: Los Angeles Basin sites were sampled 12/14/17 (La Tuna site burned over during La Tuna Incident in Sepember 2017), Santa Monica Mountains 12/13/17, Santa Clarita Valley 12/14/17 (Peach Motorway site burned over during Calgrove Incident in June 2015; Placerita Canyon and Soledad Canyon RD sites burned over during Sand Incident in July 2016), and High Country 12/14/17.

LIVE FUEL MOISTURE SUMMARY / FIRE DANGER ZONE DISCUSSION

Live Fuel Sampling is being reestablished at 4 Historic sites: Woolsey Canyon, Tanbark Flats, Templin Highway & Soledad Road. The addition of these sites will allow for the tracking of LFM in the High Country and Los Angeles Basin. The Santa Monica Mountains, Santa Clarita Valley and All Areas All Fuels Data sets and Graphs remain unchanged by these additions.

Vegetation Management Program

Live Fuel Moisture 1981-2017

High Country Chamise (Adenostoma fasiculatum)

Percent Live Fuel Moisture

220
200
180
160
140
120
100
80
60
40

1-Jan, 8-Jan, 15-Jan, 22-Jan, 29-Jan, 5-Feb, 12-Feb, 19-Feb, 26-Feb, 5-Mar, 12-Mar, 19-Mar, 26-Mar, 2-Apr, 9-Apr, 16-Apr, 23-Apr, 30-Apr, 7-May, 14-May, 21-May, 28-May, 4-Jun, 11-Jun, 18-Jun, 25-Jun, 2-Jul, 9-Jul, 16-Jul, 23-Jul, 30-Jul, 6-Aug, 13-Aug, 20-Aug, 27-Aug, 3-Sep, 10-Sep, 17-Sep, 24-Sep, 1-Oct, 8-Oct, 15-Oct, 22-Oct, 29-Oct, 5-Nov, 12-Nov, 19-Nov, 26-Nov, 3-Dec, 10-Dec, 17-Dec, 24-Dec, 31-Dec

Critical | 2017 | 2016 | 1981-Present

Vegetation Management Program

Live Fuel Moisture 1981-2017

Los Angeles Basin Chamise (Adenostoma fasiculatum)

Percent Live Fuel Moisture

220
200
180
160
140
120
100
80
60
40

1-Jan 8-Jan 15-Jan 22-Jan 29-Jan 5-Feb 12-Feb 19-Feb 26-Feb 5-Mar 12-Mar 19-Mar 26-Mar 2-Apr 9-Apr 16-Apr 23-Apr 30-Apr 7-May 14-May 21-May 28-May 4-Jun 11-Jun 18-Jun 25-Jun 2-Jul 9-Jul 16-Jul 23-Jul 30-Jul 6-Aug 13-Aug 20-Aug 27-Aug 3-Sep 10-Sep 17-Sep 24-Sep 1-Oct 8-Oct 15-Oct 22-Oct 29-Oct 5-Nov 12-Nov 19-Nov 26-Nov 3-Dec 10-Dec 17-Dec 24-Dec 31-Dec

Critical
2017
2016
1981-Present

Vegetation Management Program

Live Fuel Moisture 1981-2017

Santa Clarita Valley Chamise (Adenostoma fasiculatum)

Percent Live Fuel Moisture

220
200
180
160
140
120
100
80
60
40

1-Jan 8-Jan 15-Jan 22-Jan 29-Jan 5-Feb 12-Feb 19-Feb 26-Feb 5-Mar 12-Mar 19-Mar 26-Mar 2-Apr 9-Apr 16-Apr 23-Apr 30-Apr 7-May 14-May 21-May 28-May 4-Jun 11-Jun 18-Jun 25-Jun 2-Jul 9-Jul 16-Jul 23-Jul 30-Jul 6-Aug 13-Aug 20-Aug 27-Aug 3-Sep 10-Sep 17-Sep 24-Sep 1-Oct 8-Oct 15-Oct 22-Oct 29-Oct 5-Nov 12-Nov 19-Nov 26-Nov 3-Dec 10-Dec 17-Dec 24-Dec 31-Dec

Critical
2017
2016
1981-Present

Vegetation Management Program

Live Fuel Moisture 1981-2017

Santa Monica Mountains Chamise (Adenostoma fasiculatum)

Percent Live Fuel Moisture

220
200
180
160
140
120
100
80
60
40

1-Jan 8-Jan 15-Jan 22-Jan 29-Jan 5-Feb 12-Feb 19-Feb 26-Feb 5-Mar 12-Mar 19-Mar 26-Mar 2-Apr 9-Apr 16-Apr 23-Apr 30-Apr 7-May 14-May 21-May 28-May 4-Jun 11-Jun 18-Jun 25-Jun 2-Jul 9-Jul 16-Jul 23-Jul 30-Jul 6-Aug 13-Aug 20-Aug 27-Aug 3-Sep 10-Sep 17-Sep 24-Sep 1-Oct 8-Oct 15-Oct 22-Oct 29-Oct 5-Nov 12-Nov 19-Nov 26-Nov 3-Dec 10-Dec 17-Dec 24-Dec 31-Dec

Critical
2017
2016
1981-Present

Vegetation Management Program
Live Fuel Moisture 1981-2017

All Areas, All Fuels - Chamise, Ceanothus, Sages, Sagebrush

Percent Live Fuel Moisture

220
200
180
160
140
120
100
80
60
40

1-Jan 8-Jan 15-Jan 22-Jan 29-Jan 5-Feb 12-Feb 19-Feb 26-Feb 5-Mar 12-Mar 19-Mar 26-Mar 2-Apr 9-Apr 16-Apr 23-Apr 30-Apr 7-May 14-May 21-May 28-May 4-Jun 11-Jun 18-Jun 25-Jun 2-Jul 9-Jul 16-Jul 23-Jul 30-Jul 6-Aug 13-Aug 20-Aug 27-Aug 3-Sep 10-Sep 17-Sep 24-Sep 1-Oct 8-Oct 15-Oct 22-Oct 29-Oct 5-Nov 12-Nov 19-Nov 26-Nov 3-Dec 10-Dec 17-Dec 24-Dec 31-Dec

Critical
2017
2016
1981-Present

San Bernardino National Forest

With little precipitation received during the month of November, live fuel moistures continue their steady hover at very low levels across all elevations of the San Bernardino National Forest. Chamise vegetation is sampled at all locations identified below; historically fire managers consider readings of 60 or below as critical and should expect rapid rates of spread where new fires become established, especially with the disadvantage of wind or slope.

Mountaintop RD

Cottonwood- 3500' Highway 138 near Silverwood Reservoir

old 55 (up from 54) **new 62** (up from 61)

Converse- 5400' Highway 38 near Barton Flats

old 56 (down from 58) **new 66** (down from 72)

Front Country RD

Sycamore- 2200' just west of 15/215 split at bottom of Cajon Pass

old 53 (down from 55) **new 58** (down from 59)

City Creek- 3000' Halfway up Highway 330 x FS Road 1N09

old 54 (down from 55) **new 65** (up from 60)

San Jacinto RD

Strawberry- 3000' Highway 74 x Strawberry Canyon

old 56 (down from 58) **new 61** (previous 64)

Apple Canyon- 4300', Near Kenworthy Fire Station

old 62 (up from 60) **new 70** (up from 65)

Camp Pendleton

Fuel moisture data was collected on Thursday, 12/07/17, in all three upland regions and on riparian site. It has been three weeks since the last fuel moisture sampling.

Table 1. Precipitation by region

REGION	Precipitation (in) Nov. 16 – Dec 7, 2017	2018 water year accumulated precipitation (in) to date	2017 water year (Oct-Sept) precipitation (in) totals
Mountain	0.03	0.12	19.55
Valley	0.00	0.18	19.66
Coastal	0.01	0.16	19.42

Table 2. Summary of Fuel Moisture (FM) by Region, three-week measurement of change is between 11/16-12/07/2017 (unless other date indicated)

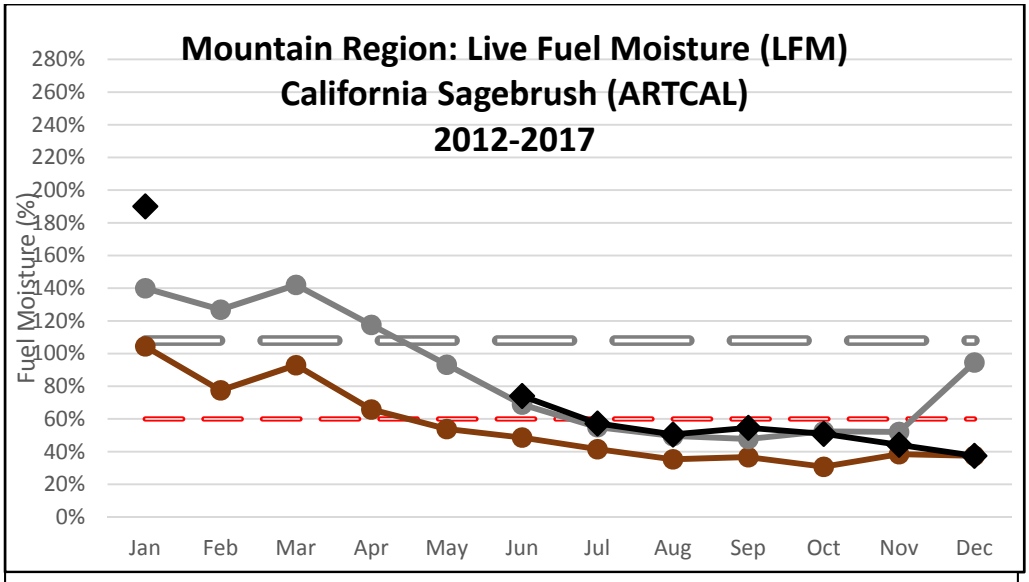
Region	Plant species	Fuel Moisture (%)	Change FM (%)	ADFM (%)	Change ADFM (%)	IFM (%)	Change IFM (%)
Mountain	ARTCAL	**37**	-5.1	**2.3***	-3.0	**48**	-3.0
Mountain	MALLAU	112	0.0				
Valley	ARTCAL	**54**	+5.8	**2.5***	-3.8	**49**	+2.0
Valley	MALLAU	105	-6.2				
Coastal	ARTCAL	**64**	+16.6	**5.3***	-4.5	**66**	+14.0
Coastal	MALLAU	129	+19.6				
Riparian	BACSAL	115	-6.2	**5.3***	-4.0	83	-6.0
Riparian	SALLAE	108	-24.2				

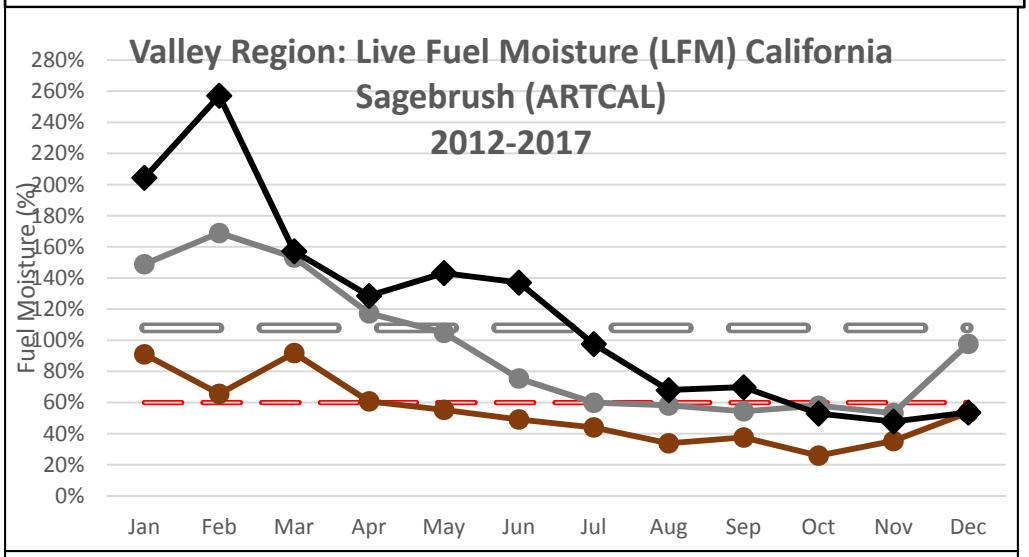
Red = value below fuel moisture threshold that indicates that large fires may be more likely to occur (ARTCAL = 108%, IFM= 80%)
(*) = value below dead fuel moisture threshold of 7.5% that indicates that large fires may be more likely to occur even when live fuel moisture is above the large fire thresholds

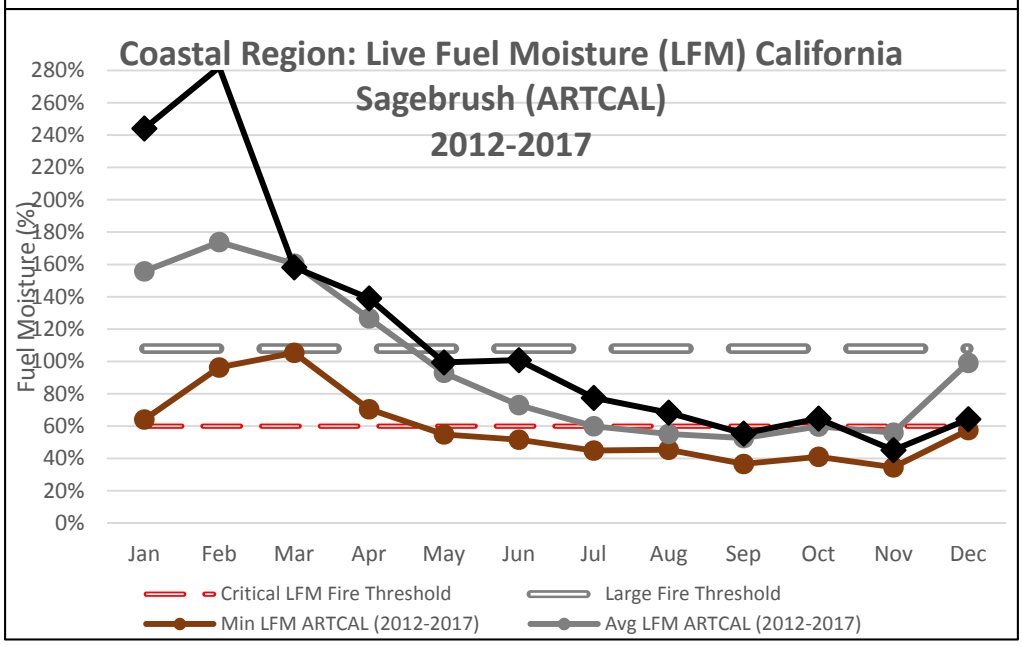
No significant precipitation has fallen over the last three weeks. The fuel moisture values are still very low in the mountain and valley region, but they are increasing slowly in the coastal region. For the month of December, ARTCAL live fuel moisture values are at the driest level over the last six year (see graphs below). Humidity levels are extremely low (7-8%) and average dead fuel moisture is dangerously low in all regions, including the coastal region. Therefore, probability of large fires is high. In addition, southern California is experiencing an incredibly strong Santa Ana wind event, which will make fires very difficult to control.

Although ARTCAL shrubs were beginning to break dormancy in the valley and coastal regions, these shrubs now appear to have arrested development. Likely due to the very dry conditions over the last three weeks, no significant growth was observed and the flowers that were opening during the last sampling appear to have also stopped developing. ARTCAL in the coastal region are covered in dry leaves without any new green leaves. ARTCAL in the mountain region remains dormant. In addition, MALLAU shrubs are only visibly showing new leaves in the coastal region now. No annual grass germination was observed. Heavy grass thatch can be found in the valley and coastal regions.

Willows are just beginning to lose their leaves on the southbank at the riparian site. Mulefat, which was blooming profusely in November, is no longer blooming. Dried vegetation is very dense tall, such as cocklebur, providing lots of tall fuels.


Mountain Region: Live Fuel Moisture (LFM)
California Sagebrush (ARTCAL)
2012-2017
Fuel Moisture (%)
280%
260%
240%
220%
200%
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec


Valley Region: Live Fuel Moisture (LFM) California
Sagebrush (ARTCAL)
2012-2017
Fuel Moisture (%)
280%
260%
240%
220%
200%
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec


Coastal Region: Live Fuel Moisture (LFM) California
Sagebrush (ARTCAL)
2012-2017
Fuel Moisture (%)
280%
260%
240%
220%
200%
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Critical LFM Fire Threshold
Large Fire Threshold
Min LFM ARTCAL (2012-2017)
Avg LFM ARTCAL (2012-2017)

Location: Coastal region **Date:** Dec. 7, 2017 **Notes:** ARTCAL shrubs covered in dried leaves, no new leaves observed yet.	
Location: Valley region **Date:** Dec. 7, 2017 **Notes:** Very dry conditions in the valley region	
Location: Riparian site **Date:** Dec. 7, 2017 **Notes:** Very dense and tall dried vegetation on the banks	

Location: Mountain region **Date:** Dec. 7, 2017 **Notes:** Dangerously dry conditions in the mountain region	

Attachment 3

Southern California Geographic Area Coordination Center's Bi-Monthly Fuels Discussion for Southern and Central California, December 7, 2017

BI-MONTHLY FUELS DISCUSSION

For Southern and Central California

Updated: Thursday, December 7th, 2017
Next Routine Update: Thursday, December 21st, 2017

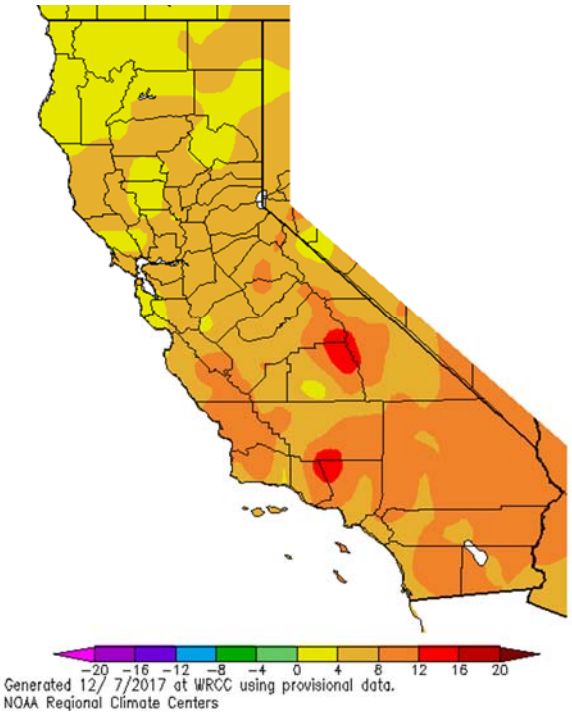
General Discussion:

Thanksgiving was like much of the fall this year; hot and dry. Record high temperatures occurred over much of Southern California as high pressure along with offshore winds brought strong drying conditions to the area. Widespread 90+ degree readings were recorded over coastal and valley areas with sunny skies. This caused fuel moisture values to drop back to record low readings after recovering a bit during the middle of last month.

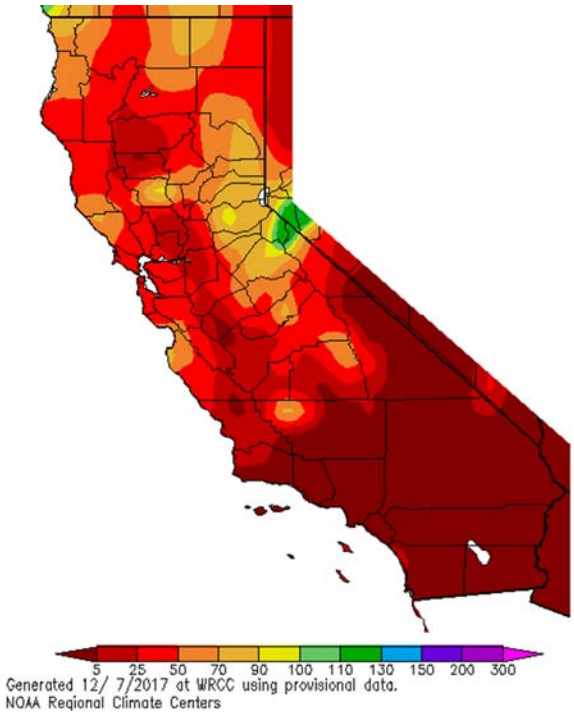
The first full week of December brought one of the strongest offshore flow events in recent years. Wind gusts surpassed 80 mph on December 5th and 7th and RH dropped below 5% over many areas below 7,000 feet. Several large fires exploded in response to the very dry and windy conditions with extreme fire behavior over most incidents. Rates of spread were tremendous and the wind driven fires caused crews to perform rescue operations as opposed to direct attack. Air resources were grounded much of the time due to the extreme winds. The explosive fire conditions well past the normal time of year when fires cease to occur is a dramatic example of the dryness of the fuels and the overall health of area vegetation.

Long range models offer little hope for precipitation. A strong ridge is expected to remain stationary along the West Coast the rest of the month which will keep the storm track far away from the state. A high amount of initial attack and resource demand is likely through the 21st of December, if not longer.

Departure from average temperature



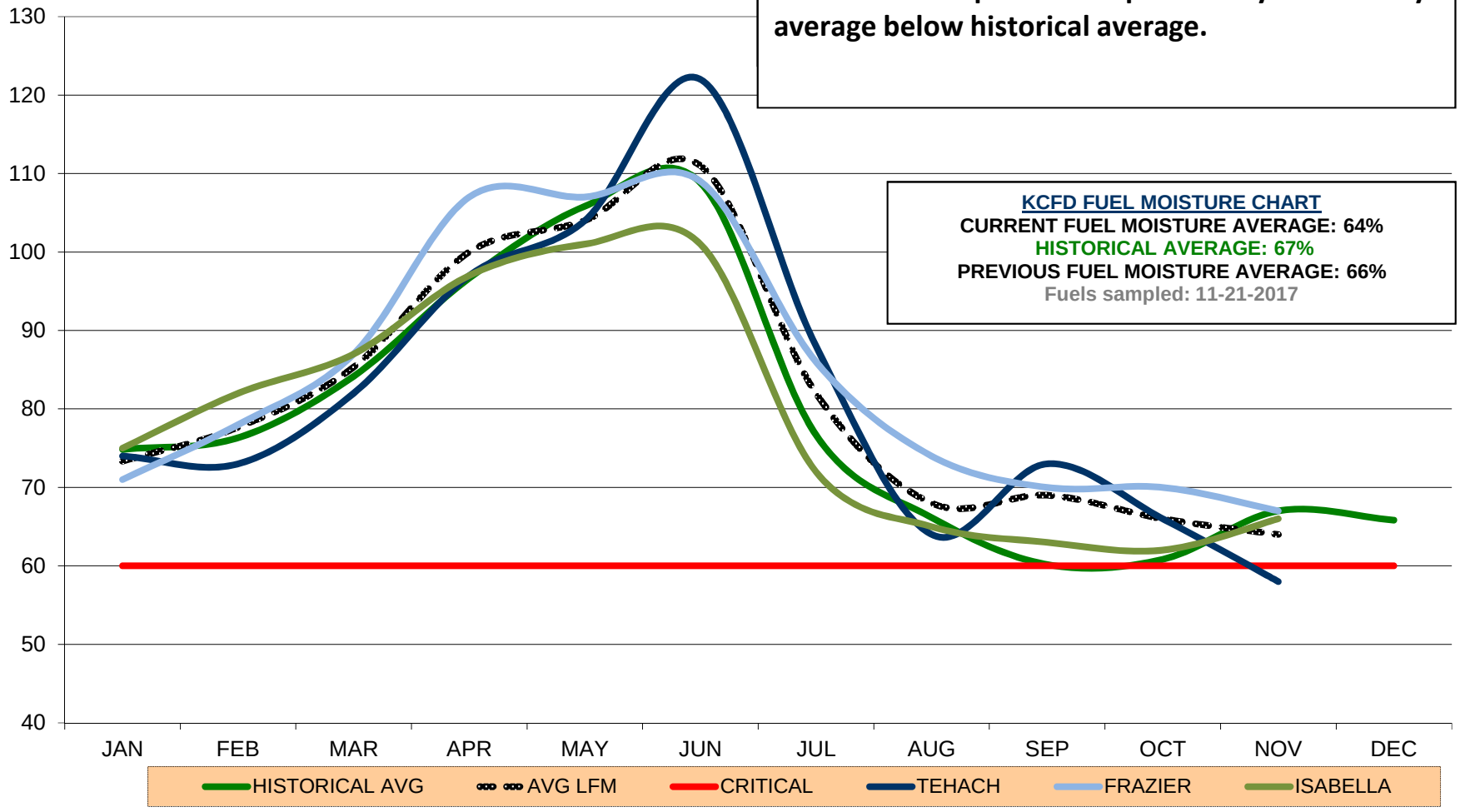
% of normal precipitation



KERN COUNTY FIRE DEPARTMENT
LIVE FUEL MOISTURE NOVEMBER 2017
AVERAGE OF DOMINANT FUELS

Fuels/Fire Discussion

Fuels measured were Mtn Mahagony, Ceanothus, Sage and Manzanita between 3400'-4600'. LFM's continue to drop to lowest point this year. County average below historical average.



KCFD FUEL MOISTURE CHART

CURRENT FUEL MOISTURE AVERAGE: 64%

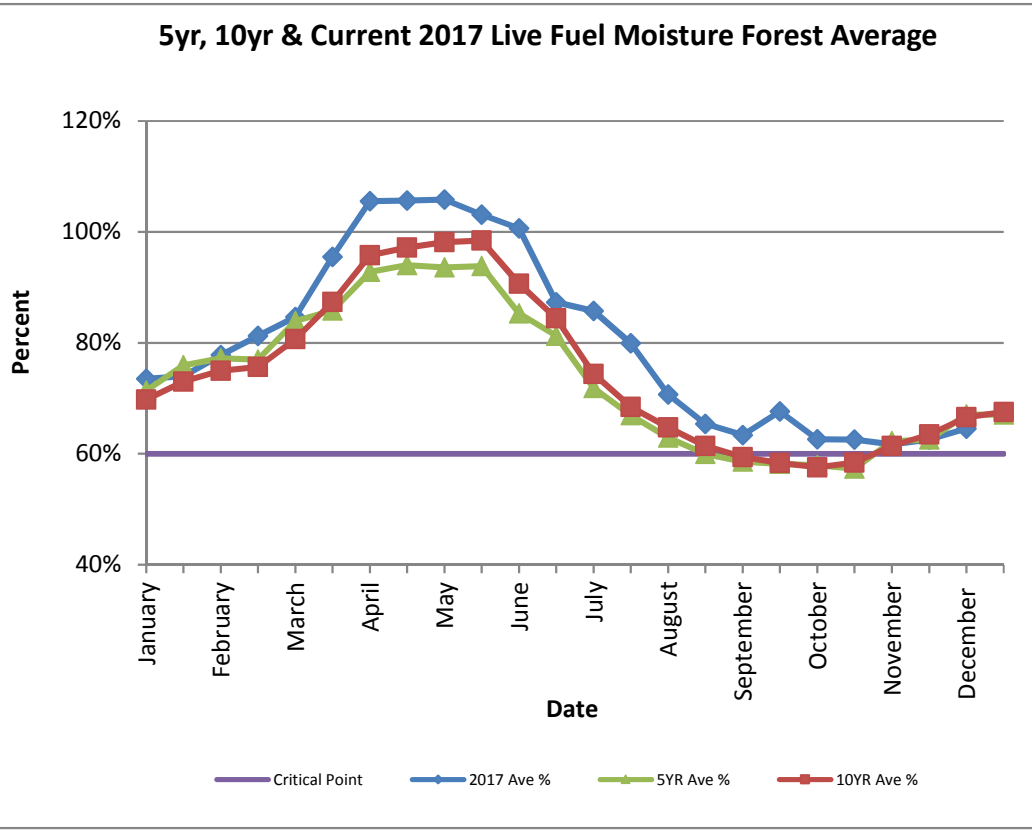
HISTORICAL AVERAGE: 67%

PREVIOUS FUEL MOISTURE AVERAGE: 66%

Fuels sampled: 11-21-2017

Fuel Moisture Average for the Los Padres National Forest

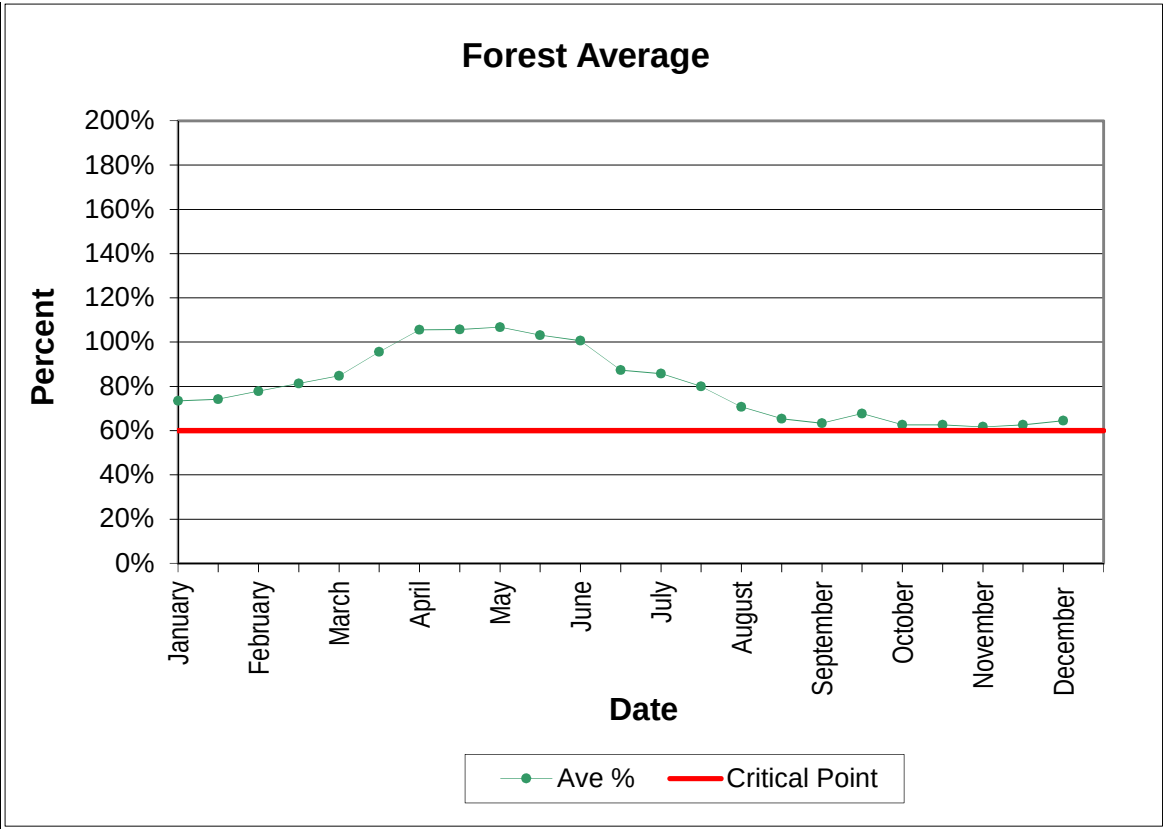
	Date	2017 Ave %	5YR Ave %	10YR Ave %	Critical Point
January	1/1/2017	73.52%	71.37%	69.81%	60%
	1/15/2017	74.00%	75.94%	73.02%	60%
February	2/1/2017	77.83%	77.22%	75.00%	60%
	2/15/2017	81.26%	76.98%	75.65%	60%
March	3/1/2017	84.68%	83.91%	80.66%	60%
	3/15/2017	95.53%	85.83%	87.39%	60%
April	4/1/2017	105.54%	92.80%	95.78%	60%
	4/15/2017	105.69%	94.03%	97.19%	60%
May	5/1/2017	105.85%	93.63%	98.15%	60%
	5/15/2017	103.13%	93.83%	98.45%	60%
June	6/1/2017	100.66%	85.31%	90.65%	60%
	6/15/2017	87.31%	81.26%	84.46%	60%
July	7/1/2017	85.78%	71.89%	74.41%	60%
	7/15/2017	79.93%	66.96%	68.48%	60%
August	8/1/2017	70.73%	62.92%	64.76%	60%
	8/15/2017	65.37%	59.99%	61.44%	60%
September	9/1/2017	63.35%	58.56%	59.40%	60%
	9/15/2017	67.62%	58.18%	58.36%	60%
October	10/1/2017	62.61%	57.96%	57.58%	60%
	10/15/2017	62.59%	57.30%	58.39%	60%
November	11/1/2017	61.69%	62.30%	61.39%	60%
	11/15/2017	62.58%	62.56%	63.49%	60%
December	12/1/2017	64.52%	67.04%	66.58%	60%
	12/15/2017		67.05%	67.55%	60%



updated: 12/1/2017

Fuel Moisture Average for the Los Padres National Forest

	Date	Ave %	Critical Point
January	1/1/2017	73.52%	60%
	1/15/2017	74%	60%
February	2/1/2017	77.83%	60%
	2/15/2017	81.26%	60%
March	3/1/2017	84.68%	60%
	3/15/2017	95.53%	60%
April	4/1/2017	105.54%	60%
	4/15/2017	105.69%	60%
May	5/1/2017	106.74%	60%
	5/15/2017	103.13%	60%
June	6/1/2017	100.66%	60%
	6/15/2017	87.31%	60%
July	7/1/2017	85.78%	60%
	7/15/2017	79.93%	60%
August	8/1/2017	70.73%	60%
	8/15/2017	65.37%	60%
September	9/1/2017	63.35%	60%
	9/15/2017	67.62%	60%
October	10/1/2017	62.61%	60%
	10/15/2017	62.59%	60%
November	11/1/2017	61.69%	60%
	11/15/2017	62.58%	60%
December	12/1/2017	64.52%	60%
	12/15/2017		60%



updated: 12/1/2017

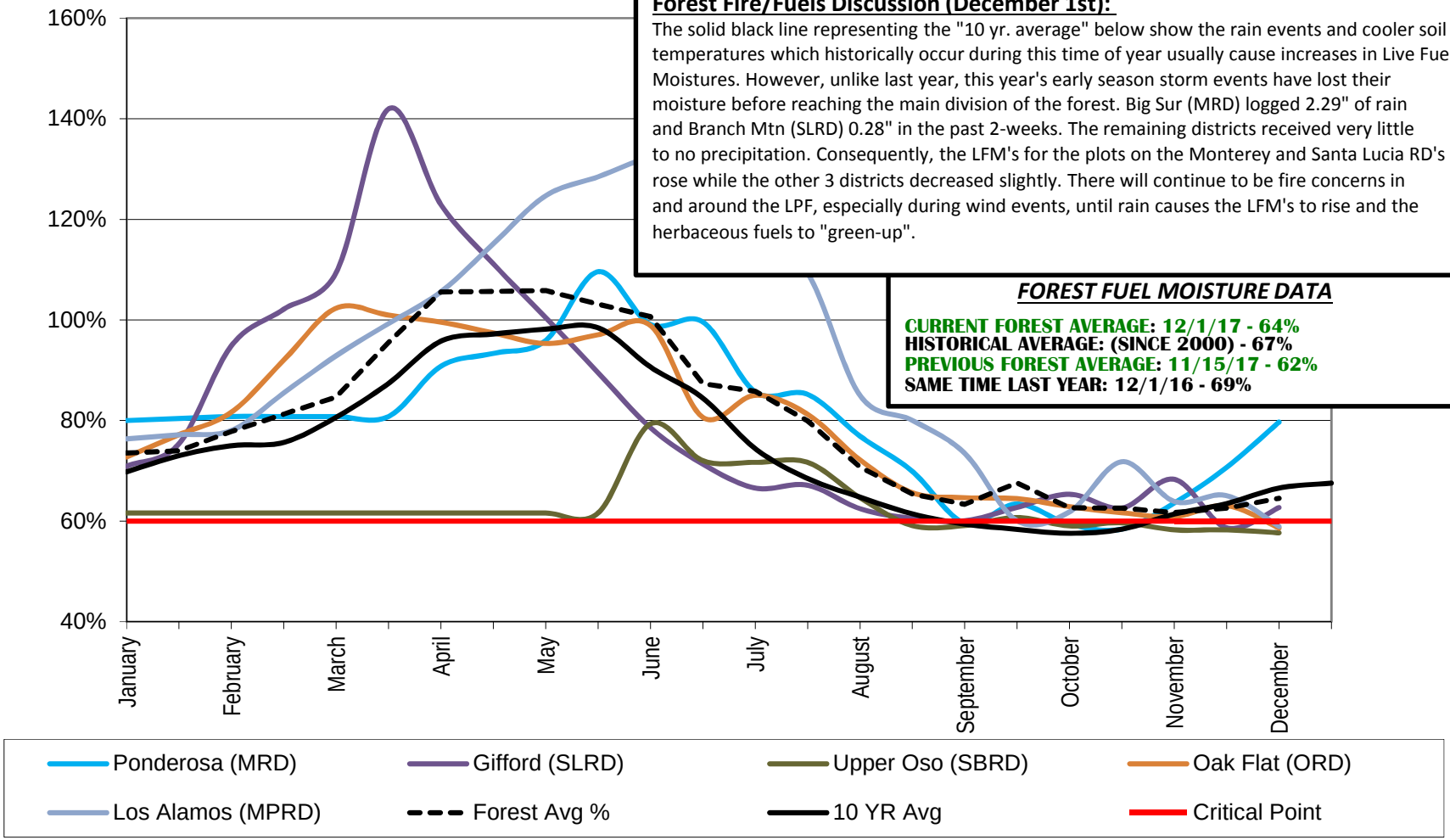
LOS PADRES NATIONAL FOREST
LIVE FUEL MOISTURE DATA 2017

Forest Fire/Fuels Discussion (December 1st):

The solid black line representing the "10 yr. average" below show the rain events and cooler soil temperatures which historically occur during this time of year usually cause increases in Live Fuel Moistures. However, unlike last year, this year's early season storm events have lost their moisture before reaching the main division of the forest. Big Sur (MRD) logged 2.29" of rain and Branch Mtn (SLRD) 0.28" in the past 2-weeks. The remaining districts received very little to no precipitation. Consequently, the LFM's for the plots on the Monterey and Santa Lucia RD's rose while the other 3 districts decreased slightly. There will continue to be fire concerns in and around the LPF, especially during wind events, until rain causes the LFM's to rise and the herbaceous fuels to "green-up".

FOREST FUEL MOISTURE DATA

CURRENT FOREST AVERAGE: 12/1/17 - 64%
HISTORICAL AVERAGE: (SINCE 2000) - 67%
PREVIOUS FOREST AVERAGE: 11/15/17 - 62%
SAME TIME LAST YEAR: 12/1/16 - 69%

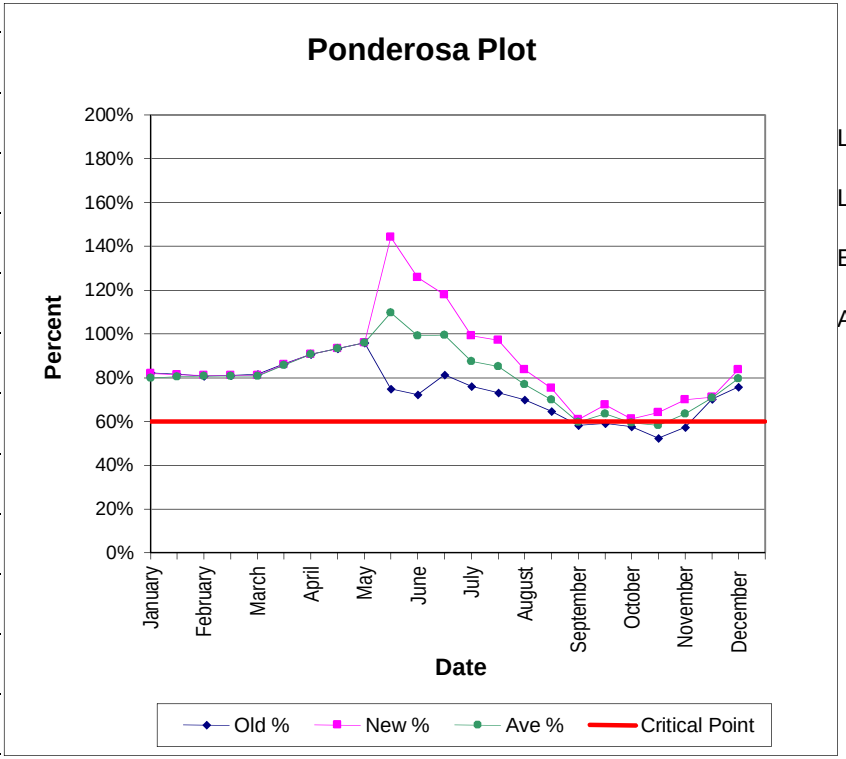


	Date	Ponderosa (MRD)	Gifford (SLRD)	Upper Oso (SBRD)	Oak Flat (ORD)
January	1/1/2017	80.00%	70.88%	61.61%	72.74%
	1/15/2017	80.40%	75.39%	61.61%	77.19%
February	2/1/2017	80.80%	94.87%	61.61%	81.65%
	2/15/2017	80.80%	102.13%	61.61%	92.00%
March	3/1/2017	80.80%	109.39%	61.61%	102.35%
	3/15/2017	80.80%	141.96%	61.61%	100.95%
April	4/1/2017	90.80%	122.94%	61.61%	99.56%
	4/15/2017	93.35%	111.17%	61.61%	97.43%
May	5/1/2017	95.90%	100.48%	61.61%	95.31%
	5/15/2017	109.60%	89.52%	61.61%	97.05%
June	6/1/2017	99.10%	78.57%	79.34%	98.89%
	6/15/2017	99.60%	71.33%	72.02%	80.64%
July	7/1/2017	85.70%	66.57%	71.68%	85.03%
	7/15/2017	85.20%	67.13%	71.68%	81.24%
August	8/1/2017	76.90%	62.48%	64.65%	72.17%
	8/15/2017	69.90%	60.53%	59.11%	65.65%
September	9/1/2017	59.60%	60.07%	59.11%	64.67%
	9/15/2017	63.40%	62.73%	60.71%	64.46%
October	10/1/2017	59.40%	65.34%	59.05%	62.88%
	10/15/2017	58.40%	62.59%	59.66%	61.67%
November	11/1/2017	63.60%	68.31%	58.26%	60.87%
	11/15/2017	70.70%	58.67%	58.26%	63.08%
December	12/1/2017	79.70%	62.69%	57.67%	58.60%
	12/15/2017				

Los Alamos (MPRD)	Forest Avg %	10 YR Avg	Critical Point
76.35%	73.52%	69.81%	60%
77.18%	74.00%	73.02%	60%
78.02%	77.83%	75.00%	60%
85.46%	81.26%	75.65%	60%
92.91%	84.68%	80.66%	60%
99.25%	95.53%	87.39%	60%
105.60%	105.54%	95.78%	60%
115.15%	105.69%	97.19%	60%
124.70%	105.85%	98.15%	60%
128.46%	103.13%	98.45%	60%
132.23%	100.66%	90.65%	60%
132.23%	87.31%	84.46%	60%
117.11%	85.78%	74.41%	60%
109.28%	79.93%	68.48%	60%
85.00%	70.73%	64.76%	60%
80.03%	65.37%	61.44%	60%
73.47%	63.35%	59.40%	60%
60.06%	67.62%	58.36%	60%
61.84%	62.63%	57.58%	60%
71.81%	62.59%	58.39%	60%
63.91%	61.69%	61.39%	60%
65.07%	62.58%	63.49%	60%
58.92%	64.52%	66.58%	60%
		67.55%	60%

Fuel Moisture Data for Ponderosa Plot

	Date	Old %	New %	Ave %	Critical Point
January	1/1/2017	82.30%	81.80%	80.00%	60%
	1/15/2017	81.55%	81.40%	80.40%	60%
February	2/1/2017	80.80%	81.00%	80.80%	60%
	2/15/2017	81.20%	81.00%	80.80%	60%
March	3/1/2017	81.60%	81.00%	80.80%	60%
	3/15/2017	86.20%	85.90%	85.80%	60%
April	4/1/2017	90.80%	90.80%	90.80%	60%
	4/15/2017	93.35%	93.35%	93.35%	60%
May	5/1/2017	95.90%	95.90%	95.90%	60%
	5/15/2017	74.90%	144.30%	109.60%	60%
June	6/1/2017	72.20%	125.90%	99.10%	60%
	6/15/2017	81.40%	117.80%	99.60%	60%
July	7/1/2017	76.00%	99.10%	87.50%	60%
	7/15/2017	73.30%	97.00%	85.20%	60%
August	8/1/2017	70.10%	83.70%	76.90%	60%
	8/15/2017	64.70%	75.20%	69.90%	60%
September	9/1/2017	58.40%	60.90%	59.60%	60%
	9/15/2017	59.10%	67.70%	63.40%	60%
October	10/1/2017	57.60%	61.20%	59.40%	60%
	10/15/2017	52.50%	64.20%	58.40%	60%
November	11/1/2017	57.30%	70.00%	63.60%	60%
	11/15/2017	70.20%	71.10%	70.70%	60%
December	12/1/2017	75.70%	83.80%	79.70%	60%
	12/15/2017				60%



Lat: 36, 00.288

Long: 121, 23.199

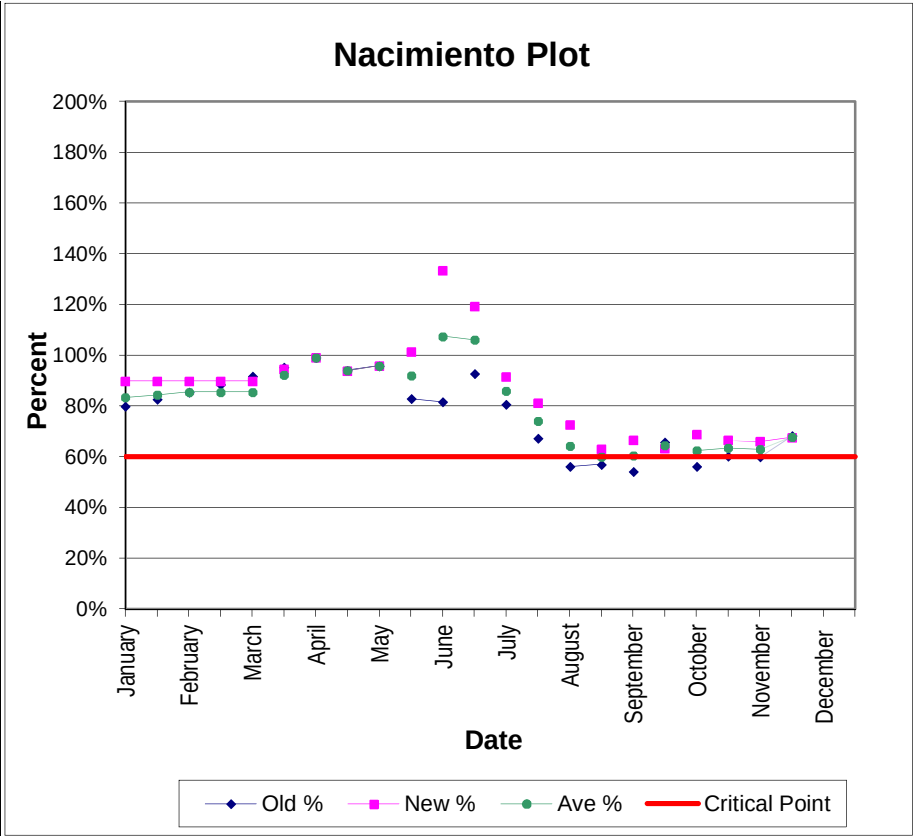
Elev: 1,600'

Apect: South

updated: 12/1/2017

Fuel Moisture Data for Nacimiento Plot

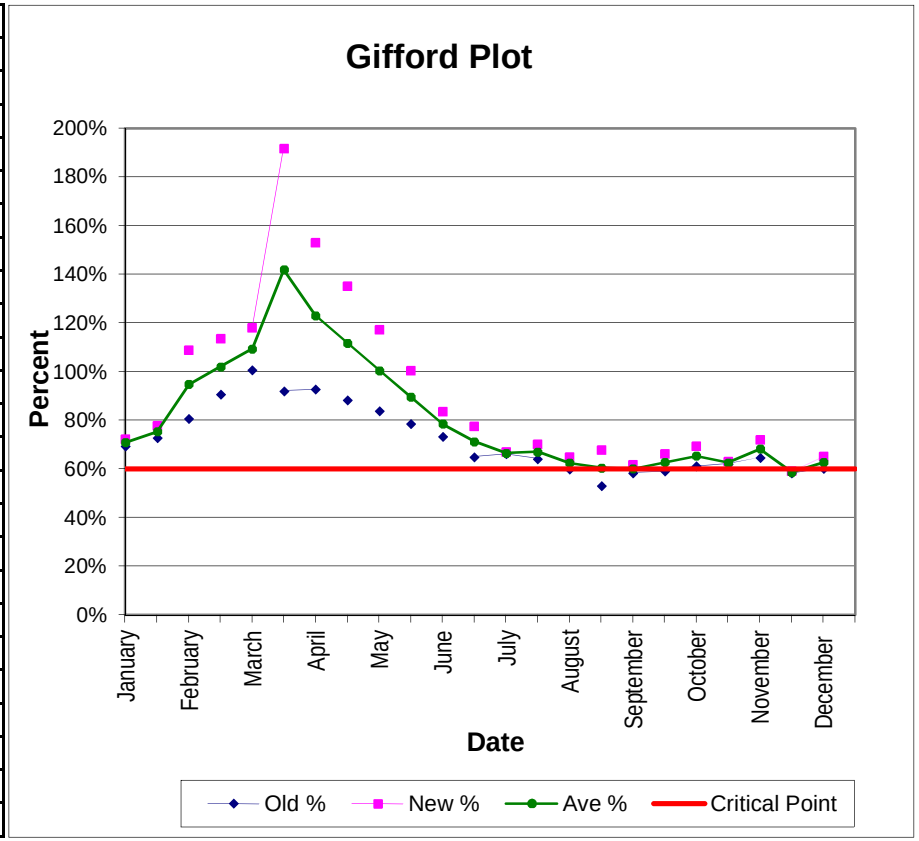
	Date	Old %	New %	Ave %	Critical Point
January	1/1/2017	80.00%	89.80%	83.40%	60%
	1/15/2017	82.75%	89.80%	84.45%	60%
February	2/1/2017	85.50%	89.80%	85.50%	60%
	2/15/2017	88.60%	89.80%	85.50%	60%
March	3/1/2017	91.70%	89.80%	85.50%	60%
	3/15/2017	95.40%	94.45%	92.30%	60%
April	4/1/2017	99.10%	99.10%	99.10%	60%
	4/15/2017	94.05%	93.80%	93.95%	60%
May	5/1/2017	95.90%	95.90%	95.90%	60%
	5/15/2017	82.90%	101.30%	92.10%	60%
June	6/1/2017	81.60%	133.50%	107.50%	60%
	6/15/2017	92.80%	119.30%	106.10%	60%
July	7/1/2017	80.70%	91.40%	86.00%	60%
	7/15/2017	67.30%	81.10%	74.20%	60%
August	8/1/2017	56.10%	72.50%	64.30%	60%
	8/15/2017	57.00%	62.90%	59.90%	60%
September	9/1/2017	54.30%	66.60%	60.50%	60%
	9/15/2017	65.80%	63.30%	64.60%	60%
October	10/1/2017	56.20%	68.70%	62.40%	60%
	10/15/2017	60.20%	66.50%	63.40%	60%
November	11/1/2017	59.90%	66.00%	62.90%	60%
	11/15/2017	68.20%	67.60%	67.90%	60%
December	12/1/2017	74.50%	80.80%	77.70%	60%
	12/15/2017				60%



updated: 12/1/2017

Fuel Moisture Data for Buckhorn Plot

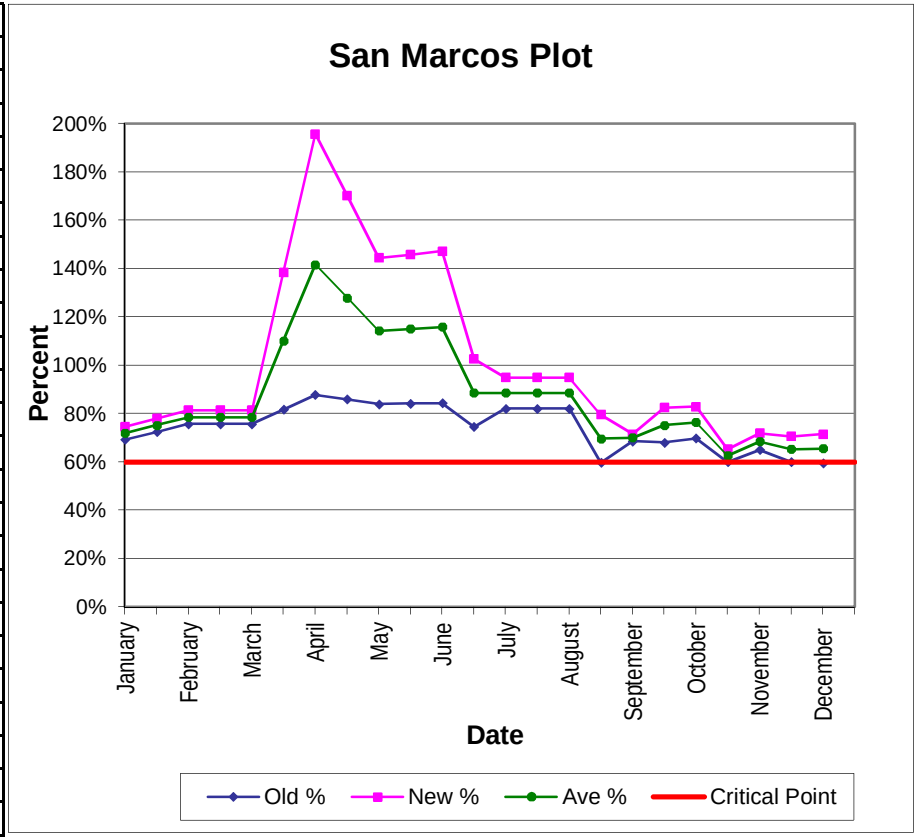
	Date	Old %	New %	Ave %	Critical Point
January	1/1/2017	69.44%	72.31%	70.88%	60%
	1/15/2017	72.89%	77.88%	75.39%	60%
February	2/1/2017	80.83%	108.92%	94.87%	60%
	2/15/2017	90.80%	113.46%	102.13%	60%
March	3/1/2017	100.77%	118.01%	109.39%	60%
	3/15/2017	92.10%	191.82%	141.96%	60%
April	4/1/2017	92.71%	153.17%	122.94%	60%
	4/15/2017	88.24%	135.18%	111.71%	60%
May	5/1/2017	83.78%	117.19%	100.48%	60%
	5/15/2017	78.62%	100.43%	89.52%	60%
June	6/1/2017	73.47%	83.68%	78.57%	60%
	6/15/2017	65.01%	77.64%	71.33%	60%
July	7/1/2017	66.13%	67.02%	66.57%	60%
	7/15/2017	64.16%	70.09%	67.13%	60%
August	8/1/2017	59.93%	65.03%	62.48%	60%
	8/15/2017	53.14%	67.92%	60.53%	60%
September	9/1/2017	58.41%	61.72%	60.07%	60%
	9/15/2017	59.10%	66.35%	62.73%	60%
October	10/1/2017	61.20%	69.47%	65.34%	60%
	10/15/2017	62.06%	63.13%	62.59%	60%
November	11/1/2017	64.68%	71.94%	68.31%	60%
	11/15/2017	58.26%	59.07%	58.67%	60%
December	12/1/2017	60.27%	65.11%	62.69%	60%
	12/15/2017				60%



updated: 12/1/2017

Fuel Moisture Data for
San Marcos Plot

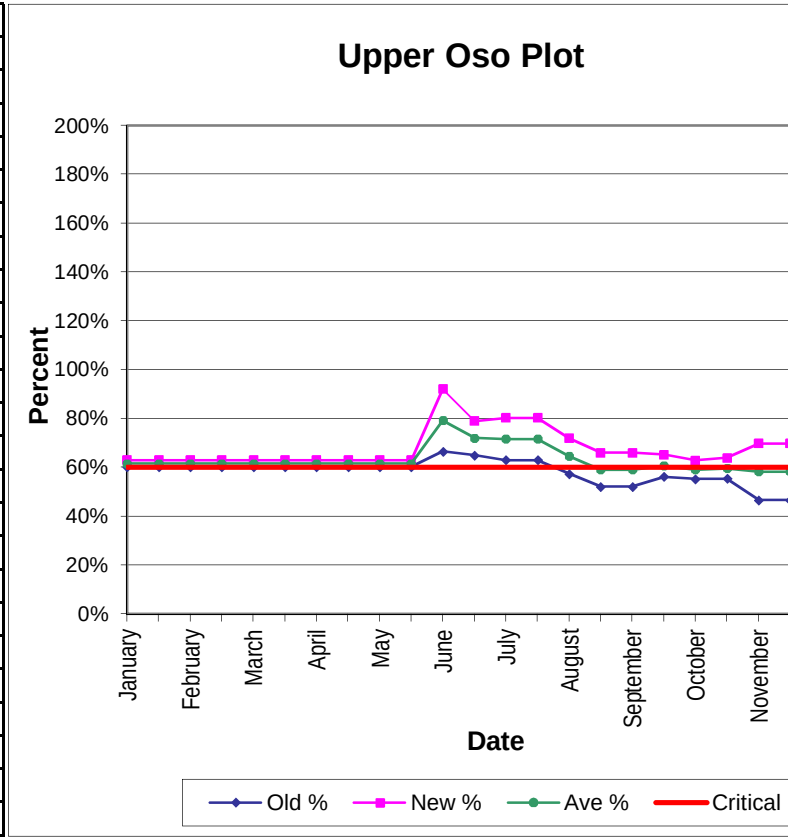
	Date	Old %	New %	Ave %	Critical Point
January	1/1/2017	69.28%	74.62%	71.95%	60%
	1/15/2017	72.54%	78.03%	75.29%	60%
February	2/1/2017	75.80%	81.44%	78.62%	60%
	2/15/2017	75.80%	81.44%	78.62%	60%
March	3/1/2017	75.80%	81.44%	78.62%	60%
	3/15/2017	81.82%	138.61%	110.21%	60%
April	4/1/2017	87.84%	195.78%	141.81%	60%
	4/15/2017	85.94%	170.16%	128.04%	60%
May	5/1/2017	84.04%	144.53%	114.28%	60%
	5/15/2017	84.23%	145.91%	115.07%	60%
June	6/1/2017	84.42%	147.29%	115.86%	60%
	6/15/2017	74.62%	102.67%	88.64%	60%
July	7/1/2017	82.22%	94.94%	88.58%	60%
	7/15/2017	82.22%	94.94%	88.58%	60%
August	8/1/2017	82.22%	94.94%	88.58%	60%
	8/15/2017	59.82%	79.62%	69.72%	60%
September	9/1/2017	68.62%	71.59%	70.11%	60%
	9/15/2017	68.12%	82.55%	75.33%	60%
October	10/1/2017	69.90%	82.91%	76.40%	60%
	10/15/2017	59.98%	65.36%	62.67%	60%
November	11/1/2017	65.05%	71.96%	68.50%	60%
	11/15/2017	60.06%	70.63%	65.35%	60%
December	12/1/2017	59.60%	71.50%	65.55%	60%
	12/15/2017				60%



updated: 12/1/2017

Fuel Moisture Data for
Upper Oso Plot

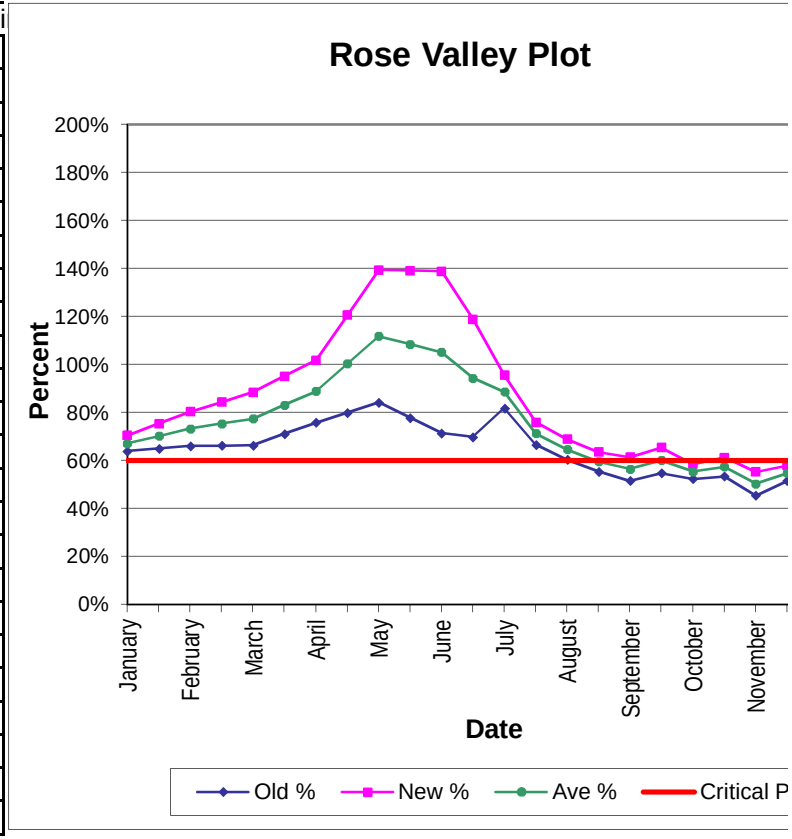
		Date	Old %	New %	Ave %	Critical Point
January	January	1/1/2017	60.24%	62.98%	61.61%	60%
		1/15/2017	60.24%	62.98%	61.61%	60%
February	February	2/1/2017	60.24%	62.98%	61.61%	60%
		2/15/2017	60.24%	62.98%	61.61%	60%
March	March	3/1/2017	60.24%	62.98%	61.61%	60%
		3/15/2017	60.24%	62.98%	61.61%	60%
April	April	4/1/2017	60.24%	62.98%	61.61%	60%
		4/15/2017	60.24%	62.98%	61.61%	60%
May	May	5/1/2017	60.24%	62.98%	61.61%	60%
		5/15/2017	60.24%	62.98%	61.61%	60%
June	June	6/1/2017	66.57%	92.12%	79.34%	60%
		6/15/2017	65.04%	78.97%	72.01%	60%
July	July	7/1/2017	63.06%	80.31%	71.68%	60%
		7/15/2017	63.06%	80.31%	71.68%	60%
August	August	8/1/2017	57.41%	71.89%	64.65%	60%
		8/15/2017	52.19%	66.03%	59.11%	60%
September	September	9/1/2017	52.19%	66.03%	59.11%	60%
		9/15/2017	56.20%	65.22%	60.71%	60%
October	October	10/1/2017	55.25%	62.84%	59.05%	60%
		10/15/2017	55.37%	63.95%	59.66%	60%
November	November	11/1/2017	46.68%	69.84%	58.26%	60%
		11/15/2017	46.68%	69.84%	58.26%	60%
December	December	12/1/2017	54.09%	61.26%	57.67%	60%
		12/15/2017				60%



updated: 12/1/2017

Fuel Moisture Data For Rose Valley Plot

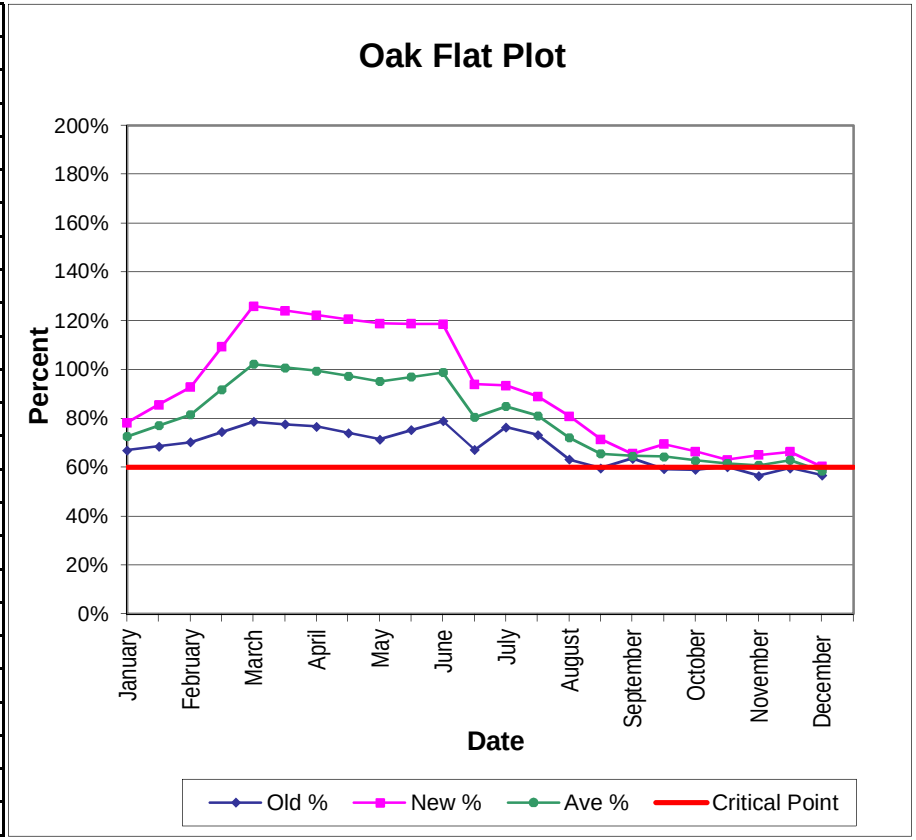
		Date	Old %	New %	Ave %	Critical Poi
January	January	1/1/2017	63.90%	70.54%	67.22%	60%
		1/15/2017	65.02%	75.45%	70.24%	60%
February	February	2/1/2017	66.15%	80.37%	73.26%	60%
		2/15/2017	66.29%	84.43%	75.45%	60%
March	March	3/1/2017	66.42%	88.49%	77.45%	60%
		3/15/2017	71.15%	95.17%	83.16%	60%
April	April	4/1/2017	75.87%	101.86%	88.87%	60%
		4/15/2017	80.02%	120.69%	100.36%	60%
May	May	5/1/2017	84.18%	139.53%	111.86%	60%
		5/15/2017	77.78%	139.23%	108.51%	60%
June	June	6/1/2017	71.39%	138.94%	105.16%	60%
		6/15/2017	69.79%	118.90%	94.34%	60%
July	July	7/1/2017	81.87%	95.56%	88.71%	60%
		7/15/2017	66.63%	75.98%	71.31%	60%
August	August	8/1/2017	60.39%	68.88%	64.63%	60%
		8/15/2017	55.47%	63.55%	59.51%	60%
September	September	9/1/2017	51.54%	61.49%	56.52%	60%
		9/15/2017	54.73%	65.39%	60.06%	60%
October	October	10/1/2017	52.39%	58.53%	55.46%	60%
		10/15/2017	53.49%	61.33%	57.41%	60%
November	November	11/1/2017	45.46%	55.27%	50.36%	60%
		11/15/2017	51.59%	57.93%	54.76%	60%
December	December	12/1/2017	55.57%	59.34%	57.45%	60%
		12/15/2017				60%



updated: 12/1/2017

Fuel Moisture for the Oak Flat Plot

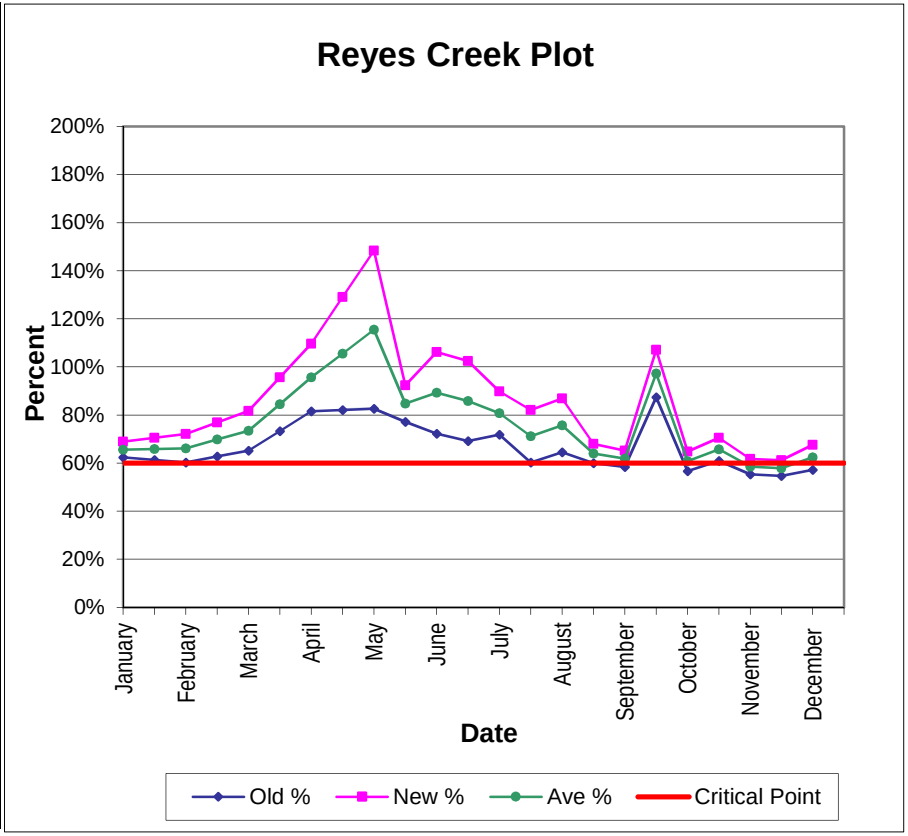
	Date	Old %	New %	Ave %	Critical Point
January	1/1/2017	67.08%	78.39%	72.74%	60%
	1/15/2017	68.73%	85.66%	77.19%	60%
February	2/1/2017	70.37%	92.94%	81.65%	60%
	2/15/2017	74.54%	109.46%	92.00%	60%
March	3/1/2017	78.71%	125.99%	102.35%	60%
	3/15/2017	77.73%	124.17%	100.95%	60%
April	4/1/2017	76.76%	122.36%	99.56%	60%
	4/15/2017	74.17%	120.69%	97.43%	60%
May	5/1/2017	71.59%	119.03%	95.31%	60%
	5/15/2017	75.30%	118.89%	97.05%	60%
June	6/1/2017	79.02%	118.75%	98.89%	60%
	6/15/2017	67.17%	94.11%	80.64%	60%
July	7/1/2017	76.53%	93.53%	85.03%	60%
	7/15/2017	73.37%	89.10%	81.24%	60%
August	8/1/2017	63.30%	81.03%	72.17%	60%
	8/15/2017	59.77%	71.52%	65.65%	60%
September	9/1/2017	63.70%	65.63%	64.67%	60%
	9/15/2017	59.32%	69.59%	64.46%	60%
October	10/1/2017	59.14%	66.63%	62.88%	60%
	10/15/2017	60.25%	63.10%	61.67%	60%
November	11/1/2017	56.61%	65.13%	60.87%	60%
	11/15/2017	59.72%	66.44%	63.08%	60%
December	12/1/2017	56.86%	60.35%	58.60%	60%
	12/15/2017				60%



updated: 12/1/2017

Fuel Moisture for the Reyes Creek Plot

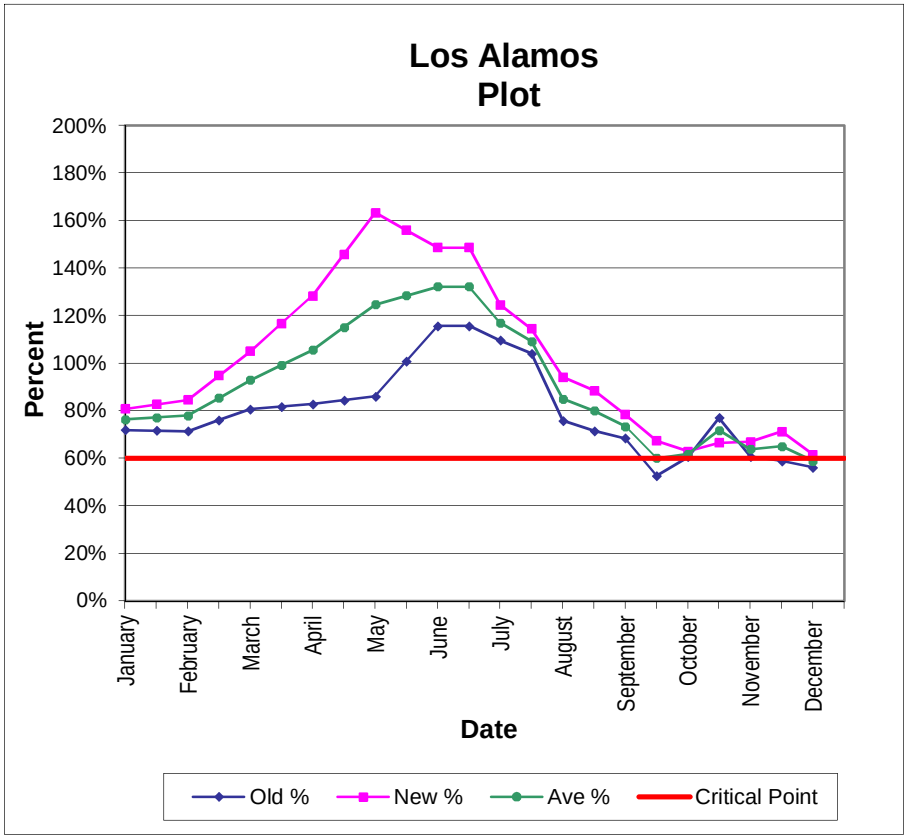
	Date	Old %	New %	Ave %	Critical Point
January	1/1/2017	62.34%	68.95%	65.64%	60%
	1/15/2017	61.33%	70.49%	65.91%	60%
February	2/1/2017	60.32%	72.04%	66.18%	60%
	2/15/2017	62.74%	76.89%	69.81%	60%
March	3/1/2017	65.16%	81.74%	73.45%	60%
	3/15/2017	73.34%	95.70%	84.52%	60%
April	4/1/2017	81.52%	109.67%	95.60%	60%
	4/15/2017	82.05%	129.04%	105.54%	60%
May	5/1/2017	82.58%	148.41%	115.49%	60%
	5/15/2017	77.15%	92.30%	84.73%	60%
June	6/1/2017	72.28%	106.21%	89.26%	60%
	6/15/2017	69.14%	102.45%	85.80%	60%
July	7/1/2017	71.85%	89.80%	80.82%	60%
	7/15/2017	60.29%	82.02%	71.16%	60%
August	8/1/2017	64.49%	86.86%	75.67%	60%
	8/15/2017	60.05%	67.96%	64.00%	60%
September	9/1/2017	58.45%	65.22%	61.84%	60%
	9/15/2017	87.46%	107.08%	97.27%	60%
October	10/1/2017	56.62%	64.84%	60.73%	60%
	10/15/2017	60.92%	70.47%	65.70%	60%
November	11/1/2017	55.36%	61.73%	58.54%	60%
	11/15/2017	54.62%	61.15%	57.88%	60%
December	12/1/2017	57.13%	67.59%	62.36%	60%
	12/15/2017				60%



updated: 12/1/2017

Fuel Moisture for the Hardluck Plot

	Date	Old %	New %	Ave %	Critical Point
January	1/1/2017	71.91%	80.79%	76.35%	60%
	1/15/2017	71.66%	82.70%	77.18%	60%
February	2/1/2017	71.42%	84.61%	78.02%	60%
	2/15/2017	76.08%	94.84%	85.46%	60%
March	3/1/2017	80.74%	105.07%	92.91%	60%
	3/15/2017	81.78%	116.72%	99.25%	60%
April	4/1/2017	82.82%	128.37%	105.60%	60%
	4/15/2017	84.44%	145.84%	115.15%	60%
May	5/1/2017	86.07%	163.32%	124.70%	60%
	5/15/2017	100.89%	156.02%	128.46%	60%
June	6/1/2017	115.72%	148.73%	132.23%	60%
	6/15/2017	115.72%	148.73%	132.23%	60%
July	7/1/2017	109.63%	124.58%	117.11%	60%
	7/15/2017	104.07%	114.49%	109.28%	60%
August	8/1/2017	75.83%	94.18%	85.00%	60%
	8/15/2017	71.52%	88.55%	80.03%	60%
September	9/1/2017	68.46%	78.48%	73.47%	60%
	9/15/2017	52.70%	67.42%	60.06%	60%
October	10/1/2017	60.70%	62.98%	61.84%	60%
	10/15/2017	77.06%	66.56%	71.81%	60%
November	11/1/2017	60.84%	66.97%	63.91%	60%
	11/15/2017	58.84%	71.30%	65.07%	60%
December	12/1/2017	56.22%	61.63%	58.92%	60%
	12/15/2017				60%

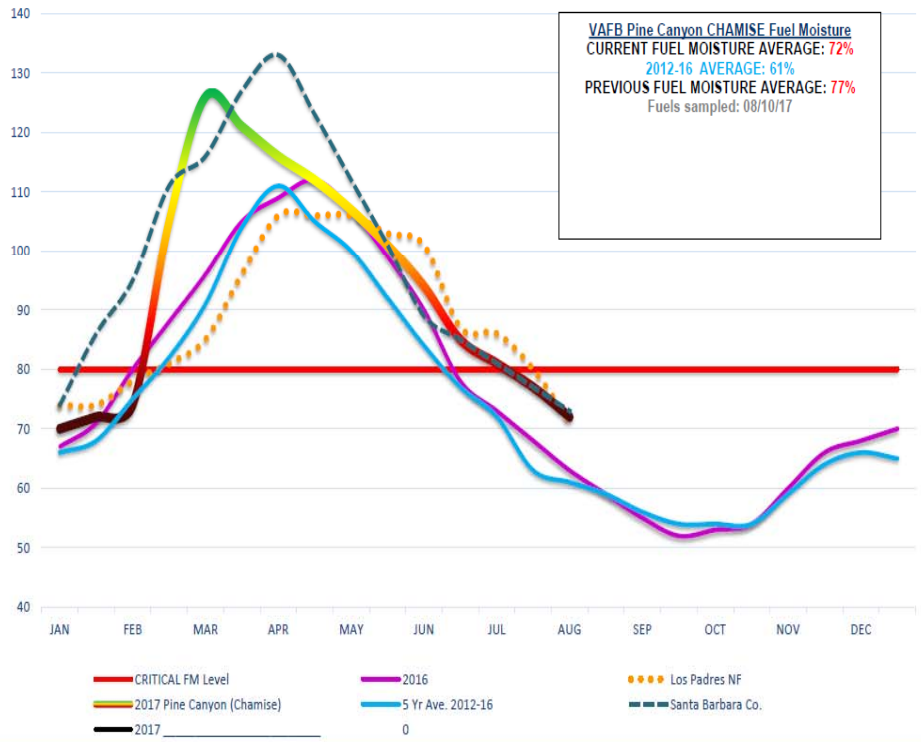


updated: 12/1/2017

AFV LFM Chart - Windows Photo Viewer

File Print E-mail Burn Open

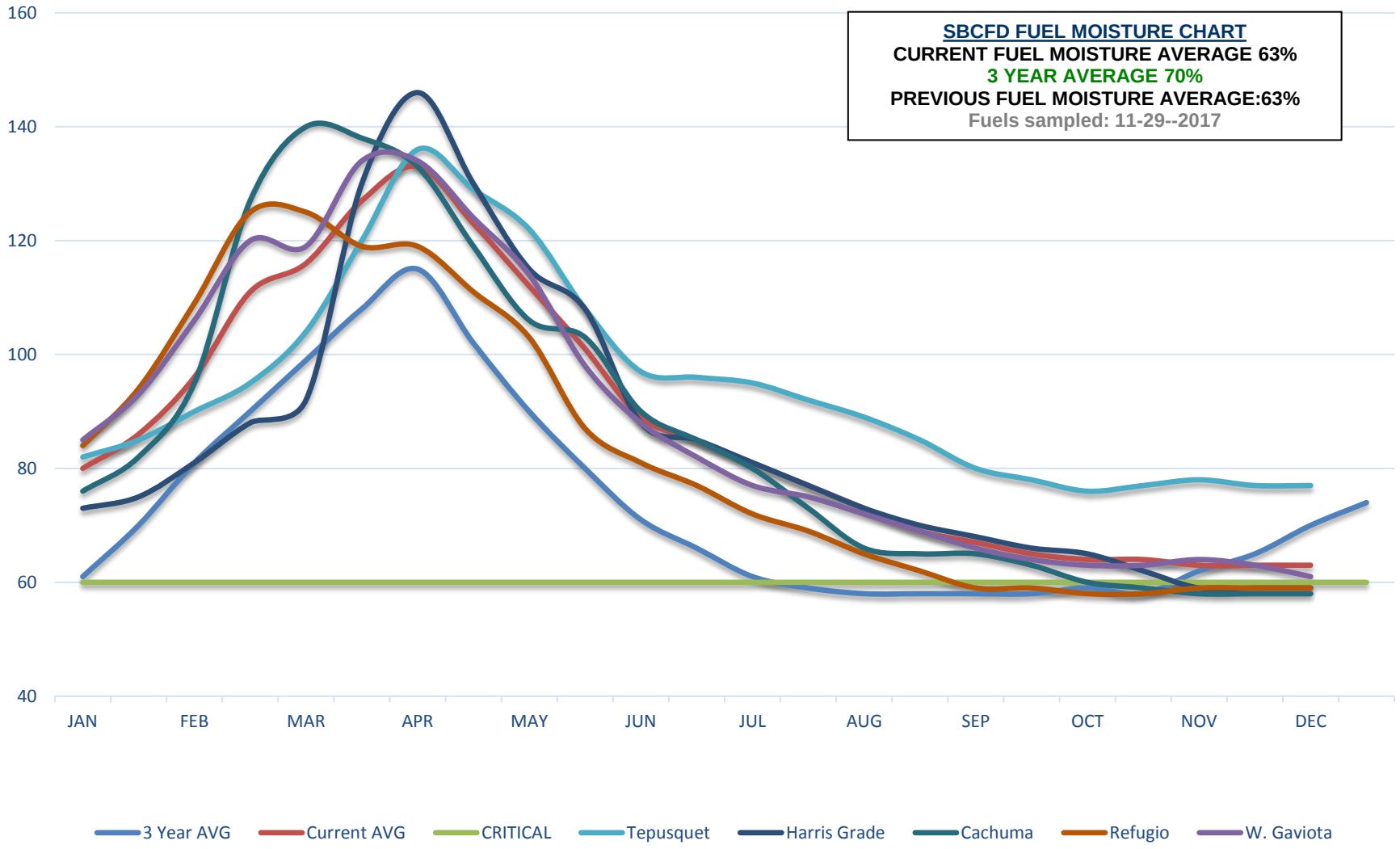
VANDENBERG FIRE DEPARTMENT
2017 LIVE FUEL MOISTURE
FUEL TYPE - Chamise
Plot Averages



	2000	2001	2002	2003	2004	2005	2006	2007	2008
Date	Ave %	Ave %	Ave %	Ave %	Ave %	Ave %	Ave %	Ave %	Ave %
1/1	66.50%	60.24%	71.38%	80.21%	74.31%	78.86%	68.30%	65.20%	65.00%
1/15	64.74%	64.13%	70.47%	81.67%	71.69%	79.52%	67.60%	64.00%	69.70%
2/1	68.48%	68.02%	74.35%	83.12%	69.06%	82.20%	67.30%	70.90%	71.40%
2/15	73.17%	74.39%	78.23%	85.98%	77.02%	92.48%	66.90%	66.00%	73.00%
3/1	77.87%	80.77%	82.12%	88.84%	84.97%	102.76%	71.40%	61.00%	74.70%
3/15	91.61%	87.15%	75.67%	94.17%	81.87%	111.16%	75.80%	79.50%	89.70%
4/1	105.35%	93.52%	69.22%	99.49%	78.76%	119.56%	80.30%	86.10%	104.60%
4/15	122.08%	107.02%	76.95%	105.55%	97.45%	117.88%	87.30%	80.80%	112.40%
5/1	138.82%	120.53%	84.67%	111.61%	101.75%	116.19%	94.30%	81.50%	120.20%
5/15	129.53%	117.03%	79.02%	116.83%	85.74%	115.56%	114.40%	82.20%	106.60%
6/1	120.25%	100.22%	64.63%	113.97%	76.25%	103.02%	116.00%	72.60%	92.90%
6/15	99.61%	93.53%	69.58%	100.49%	73.98%	87.86%	104.50%	67.80%	88.90%
7/1	68.54%	71.97%	58.61%	88.67%	66.80%	86.72%	88.30%	62.90%	74.20%
7/15	67.99%	77.65%	44.40%	76.92%	62.69%	74.54%	77.90%	59.50%	75.60%
8/1	66.50%	66.21%	56.34%	72.16%	58.56%	70.92%	70.40%	56.50%	71.90%
8/15	66.63%	74.86%	57.41%	65.90%	55.74%	65.62%	63.50%	57.80%	63.70%
9/1	66.19%	61.44%	57.48%	67.12%	57.62%	63.89%	64.40%	53.20%	61.80%
9/15	64.78%	52.66%	54.43%	61.54%	51.18%	51.20%	62.80%	54.40%	58.70%
10/1	61.05%	62.67%	55.91%	58.68%	54.52%	58.40%	57.00%	56.20%	59.00%
10/15	61.87%	58.40%	54.61%	59.55%	52.19%	60.41%	60.70%	57.00%	56.90%
11/1	65.30%	59.49%	53.15%	66.54%	66.27%	64.26%	58.10%	57.80%	56.70%
11/15	66.34%	67.38%	63.59%	64.96%	70.25%	66.43%	60.10%	58.50%	64.70%
12/1	67.38%	70.05%	77.00%	63.37%	74.22%	69.88%	60.20%	57.50%	68.90%
12/15	68.42%	72.29%	78.61%	63.12%	74.20%	69.03%	62.70%	61.10%	67.60%

2009	2010	2011	2012	2013	2014	2015	2016	Hist Avg
Ave %	Ave %	Ave %	Ave %	Ave %	Ave %	Ave %	Ave%	Ave%
66.30%	74.88%	Ave %	Ave %	75.52%	56.36%	81.28%	67.80%	70.14%
69.80%	76.88%	80.73%	66.52%	82.00%	57.00%	84.00%	71.00%	71.85%
73.20%	78.88%	93.52%	67.69%	69.00%	55.66%	89.05%	74.45%	73.90%
74.00%	90.40%	106.30%	68.85%	72.98%	58.25%	89.00%	74.45%	77.73%
74.80%	101.92%	99.89%	67.24%	82.27%	62.19%	104.92%	94.95%	83.09%
86.40%	114.90%	93.48%	65.62%	81.57%	66.70%	104.92%	94.95%	87.95%
97.90%	127.88%	96.21%	70.63%	86.12%	93.59%	95.34%	107.16%	94.81%
102.70%	121.19%	98.94%	75.63%	90.42%	99.53%	80.60%	107.16%	99.03%
107.40%	114.50%	102.97%	84.05%	76.79%	103.24%	83.43%	98.88%	102.40%
104.20%	112.54%	106.99%	92.46%	72.67%	91.91%	77.56%	98.88%	100.24%
93.20%	110.57%	111.40%	110.56%	69.60%	89.76%	74.03%	87.70%	94.51%
80.70%	99.56%	96.22%	94.53%	63.89%	82.90%	73.14%	81.94%	85.83%
75.80%	85.98%	104.11%	81.58%	59.66%	71.83%	70.22%	69.89%	75.63%
60.50%	78.01%	91.52%	68.20%	56.60%	67.53%	68.14%	64.27%	68.94%
64.60%	71.45%	87.62%	57.61%	54.20%	61.36%	67.93%	59.60%	65.52%
64.70%	65.77%	76.83%	57.60%	54.00%	58.00%	66.00%	55.00%	62.89%
58.90%	63.74%	71.21%	56.16%	51.42%	57.06%	63.13%	52.68%	60.44%
58.00%	58.92%	69.06%	58.02%	54.21%	54.38%	63.10%	57.46%	57.93%
55.40%	57.97%	64.03%	55.91%	54.37%	56.05%	61.09%	55.83%	57.89%
64.40%	59.45%	63.99%	56.43%	52.88%	53.21%	60.95%	55.78%	58.16%
68.00%	60.92%	63.99%	57.00%	55.10%	57.32%	59.77%	68.30%	61.06%
73.90%	65.80%	75.48%	57.84%	54.91%	65.51%	61.90%	63.44%	64.77%
72.90%	70.65%	73.24%	56.36%	60.03%	69.12%	64.54%	69.38%	67.34%
73.90%	75.51%	71.00%	68.20%	57.88%	71.27%	64.85%	67.67%	68.67%

SANTA BARBARA COUNTY FIRE DEPARTMENT
2017 LIVE FUEL MOISTURE
ALL FUEL BEDS - CHAMISE



2017 Chamise Summary

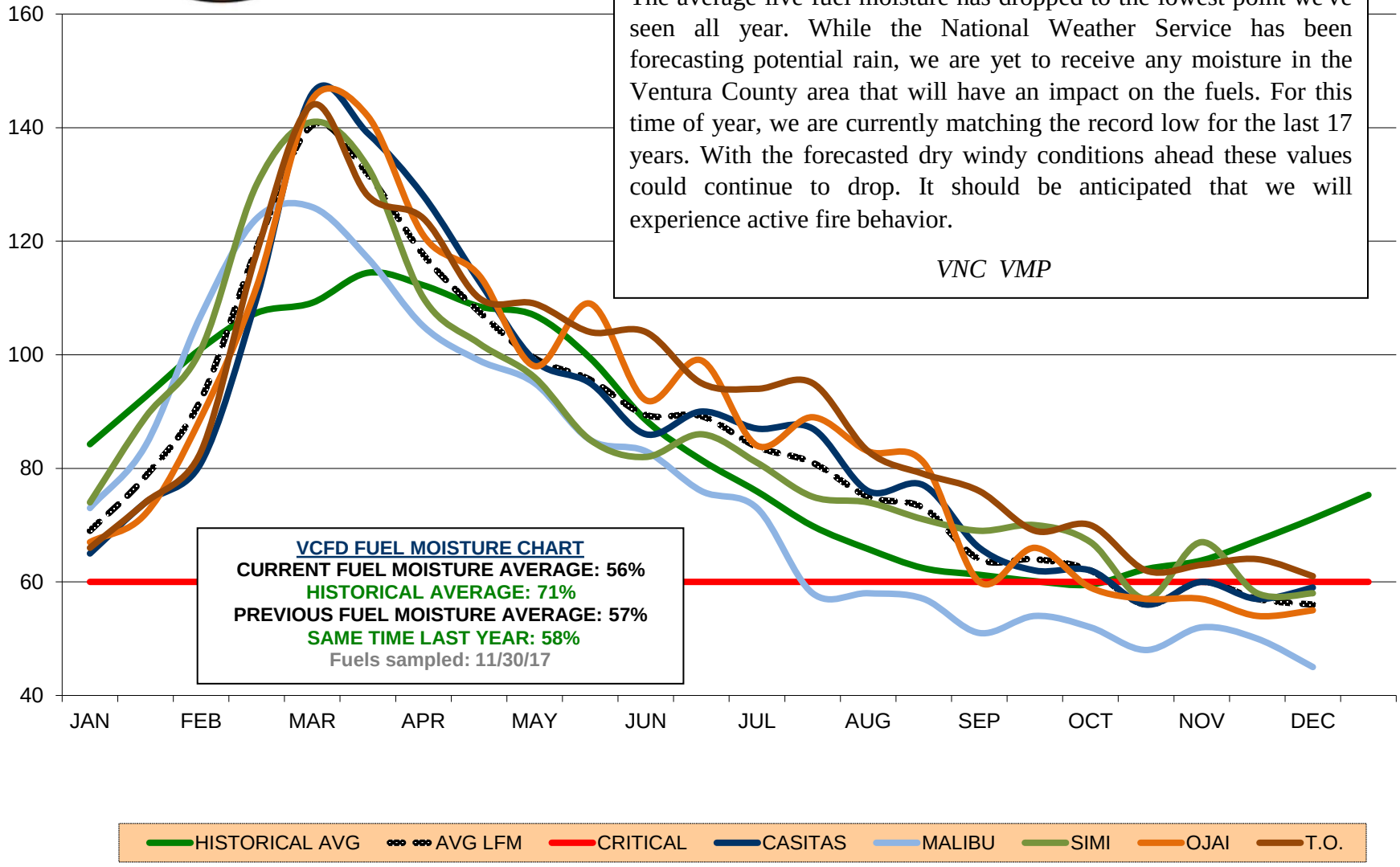
	3 Year AVG	Current AVG	CRITICAL	Tepusquet	Harris Grade	Cachuma	Refugio	W. Gaviota
JAN	61	80	60	82	73	76	84	85
	70	86	60	85	75	82	94	93
FEB	81	96	60	90	81	95	109	106
	90	111	60	95	88	127	125	120
MAR	99	116	60	104	92	140	125	119
	108	127	60	120	130	138	119	134
APR	115	133	60	136	146	133	119	134
	102	123	60	129	130	119	111	124
MAY	90	112	60	122	115	106	103	114
	80	101	60	108	108	103	87	98
JUN	71	89	60	97	88	90	81	88
	66	85	60	96	85	85	77	82
JUL	61	81	60	95	81	80	72	77
	59	77	60	92	77	73	69	75
AUG	58	73	60	89	73	66	65	72
	58	69	60	85	70	65	62	69
SEP	58	67	60	80	68	65	59	66
	58	65	60	78	66	63	59	64
OCT	59	64	60	76	65	60	58	63
	58	64	60	77	62	59	58	63
NOV	62	63	60	78	59	58	59	64
	65	63	60	77	59	58	59	63
DEC	70	63	60	77	59	58	59	61
	74		60					

VENTURA COUNTY FIRE DEPARTMENT
LIVE FUEL MOISTURE 2017
ALL FUEL BEDS - CHAMISE

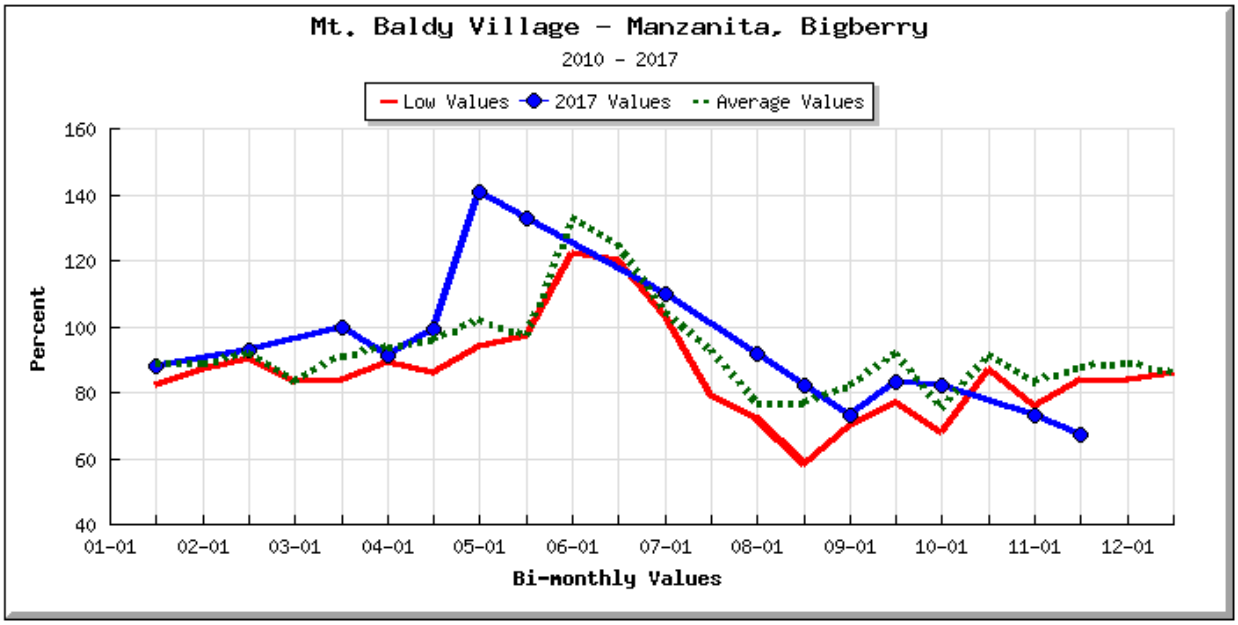
Fuels/Fire Discussion

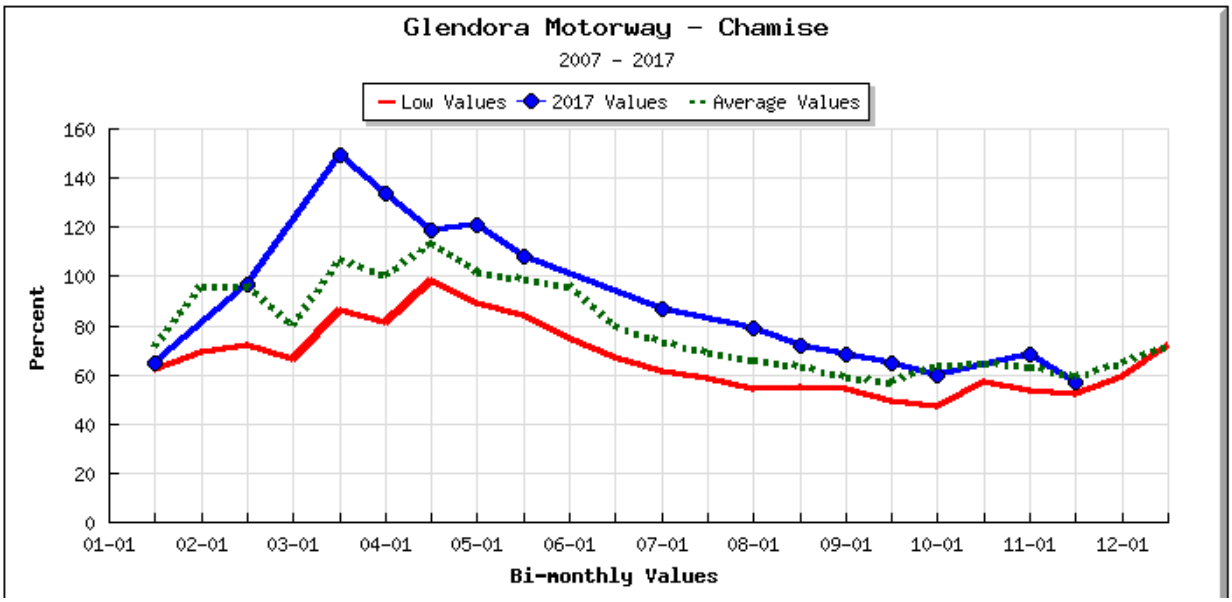
The average live fuel moisture has dropped to the lowest point we've seen all year. While the National Weather Service has been forecasting potential rain, we are yet to receive any moisture in the Ventura County area that will have an impact on the fuels. For this time of year, we are currently matching the record low for the last 17 years. With the forecasted dry windy conditions ahead these values could continue to drop. It should be anticipated that we will experience active fire behavior.

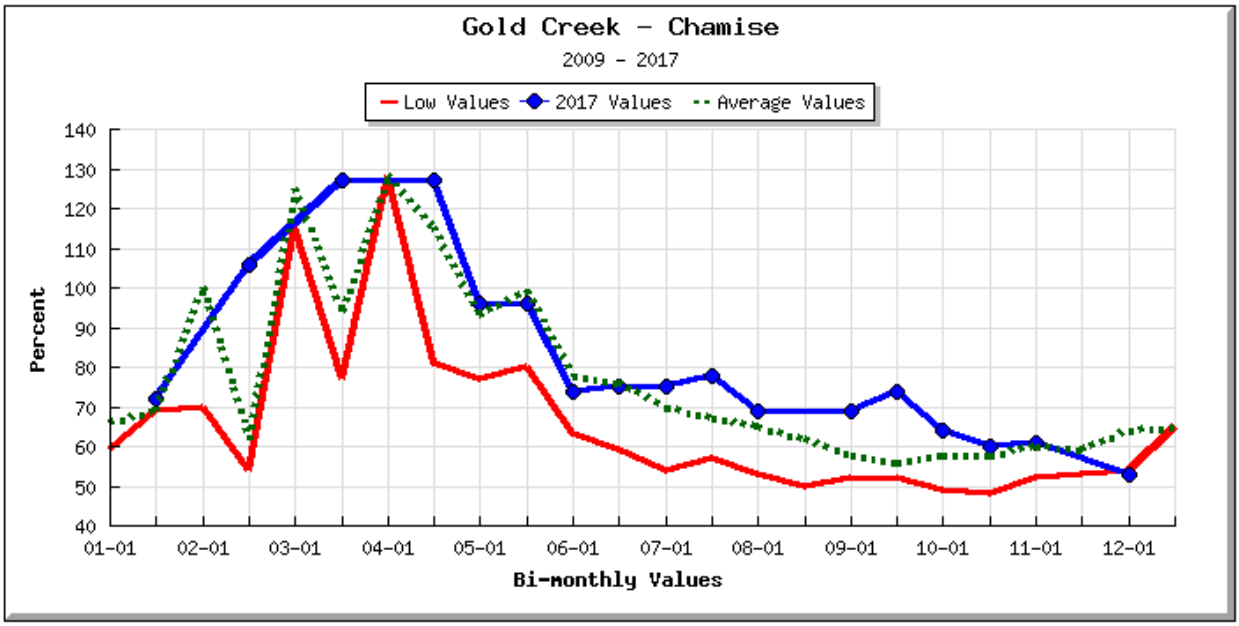
VNC VMP

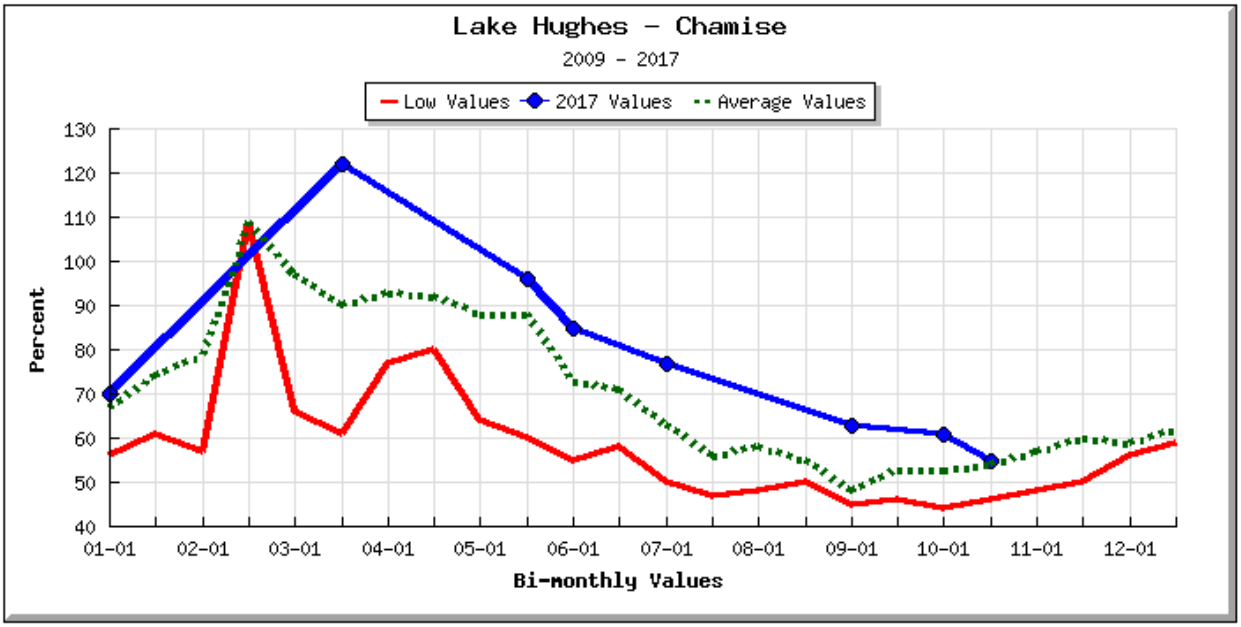


Angeles National Forest








Lake Hughes - Chamise
2009 - 2017
Low Values
2017 Values
Average Values
Percent
130
120
110
100
90
80
70
60
50
40
01-01
02-01
03-01
04-01
05-01
06-01
07-01
08-01
09-01
10-01
11-01
12-01
Bi-monthly Values

County of Los Angeles Fire Department
Prevention Services Bureau / Forestry Division

Vegetation Management Unit
12605 Osborne Street
Pacoima, CA 91331-2129
818.890.5720

Live Fuel Moisture Summary
November 30, 2017

LOCATION	THOMAS GUIDE	SPECIES	LIVE MOISTURE		
LOS ANGELES BASIN			CURRENT	PREVIOUS	%CHANGE
GLENDORA RIDGE, GLENDORA	569 E1	CHAMISE	64%	65%	-1.5%
LA TUNA CANYON, TUJUNGA	503 J5	CHAMISE	N/A	N/A	N/A
LAUREL CANYON, MT. OLYMPUS	593 A1	CHAMISE	62%	59%	5.1%
WOOLSEY CANYON, CHATSWORTH	499 C7	CHAMISE	62%	59%	5.1%
GLENDORA RIDGE, GLENDORA	569 E1	HOARYLEAF CEANOTHUS	50%	55%	-9.1%
SANTA MONICA MOUNTAINS			CURRENT	PREVIOUS	%CHANGE
CLARK MOTORWAY, MALIBU	586 G7	CHAMISE	57%	57%	0%
STUNT ROAD, CALABASAS	589 D5	CHAMISE	53%	54%	-1.9%
SCHUEREN ROAD, MALIBU	629 E1	CHAMISE	66%	63%	4.8%
TRIPPET RANCH, TOPANGA	590 B6	CHAMISE	56%	55%	1.8%
CLARK MOTORWAY, MALIBU	586 G7	BIGPOD CEANOTHUS	54%	51%	5.9%
TRIPPET RANCH, TOPANGA	590 B6	BLACK SAGE	52%	53%	-1.9%
SANTA CLARITA VALLEY			CURRENT	PREVIOUS	%CHANGE
BITTER CANYON, CASTAIC	4370 A4	CHAMISE	64%	64%	0%
PEACH MOTORWAY, SANTA CLARITA	4640 J5	CHAMISE	N/A	N/A	N/A
PLACERITA CANYON, SANTA CLARITA	4642 B2	CHAMISE	N/A	N/A	N/A
BOUQUET CANYON, SAUGUS	4461 G1	CHAMISE	66%	67%	-1.5%
BITTER CANYON, CASTAIC	4370 A4	BLACK SAGE	77%	80%	-3.8%
BITTER CANYON, CASTAIC	4370 A4	PURPLE SAGE	68%	74%	-8.1%
BITTER CANYON, CASTAIC	4370 A4	CALIFORNIA SAGEBRUSH	76%	75%	1.3%
HIGH COUNTRY			CURRENT	PREVIOUS	%CHANGE
TEMPLIN HIGHWAY, CASTAIC	4279 A3	CHAMISE	62%	62%	0%
SOLEDAD CANYON RD, ACTON	4464 B7	CHAMISE	N/A	N/A	N/A
TANBARK FLATS, GLENDORA	540 F2	CHAMISE	67%	65%	3.1%
TANBARK FLATS, GLENDORA	540 F2	HOARYLEAF CEANOTHUS	45%	49%	-8.2%

SUMMARY	CURRENT	PREVIOUS	%CHANGE
LOS ANGELES BASIN CHAMISE (average)	63%	61%	2.7%
SANTA MONICA MOUNTAINS CHAMISE (average)	58%	57%	1.3%
SANTA CLARITA VALLEY CHAMISE (average)	65%	66%	-0.8%
HIGH COUNTRY CHAMISE (average)	65%	64%	1.6%
ALL AREAS ALL FUELS (average)	61%	62%	-0.5%

Vegetation Management Program
Live Fuel Moisture 1981-2017

All Areas, All Fuels - Chamise, Ceanothus, Sages, Sagebrush

Percent Live Fuel Moisture

220
200
180
160
140
120
100
80
60
40

1-Jan 8-Jan 15-Jan 22-Jan 29-Jan 5-Feb 12-Feb 19-Feb 26-Feb 5-Mar 12-Mar 19-Mar 26-Mar 2-Apr 9-Apr 16-Apr 23-Apr 30-Apr 7-May 14-May 21-May 28-May 4-Jun 11-Jun 18-Jun 25-Jun 2-Jul 9-Jul 16-Jul 23-Jul 30-Jul 6-Aug 13-Aug 20-Aug 27-Aug 3-Sep 10-Sep 17-Sep 24-Sep 1-Oct 8-Oct 15-Oct 22-Oct 29-Oct 5-Nov 12-Nov 19-Nov 26-Nov 3-Dec 10-Dec 17-Dec 24-Dec 31-Dec

Critical
2017
2016
1981-Present

Vegetation Management Program

Live Fuel Moisture 1981-2017

High Country Chamise (Adenostoma fasiculatum)

Percent Live Fuel Moisture

220
200
180
160
140
120
100
80
60
40

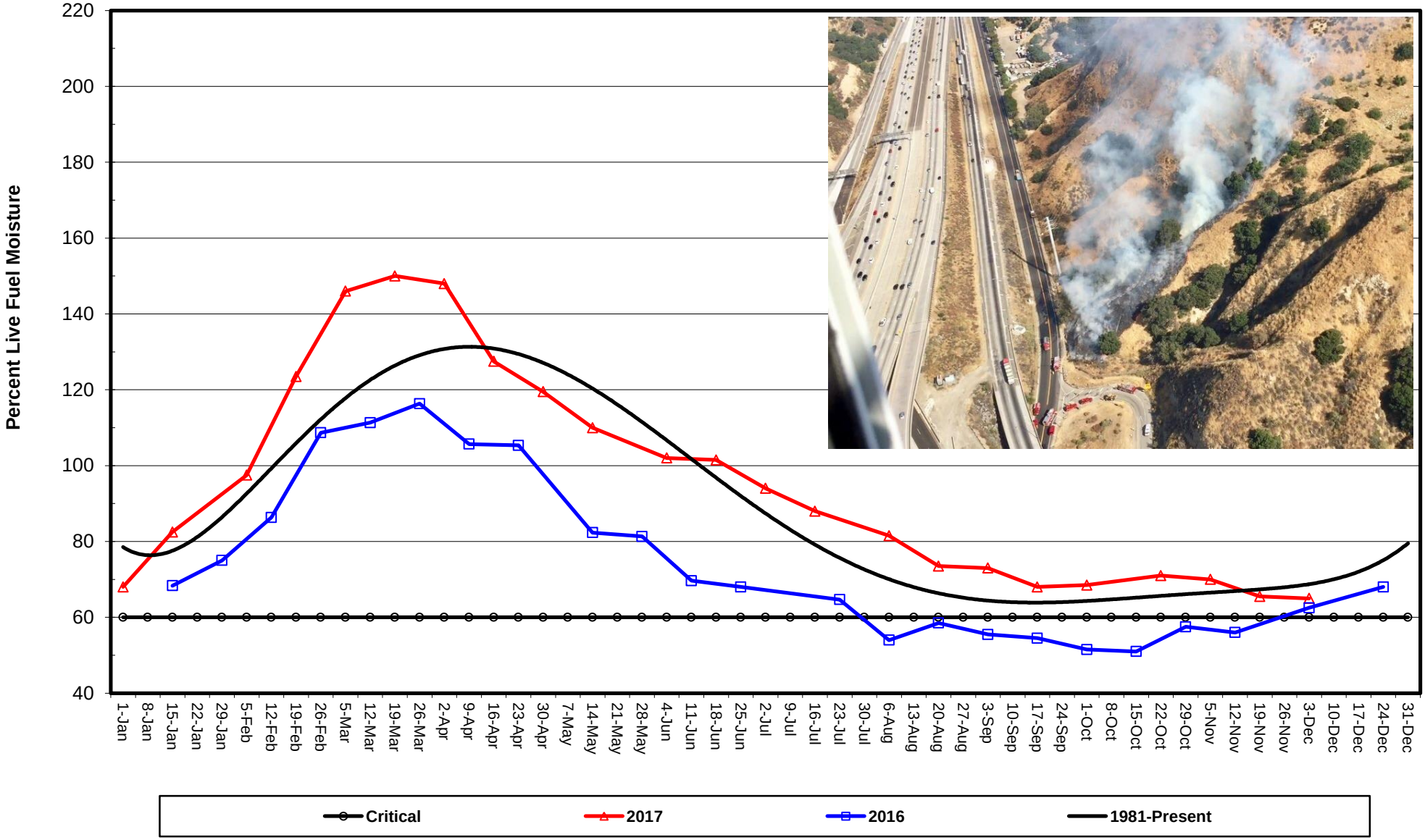
1-Jan, 8-Jan, 15-Jan, 22-Jan, 29-Jan, 5-Feb, 12-Feb, 19-Feb, 26-Feb, 5-Mar, 12-Mar, 19-Mar, 26-Mar, 2-Apr, 9-Apr, 16-Apr, 23-Apr, 30-Apr, 7-May, 14-May, 21-May, 28-May, 4-Jun, 11-Jun, 18-Jun, 25-Jun, 2-Jul, 9-Jul, 16-Jul, 23-Jul, 30-Jul, 6-Aug, 13-Aug, 20-Aug, 27-Aug, 3-Sep, 10-Sep, 17-Sep, 24-Sep, 1-Oct, 8-Oct, 15-Oct, 22-Oct, 29-Oct, 5-Nov, 12-Nov, 19-Nov, 26-Nov, 3-Dec, 10-Dec, 17-Dec, 24-Dec, 31-Dec

Critical | 2017 | 2016 | 1981-Present

Vegetation Management Program

Live Fuel Moisture 1981-2017

Santa Clarita Valley Chamise (Adenostoma fasiculatum)



Vegetation Management Program

Live Fuel Moisture 1981-2017

Los Angeles Basin Chamise (Adenostoma fasiculatum)

Percent Live Fuel Moisture

220
200
180
160
140
120
100
80
60
40

1-Jan 8-Jan 15-Jan 22-Jan 29-Jan 5-Feb 12-Feb 19-Feb 26-Feb 5-Mar 12-Mar 19-Mar 26-Mar 2-Apr 9-Apr 16-Apr 23-Apr 30-Apr 7-May 14-May 21-May 28-May 4-Jun 11-Jun 18-Jun 25-Jun 2-Jul 9-Jul 16-Jul 23-Jul 30-Jul 6-Aug 13-Aug 20-Aug 27-Aug 3-Sep 10-Sep 17-Sep 24-Sep 1-Oct 8-Oct 15-Oct 22-Oct 29-Oct 5-Nov 12-Nov 19-Nov 26-Nov 3-Dec 10-Dec 17-Dec 24-Dec 31-Dec

Critical
2017
2016
1981-Present

Vegetation Management Program

Live Fuel Moisture 1981-2017

Santa Monica Mountains Chamise (Adenostoma fasiculatum)

Percent Live Fuel Moisture

220
200
180
160
140
120
100
80
60
40

1-Jan 8-Jan 15-Jan 22-Jan 29-Jan 5-Feb 12-Feb 19-Feb 26-Feb 5-Mar 12-Mar 19-Mar 26-Mar 2-Apr 9-Apr 16-Apr 23-Apr 30-Apr 7-May 14-May 21-May 28-May 4-Jun 11-Jun 18-Jun 25-Jun 2-Jul 9-Jul 16-Jul 23-Jul 30-Jul 6-Aug 13-Aug 20-Aug 27-Aug 3-Sep 10-Sep 17-Sep 24-Sep 1-Oct 8-Oct 15-Oct 22-Oct 29-Oct 5-Nov 12-Nov 19-Nov 26-Nov 3-Dec 10-Dec 17-Dec 24-Dec 31-Dec

Critical
2017
2016
1981-Present

San Bernardino National Forest

With little precipitation received during the month of November, live fuel moistures continue their steady hover at very low levels across all elevations of the San Bernardino National Forest. Chamise vegetation is sampled at all locations identified below; historically fire managers consider readings of 60 or below as critical and should expect rapid rates of spread where new fires become established, especially with the disadvantage of wind or slope.

Mountaintop RD

Cottonwood- 3500' Highway 138 near Silverwood Reservoir

old 55 (up from 54) **new 62** (up from 61)

Converse- 5400' Highway 38 near Barton Flats

old 56 (down from 58) **new 66** (down from 72)

Front Country RD

Sycamore- 2200' just west of 15/215 split at bottom of Cajon Pass

old 53 (down from 55) **new 58** (down from 59)

City Creek- 3000' Halfway up Highway 330 x FS Road 1N09

old 54 (down from 55) **new 65** (up from 60)

San Jacinto RD

Strawberry- 3000' Highway 74 x Strawberry Canyon

old 56 (down from 58) **new 61** (previous 64)

Apple Canyon- 4300', Near Kenworthy Fire Station

old 62 (up from 60) **new 70** (up from 65)

Camp Pendleton

Fuel moisture data was collected on Thursday, 12/07/17, in all three upland regions and on riparian site. It has been three weeks since the last fuel moisture sampling.

Table 1. Precipitation by region

REGION	Precipitation (in) Nov. 16 – Dec 7, 2017	2018 water year accumulated precipitation (in) to date	2017 water year (Oct-Sept) precipitation (in) totals
Mountain	0.03	0.12	19.55
Valley	0.00	0.18	19.66
Coastal	0.01	0.16	19.42

Table 2. Summary of Fuel Moisture (FM) by Region, three-week measurement of change is between 11/16-12/07/2017 (unless other date indicated)

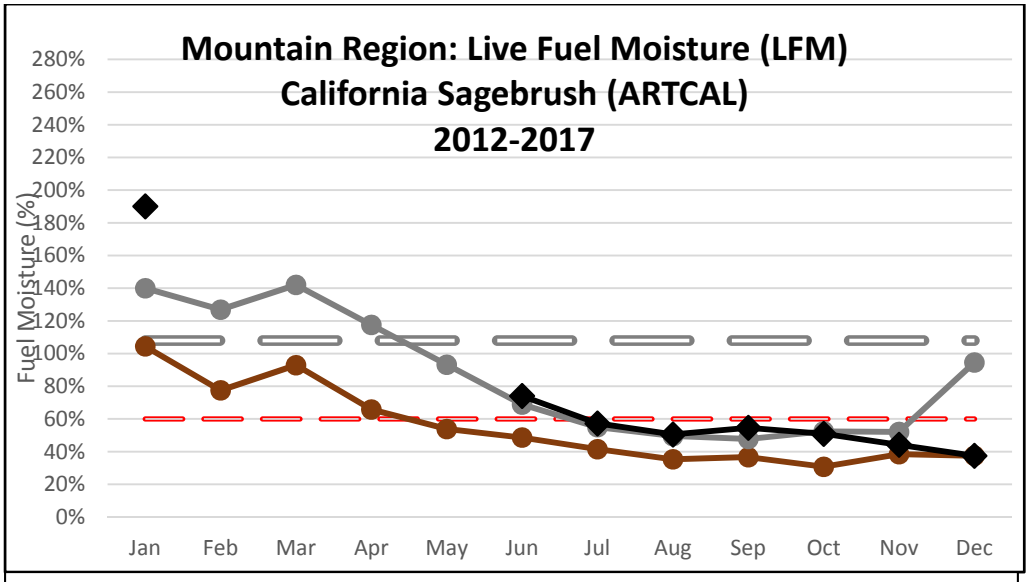
Region	Plant species	Fuel Moisture (%)	Change FM (%)	ADFM (%)	Change ADFM (%)	IFM (%)	Change IFM (%)
Mountain	ARTCAL	**37**	-5.1	**2.3***	-3.0	**48**	-3.0
Mountain	MALLAU	112	0.0				
Valley	ARTCAL	**54**	+5.8	**2.5***	-3.8	**49**	+2.0
Valley	MALLAU	105	-6.2				
Coastal	ARTCAL	**64**	+16.6	**5.3***	-4.5	**66**	+14.0
Coastal	MALLAU	129	+19.6				
Riparian	BACSAL	115	-6.2	**5.3***	-4.0	83	-6.0
Riparian	SALLAE	108	-24.2				

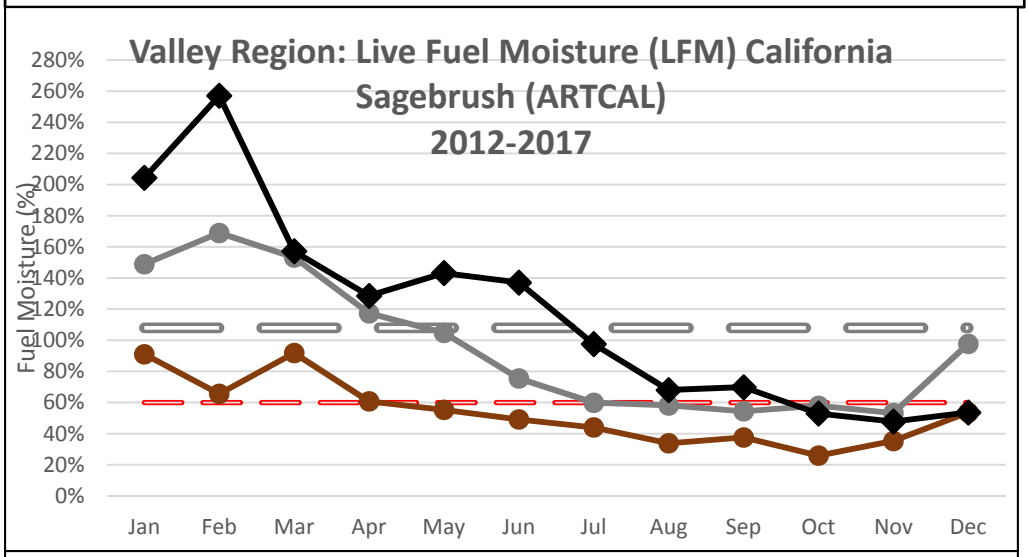
Red = value below fuel moisture threshold that indicates that large fires may be more likely to occur (ARTCAL = 108%, IFM= 80%)
(*) = value below dead fuel moisture threshold of 7.5% that indicates that large fires may be more likely to occur even when live fuel moisture is above the large fire thresholds

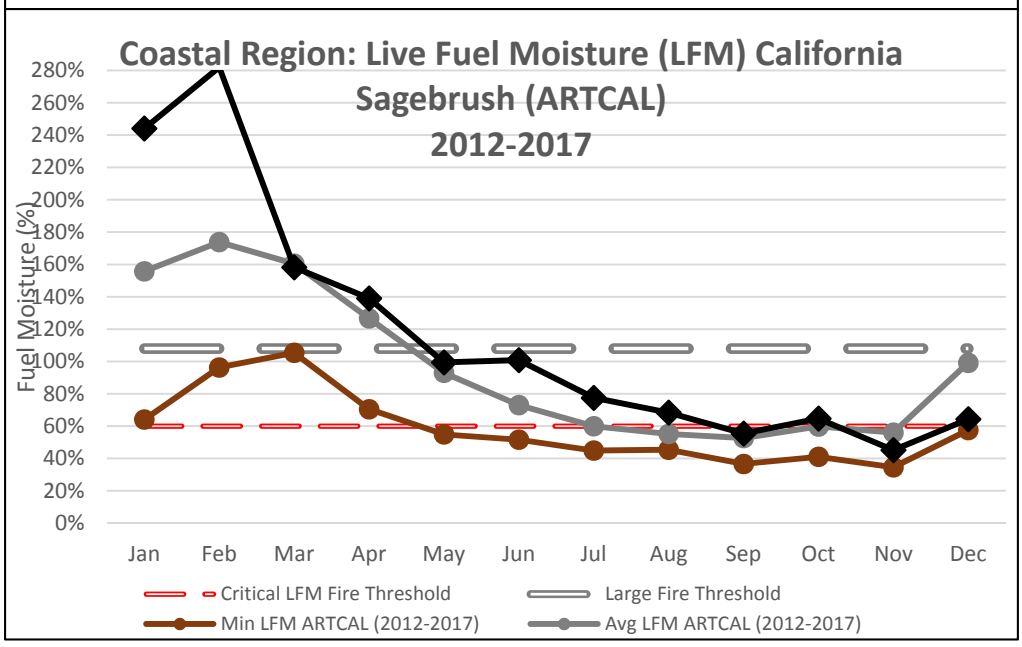
No significant precipitation has fallen over the last three weeks. The fuel moisture values are still very low in the mountain and valley region, but they are increasing slowly in the coastal region. For the month of December, ARTCAL live fuel moisture values are at the driest level over the last six year (see graphs below). Humidity levels are extremely low (7-8%) and average dead fuel moisture is dangerously low in all regions, including the coastal region. Therefore, probability of large fires is high. In addition, southern California is experiencing an incredibly strong Santa Ana wind event, which will make fires very difficult to control.

Although ARTCAL shrubs were beginning to break dormancy in the valley and coastal regions, these shrubs now appear to have arrested development. Likely due to the very dry conditions over the last three weeks, no significant growth was observed and the flowers that were opening during the last sampling appear to have also stopped developing. ARTCAL in the coastal region are covered in dry leaves without any new green leaves. ARTCAL in the mountain region remains dormant. In addition, MALLAU shrubs are only visibly showing new leaves in the coastal region now. No annual grass germination was observed. Heavy grass thatch can be found in the valley and coastal regions.

Willows are just beginning to lose their leaves on the southbank at the riparian site. Mulefat, which was blooming profusely in November, is no longer blooming. Dried vegetation is very dense tall, such as cocklebur, providing lots of tall fuels.


Mountain Region: Live Fuel Moisture (LFM)
California Sagebrush (ARTCAL)
2012-2017
Fuel Moisture (%)
280%
260%
240%
220%
200%
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec


Valley Region: Live Fuel Moisture (LFM) California
Sagebrush (ARTCAL)
2012-2017
Fuel Moisture (%)
280%
260%
240%
220%
200%
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec


Coastal Region: Live Fuel Moisture (LFM) California
Sagebrush (ARTCAL)
2012-2017
Fuel Moisture (%)
280%
260%
240%
220%
200%
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Critical LFM Fire Threshold
Large Fire Threshold
Min LFM ARTCAL (2012-2017)
Avg LFM ARTCAL (2012-2017)

Location: Coastal region **Date:** Dec. 7, 2017 **Notes:** ARTCAL shrubs covered in dried leaves, no new leaves observed yet.	
Location: Valley region **Date:** Dec. 7, 2017 **Notes:** Very dry conditions in the valley region	
Location: Riparian site **Date:** Dec. 7, 2017 **Notes:** Very dense and tall dried vegetation on the banks	

Location: Mountain region **Date:** Dec. 7, 2017 **Notes:** Dangerously dry conditions in the mountain region