Figure S1. Time series of vegetation indices and live fuel moisture measurements at Bitter Canyon station. The vegetation indices are plotted in colored solid line and black dots are LFM values. Details of the VIs are listed in Table S1.

Table S1. Equations applied to calculate vegetation indices from MODIS MOD09A1 land surface reflectance product.

Name	Equation	Remarks
Enhanced Vegetation Index	$EVI = G * \dfrac{(NIR - RED)}{(NIR + C1 * RED - C2 * BLUE + L)}$	G=2.5, C1=6 and C2=7.5. L=1 is the canopy background adjustment term.
Normalized Difference Vegetation Index	$NDVI = \dfrac{(NIR - RED)}{(NIR + RED)}$	
Normalized Difference Water Index	$NDWI = \dfrac{NIR - SWIR_5}{NIR + SWIR_5}$	SWIR5 stands for Band 5 in MOD09A1 images.
Normalized Difference Infrared Index	$NDII = \dfrac{NIR - SWIR_6}{NIR + SWIR_6}$	SWIR6 stands for Band 6 in MOD09A1 images.
Visible Atmospherically Resistant Index	$VARI = \dfrac{(GREEN - RED)}{(GREEN + RED - BLUE)}$	Visible bands only.

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Table S2. Results of the linear regressions of LFM using EVI and meteorological variables at Schueren

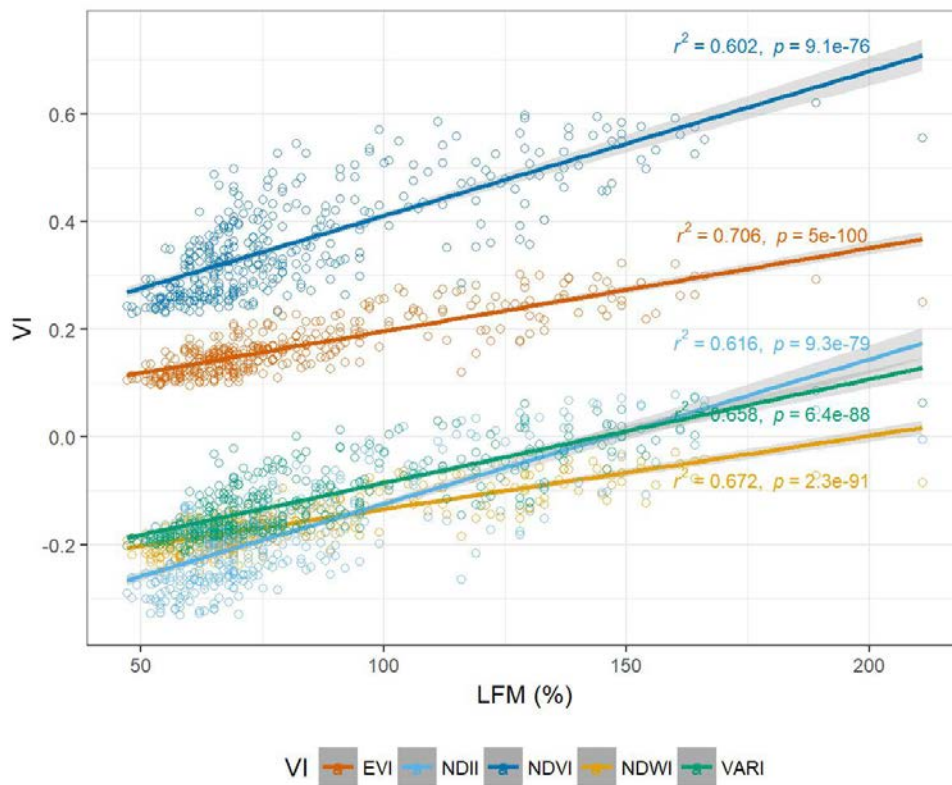| Independent Variable (IV1, IV2)	R²
EVI, Tmax	0.72
EVI, Tave	0.72
EVI, Tmin	0.73
EVI, Relative humidity	0.72
EVI, Precip	0.68

Figure S2. Correlation between LFM and VIs at Bitter Canyon station. VI in the vertical axis can be EVI, NDII, NDVI, NDWI, and VARI as denoted in the legend under the plot. Adjusted R^2 and p values were listed above the fitted lines in the same color as scatterplots. EVI had the highest adjusted R^2 among five VIs tested.

Table S3. Live fuel moisture cross correlation coefficients among the 7 live fuel moisture sites.

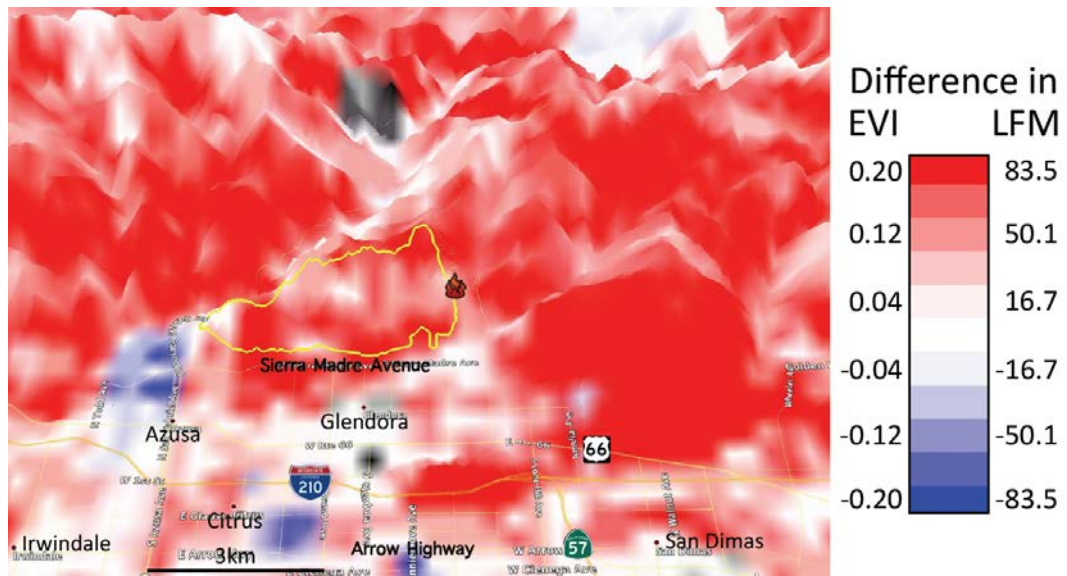| Site	Bitter	Placerita	La Tuna	Laurel	Trippet	Schueren	Clark
Bitter	1.0	0.934	0.932	0.893	0.847	0.840	0.868
Placerita		1.0	0.949	0.891	0.825	0.861	0.885
La Tuna			1.0	0.928	0.872	0.910	0.917
Laurel				1.0	0.895	0.906	0.896
Trippet					1.0	0.936	0.922
Schueren						1.0	0.942
Clark							1.0

Figure. S3. Same as Figure 8 but with the full-scale color code for the EVI and LFM differences between 25 Februrary 2013 and 8 January 2014, a week before the Colby Fire occurred. Red indicates LFM has dropped below 60% to the critical fire danger level. The geophysical model function used in this case is LFM = (417.602 × EVI) + 6.78061, where LFM is measured in % and EVI is unitless.