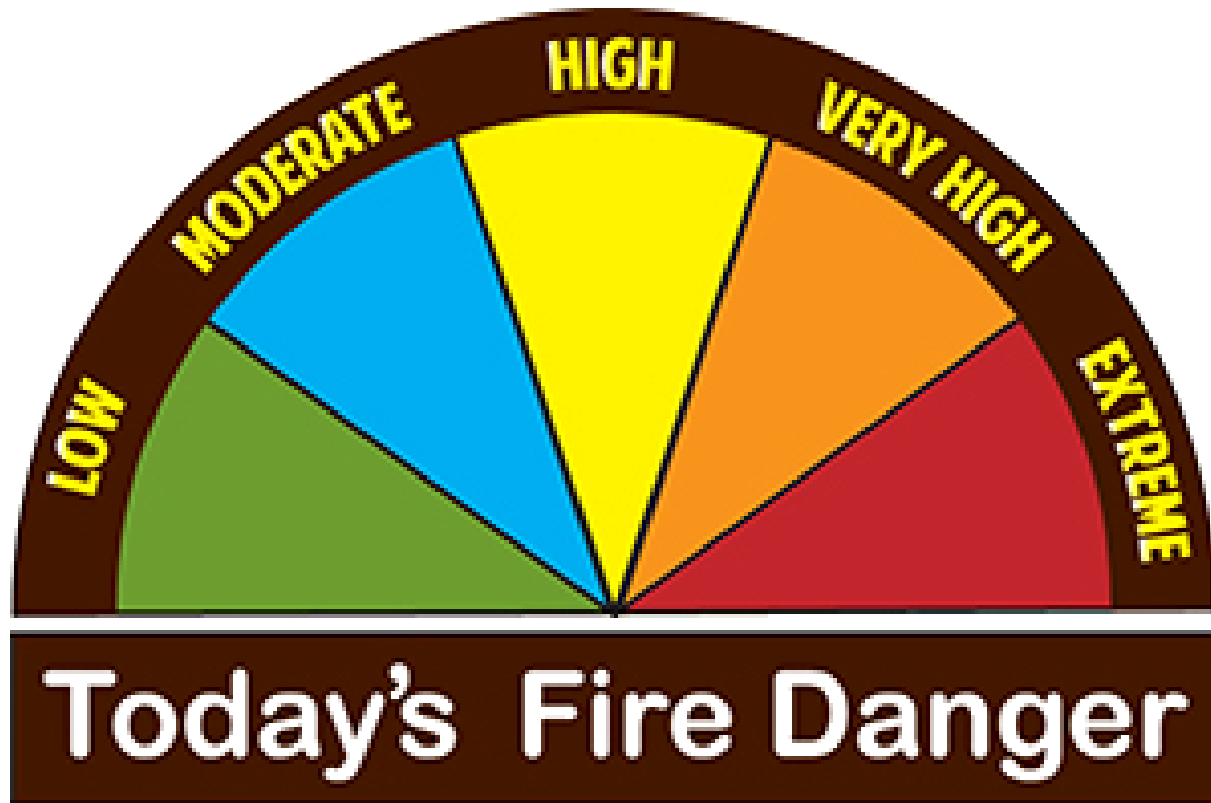


Fire Weather:

Useful websites and tools



Presented by Kate Wilkin, PhD, UC Cooperative Extension, Forest and Fire Advisor

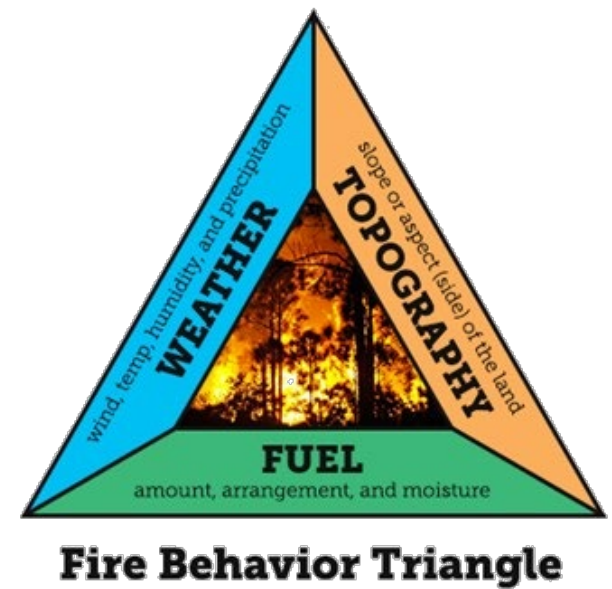
Adapted from presentations by Sasha Berleman (Fire Poppy Consulting) and Jeff Stackhouse (UCCE)

Weather



Weather and fire

- Most dynamic factor
- Most difficult to predict



Carr Fire 2018



Photo by Jeff Stackhouse, UCCE

Instruments



\$25 Wind meter
Wind speed



\$60 Sling psychrometer
Temperature and relative humidity



\$125+ Kestrel
Temperature
Wind



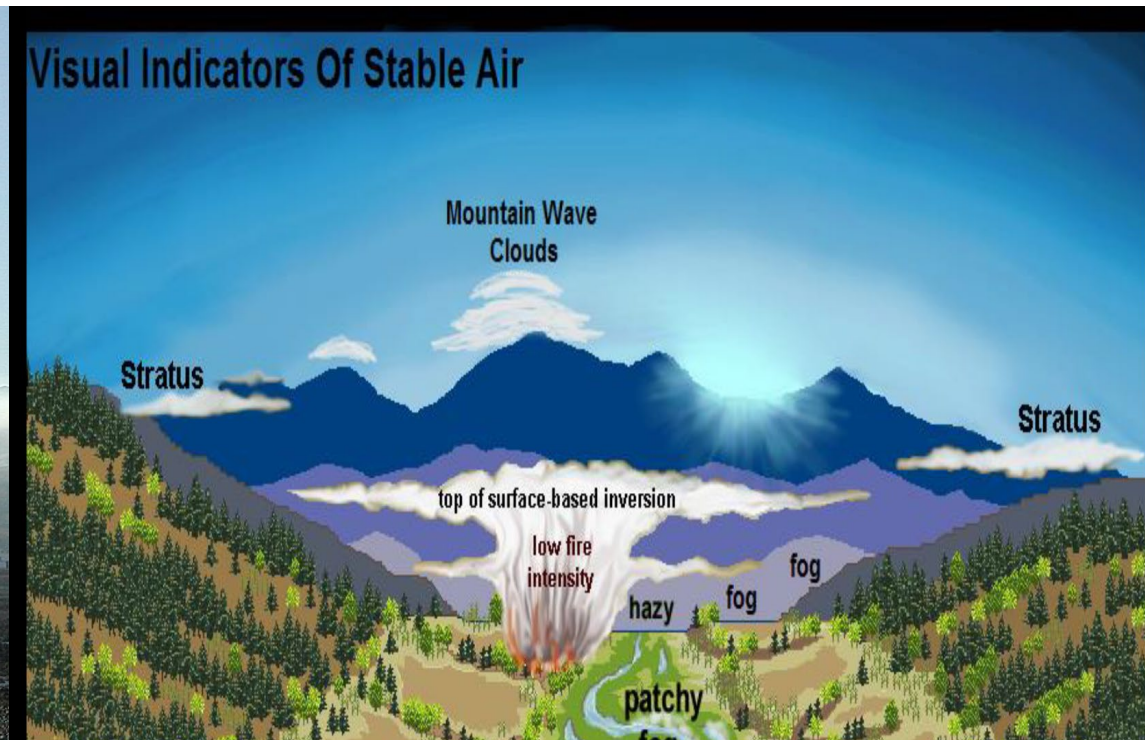
\$225+ Kestrel
Temperature
Wind
Relative humidity
Much more

Your eyes see atmospheric stability

Stable atmosphere

Indicators:

- Clouds form in layers
- Smoke drifts apart after limited rise
- Poor visibility due to smoke or haze
- Fog layers
- Steady winds

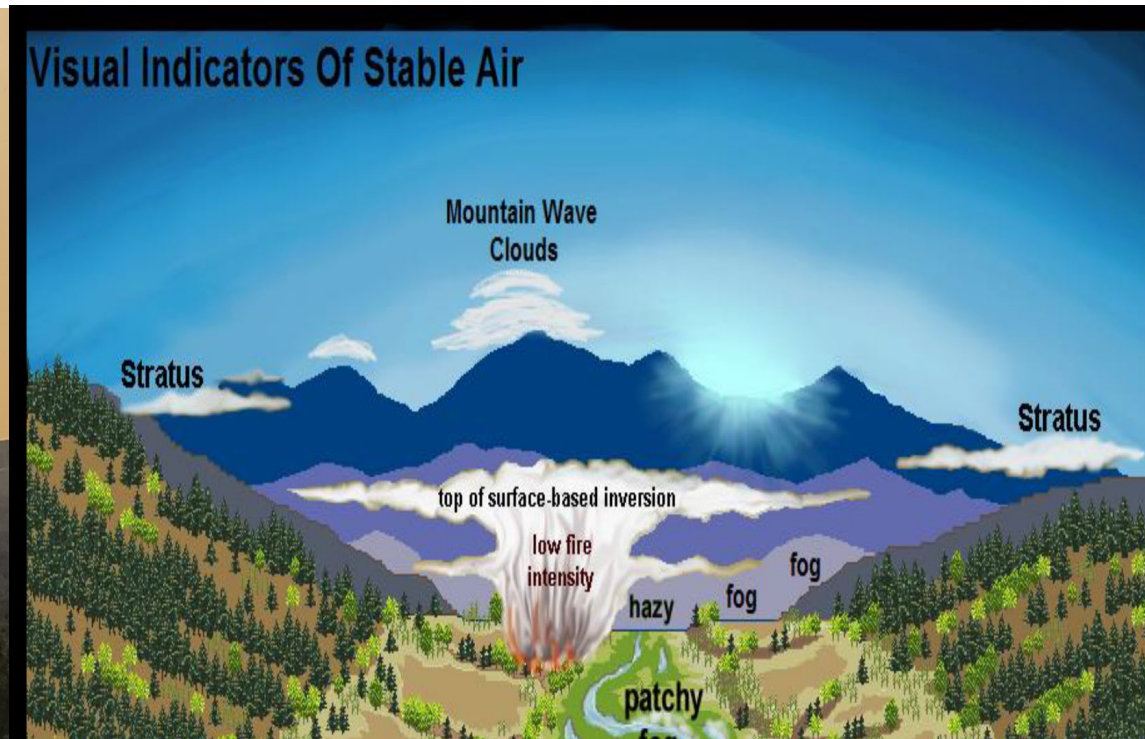


Atmospheric stability

Stable atmosphere

Indicators:

- Clouds form in layers
- Smoke drifts apart after limited rise
- Poor visibility due to smoke or haze
- Fog layers
- Steady winds

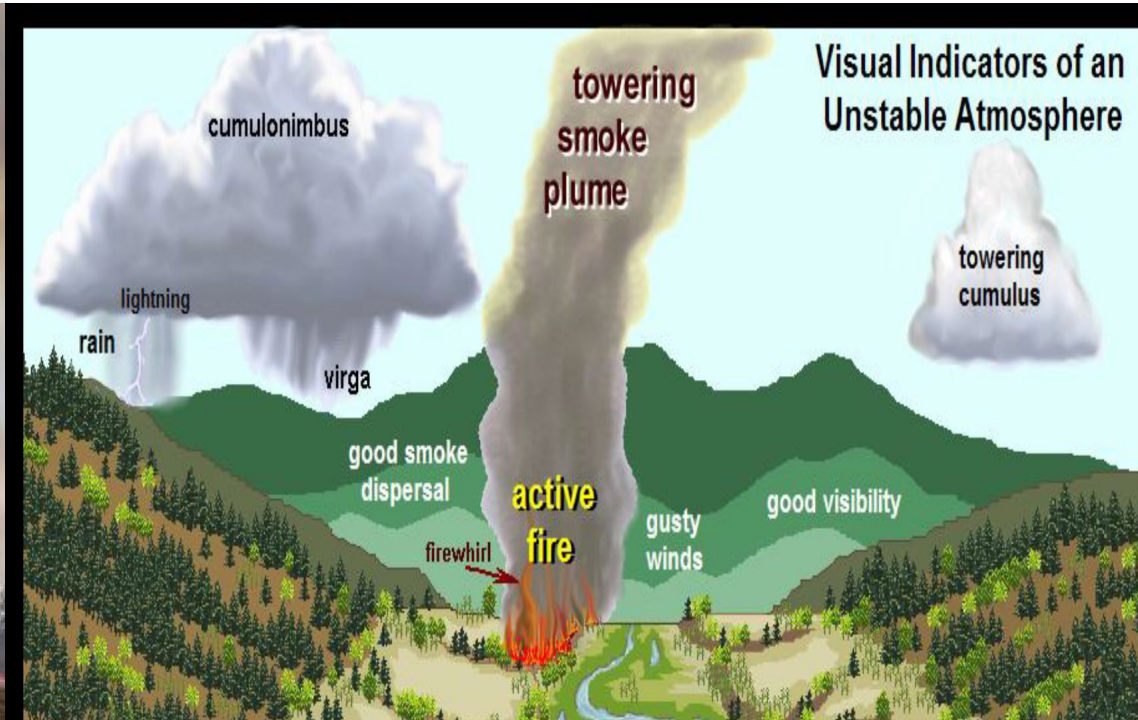


Atmospheric stability

Unstable atmosphere

Indicators:

- Clouds grow vertically and smoke rises to great heights
- Cumulus clouds
- Good visibility / little smoke on fire line!
- Gusty winds
- Dust devils and firewhirls

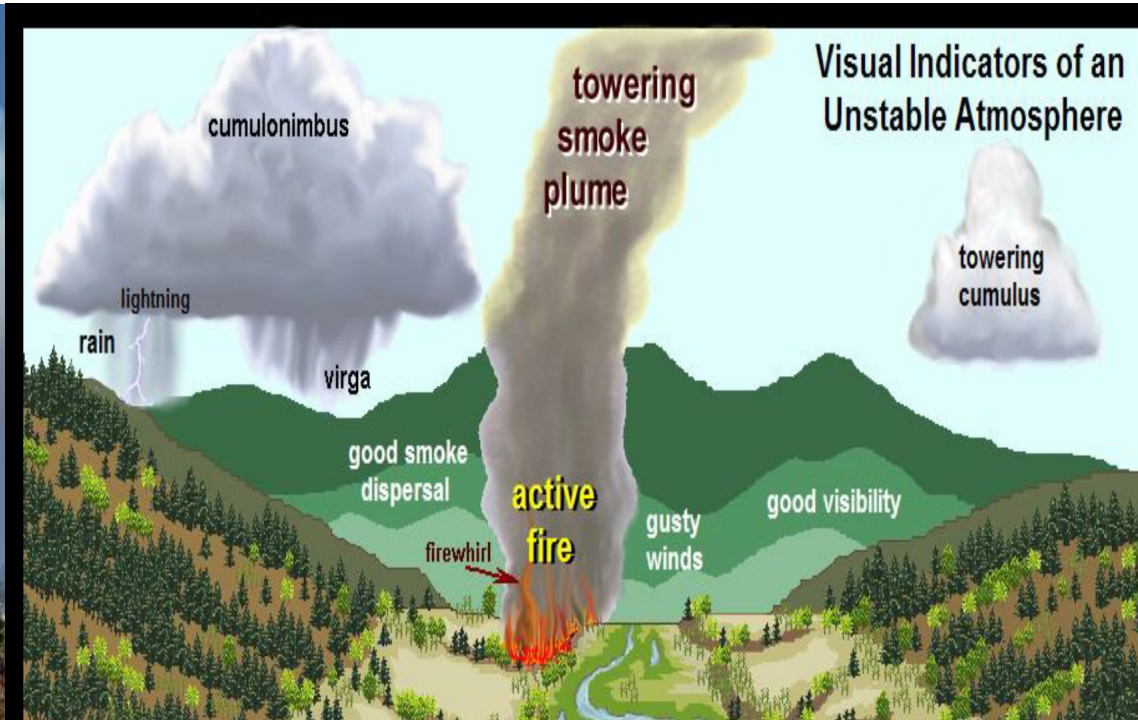


Atmospheric stability

Unstable atmosphere

Indicators:

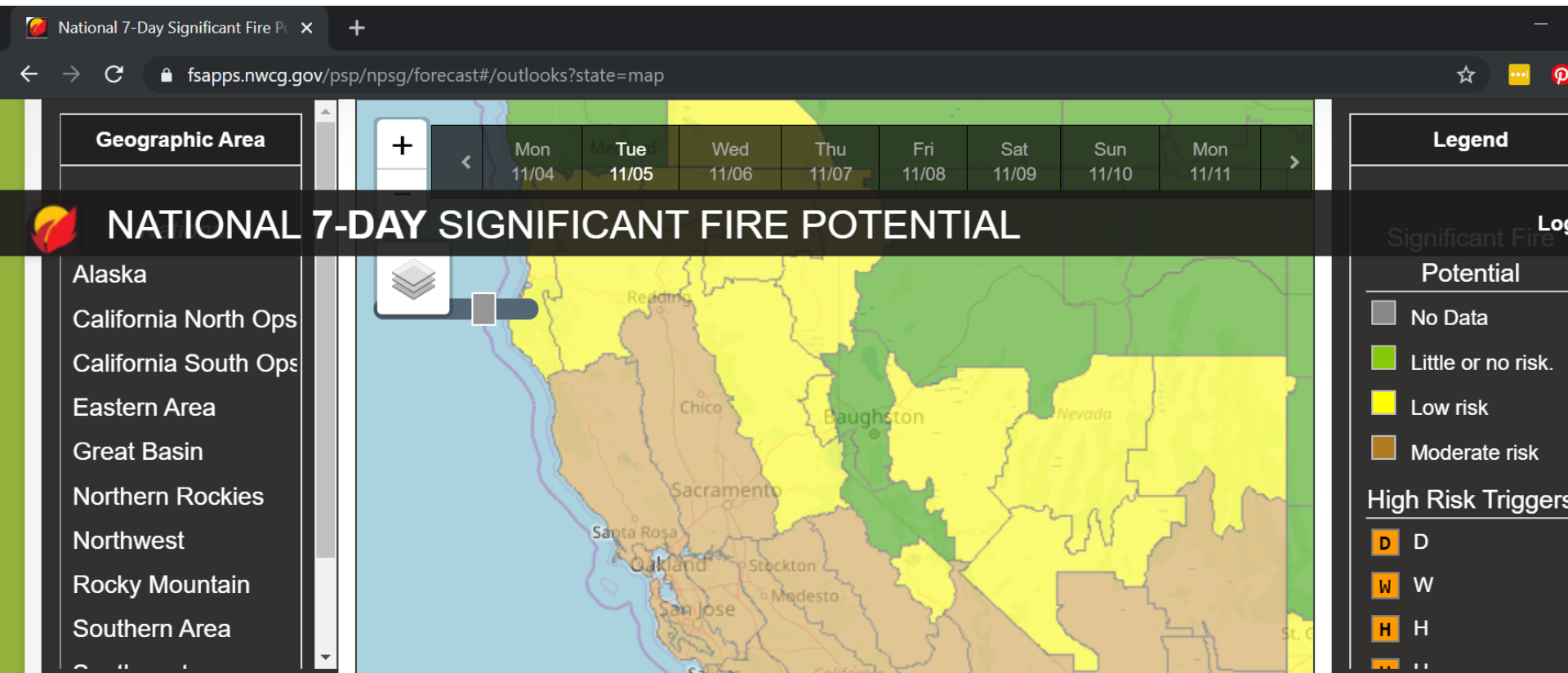
- Clouds grow vertically and smoke rises to great heights
- Cumulus clouds
- Good visibility / little smoke on fire line!
- Gusty winds
- Dust devils and firewhirls



Predictive services

Monitors, analyzes, and predicts precipitation, wind, and RH as it relates to fire growth or resource safety:

- Fire weather
- Fire danger



National Weather Service Spot Forecast forecast.weather.gov

NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

HOME FORECAST FAST WEATHER SAFETY INFORMATION EDUCATION NEWS SEARCH ABOUT

Below Normal Temperatures Expected Mid To Late Week from Plains to East

Current conditions at SHAVERT (SHVC1)
71°F
22°C

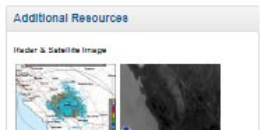
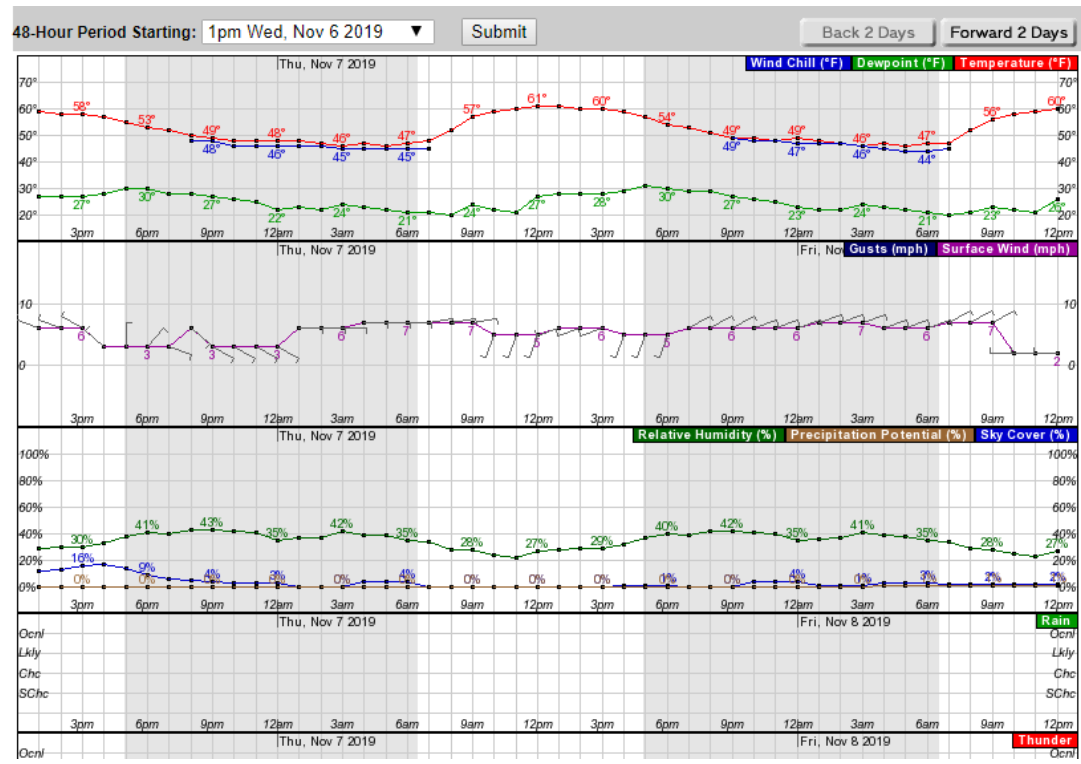
Humidity 13%
Wind Speed WSW 2 G 5 MPH
Barometer NA
Dewpoint 15°F (-4°C)
Visibility NA
Last update 05 Nov 11:58 am PST

Extended forecast for 10 Miles E Auberry CA

Time	Icon	High	Low
1hr Afternoon	Sunny	69°	44°
Tonight	Clear		43°
Wednesday	Sunny	69°	43°
Wednesday Night	Clear		43°
Thursday	Sunny	72°	43°
Thursday Night	Clear		43°
Friday	Sunny	62°	43°
Friday Night	Clear		43°
Saturday	Sunny	69°	43°

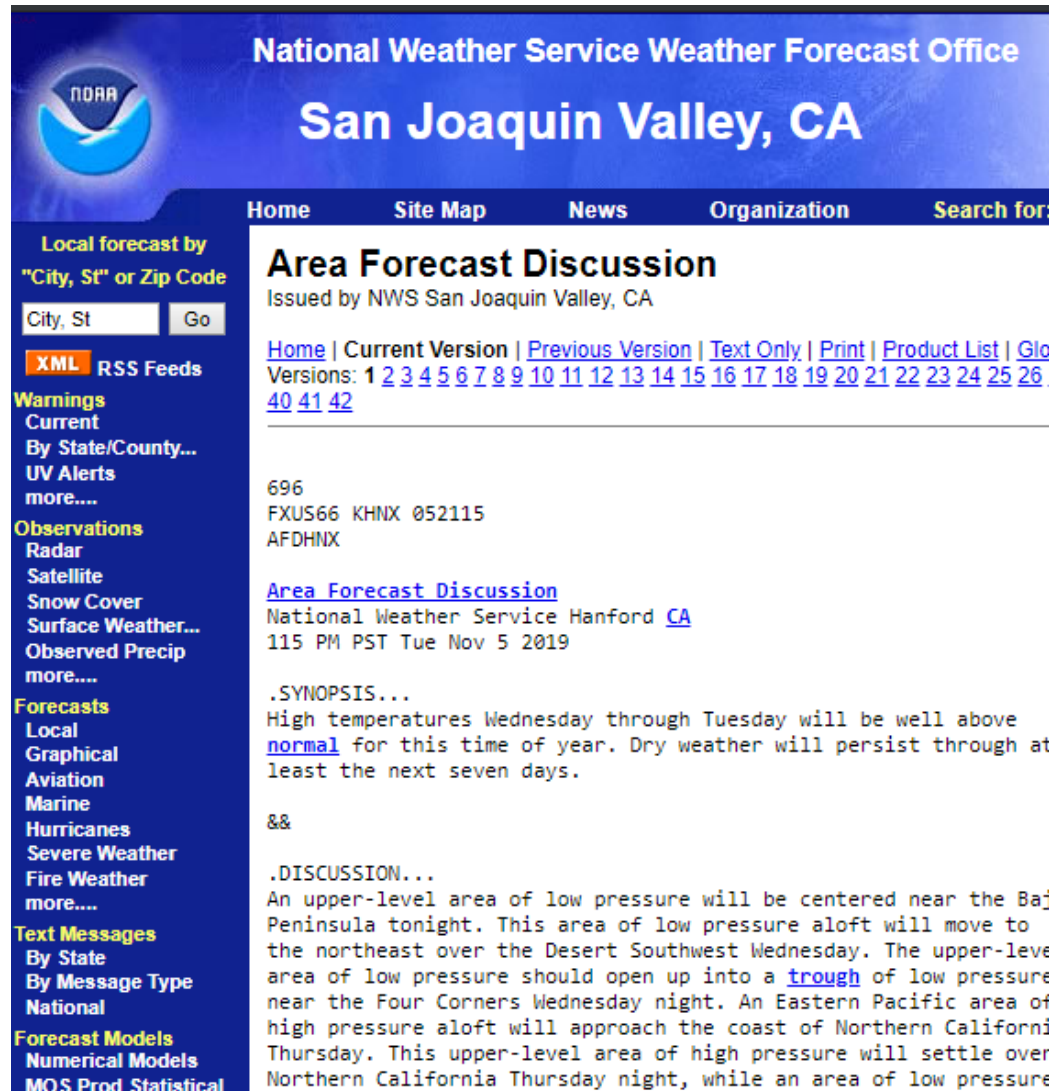
Detailed Forecast

Day	Forecast
1hr Afternoon	Sunny, with a high near 69. West northwesterly wind around 5 mph.
Tonight	Clear, with a low around 44. East wind 5 to 10 mph.
Wednesday	Sunny, with a high near 69. Calm wind becoming west around 5 mph in the afternoon.
Wednesday Night	Clear, with a low around 43. East wind around 5 mph.
Thursday	Sunny, with a high near 70. East wind around 5 mph becoming west-southwest in the afternoon.
Thursday Night	Clear, with a low around 43. East northwesterly wind around 5 mph.
Friday	Sunny, with a high near 69. East northwesterly wind around 5 mph becoming northeast in the evening.
Friday Night	Clear, with a low around 43. Northwesterly wind around 5 mph becoming east-northeast in the evening.
Saturday	Sunny, with a high near 69. North-northeast wind around 5 mph becoming west in the morning.
Saturday Night	Clear, with a low around 43. North-northeast wind around 5 mph becoming northeast in the evening.
Sunday	Sunny, with a high near 69. North-northeast wind around 5 mph becoming calm in the morning.
Sunday Night	Mostly clear, with a low around 42. North wind around 5 mph becoming east-northeast in the evening.
Veterans Day	Sunny, with a high near 69. Northwesterly wind around 5 mph becoming southwesterly in the morning.



National Weather Service Spot Forecast forecast.weather.gov

- **Forecast Discussion:** allow you to get into the head of the forecaster.
- Gauge confidence
- Convey threats
- Understand forecast challenges and significant trends



The screenshot shows the National Weather Service website for the San Joaquin Valley, CA. The page is titled "Area Forecast Discussion" and is issued by NWS San Joaquin Valley, CA. The page includes a navigation menu with links for Home, Site Map, News, Organization, and Search. The main content area displays the forecast discussion, including a synopsis and a discussion of the weather system. The synopsis states: "High temperatures Wednesday through Tuesday will be well above normal for this time of year. Dry weather will persist through at least the next seven days." The discussion states: "An upper-level area of low pressure will be centered near the Bay Peninsula tonight. This area of low pressure aloft will move to the northeast over the Desert Southwest Wednesday. The upper-level area of low pressure should open up into a trough of low pressure near the Four Corners Wednesday night. An Eastern Pacific area of high pressure aloft will approach the coast of Northern California Thursday. This upper-level area of high pressure will settle over Northern California Thursday night, while an area of low pressure

National Weather Service Weather Forecast Office
San Joaquin Valley, CA

Home Site Map News Organization Search for:

Local forecast by
"City, St" or Zip Code
City, St Go

XML RSS Feeds

Warnings
Current
By State/County...
UV Alerts
more....

Observations
Radar
Satellite
Snow Cover
Surface Weather...
Observed Precip
more....

Forecasts
Local
Graphical
Aviation
Marine
Hurricanes
Severe Weather
Fire Weather
more....

Text Messages
By State
By Message Type
National

Forecast Models
Numerical Models
MOS Prod Statistical

Area Forecast Discussion
Issued by NWS San Joaquin Valley, CA

[Home](#) | [Current Version](#) | [Previous Version](#) | [Text Only](#) | [Print](#) | [Product List](#) | [Glo](#)
Versions: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#) [11](#) [12](#) [13](#) [14](#) [15](#) [16](#) [17](#) [18](#) [19](#) [20](#) [21](#) [22](#) [23](#) [24](#) [25](#) [26](#)
[40](#) [41](#) [42](#)

696
FXUS66 KHNX 052115
AFDHNX

[Area Forecast Discussion](#)
National Weather Service Hanford [CA](#)
115 PM PST Tue Nov 5 2019

.SYNOPSIS...
High temperatures Wednesday through Tuesday will be well above
[normal](#) for this time of year. Dry weather will persist through at
least the next seven days.

&&

.DISCUSSION...
An upper-level area of low pressure will be centered near the Bay
Peninsula tonight. This area of low pressure aloft will move to
the northeast over the Desert Southwest Wednesday. The upper-level
area of low pressure should open up into a [trough](#) of low pressure
near the Four Corners Wednesday night. An Eastern Pacific area of
high pressure aloft will approach the coast of Northern California
Thursday. This upper-level area of high pressure will settle over
Northern California Thursday night, while an area of low pressure

ARB's Meteorology Program

This page last reviewed September 1, 2018

Welcome to the ARB's **Meteorology Section** web page. The Meteorology Section provides forecasting services in support of the State's agricultural and prescribed burning program. ARB meteorologists issue daily agricultural burning control notices specifying the burn/no burn status for 11 of the State's 15 air basins, and coordinate with air quality staff from the other 4 basins. The Meteorology Section also provides meteorological and climatological services to other ARB programs.

For information on the agricultural burn forecast for your area, click on the map below.



As per Title 17 Section 80110, the ARB shall specify each day of the year as a permissive burn day, or a no-burn day for each air basin or other specified area. Also, the ARB may declare a marginal burn day if meteorological conditions approach the criteria contained in Title 17.

The following are the definitions from Title 17 Section 80101(n), (q) and (t):

Permissive Burn Any day on which agricultural burning, including prescribed burning, is not prohibited by the state board and burning is authorized by the district consistent with these Guidelines.

Marginal Burn A day when limited amounts of agricultural burning, including prescribed burning, for individual projects in specific areas for limited times is not prohibited by the

UP LINKS

- ▶ [Reducing Air Pollution - ARB Programs](#)
- ▶ [Smoke Management Program](#)
- ▶ [Meteorology Program](#)

PROGRAM LINKS

Agricultural Burning

- ▶ [Burn Forecast](#)
- ▶ [Historical Air Basin Burn Decisions](#)
- ▶ [Sacramento Valley Allocation](#)
- ▶ [Ag Rx Burn Report Form](#)

Data and Current Observations

- ▶ [Aircraft Soundings](#)
- ▶ [Frequently Asked Questions](#)
- ▶ [Meteorological Database](#)
- ▶ [Real-Time Air Quality and Meteorological Data](#)
- ▶ [Walnut Grove Tower](#)

Prescribed Burning

- ▶ [PFIRS](#)

Page is updated by 3 p.m. each day

- | | | | | | | | |
|--------------|-------------|------------|-------------|---------------|-------------|-------------|-------------|
| Entire State | North Coast | NE Plateau | Sac Valley | Mtn Counties | San Joaquin | Lake Tahoe | Lake County |
| Bay Area | NC Coast | SC Coast | Great Basin | Mojave Desert | Salton Sea | South Coast | San Diego |

The notices on this page do not necessarily reflect the burn status of your local area. You must contact your local fire permit official (local air district or fire agency) for final authorization to burn.

Fire Weather Links: [California](#) | [Oregon](#) | [Nevada](#) | [Arizona](#)

Mountain Counties

Basin	24-hr Decision Tue Nov 5	48-hr Forecast Wed Nov 6	72-hr Outlook Thu Nov 7	96-hr Trend Fri Nov 8
Mountain Counties North (Plumas, Sierra, Nevada, Placer, El Dorado)	Marginal (Unchanging)	Marginal	Marginal	Marginal
Mountain Counties South (Amador, Calaveras, Tuolumne, Mariposa)	Marginal (Unchanging)	Marginal	Marginal	Marginal

Air Basin Map

Notes and Instructions

District Contact Information



El Dorado County Burn Line:

- [Mtn Counties](#): (530) 621-5897 or (866) 621-5897
- [Lake Tahoe](#): (530) 621-5842 or (888) 332-2876

Placer County Burn Line: (530) 889-6868

Mountain Counties North

El Dorado County AQMD
 Phone: (530) 621-7501
 Fax: (530) 295-2774
[Website](#)

Mountain Counties South

Amador County APCD
 Phone: (209) 257-0112
 Fax: (209) 257-0116
[Website](#)

Questions or comments?

Kate Wilkin, PhD
kwilkin@ucdavis.edu
Forest and Fire Advisor
UC Cooperative Extension

