

Weather, Climate, and Climate Change...

What the Data Say

Present Weather Briefing



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18 October 2017

<http://casf.diskstation.me/wordpress/>

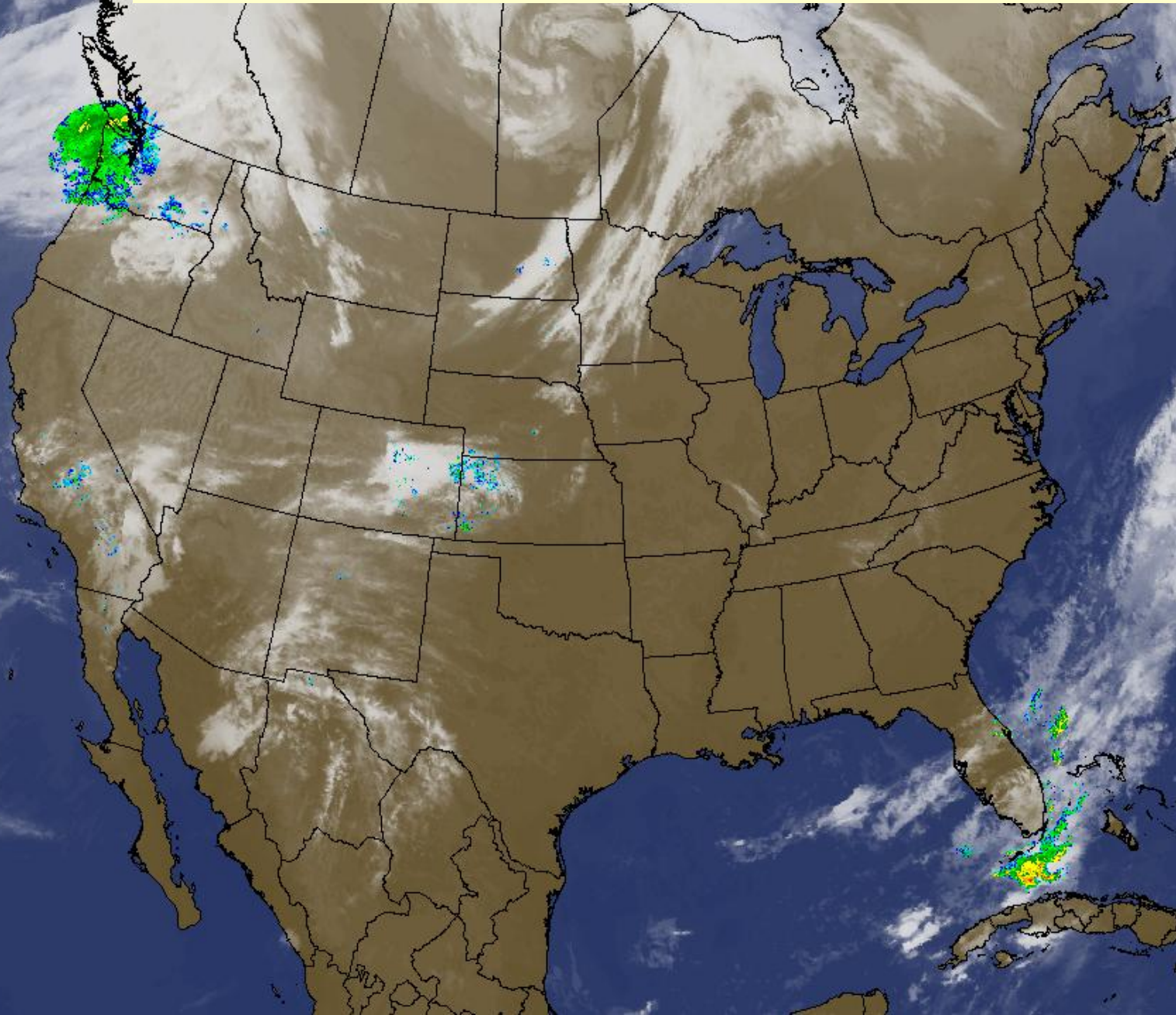
Twenty-Five Years Ago...

Meteorological Team Chief, High Energy Laser Systems Test Facility, WSMR 10 yrs



**MIRACL Device, Sea Light
Beam Director, Meteorological
Team and Equipment**





“Zonal” flow.
Short Wave
LK Winnipeg

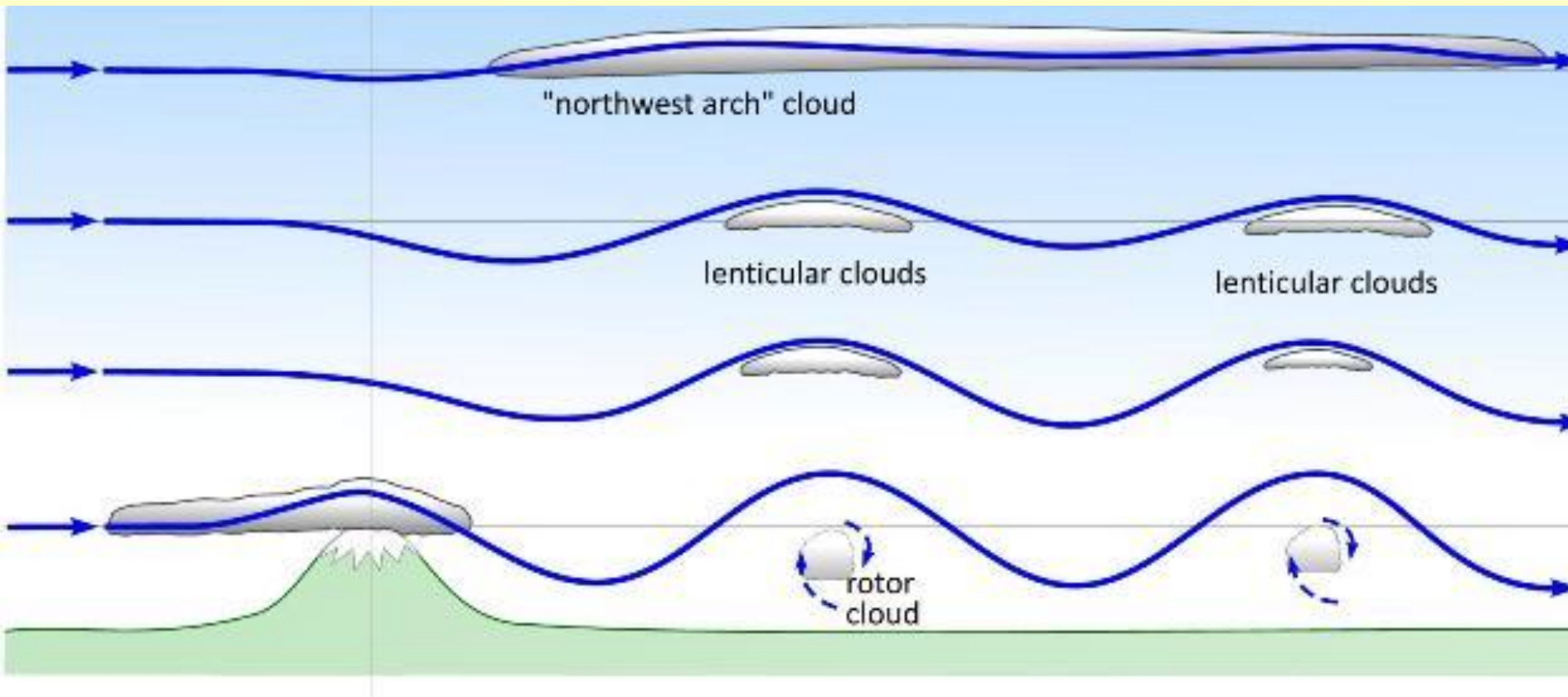
Major Storm
WA...OR

Cold Air Cu
Gulf Alaska

Mountain
wave
“Standing
Wave” clouds

MT, OR, CO

Minor Trofs
CA, AZ-NM

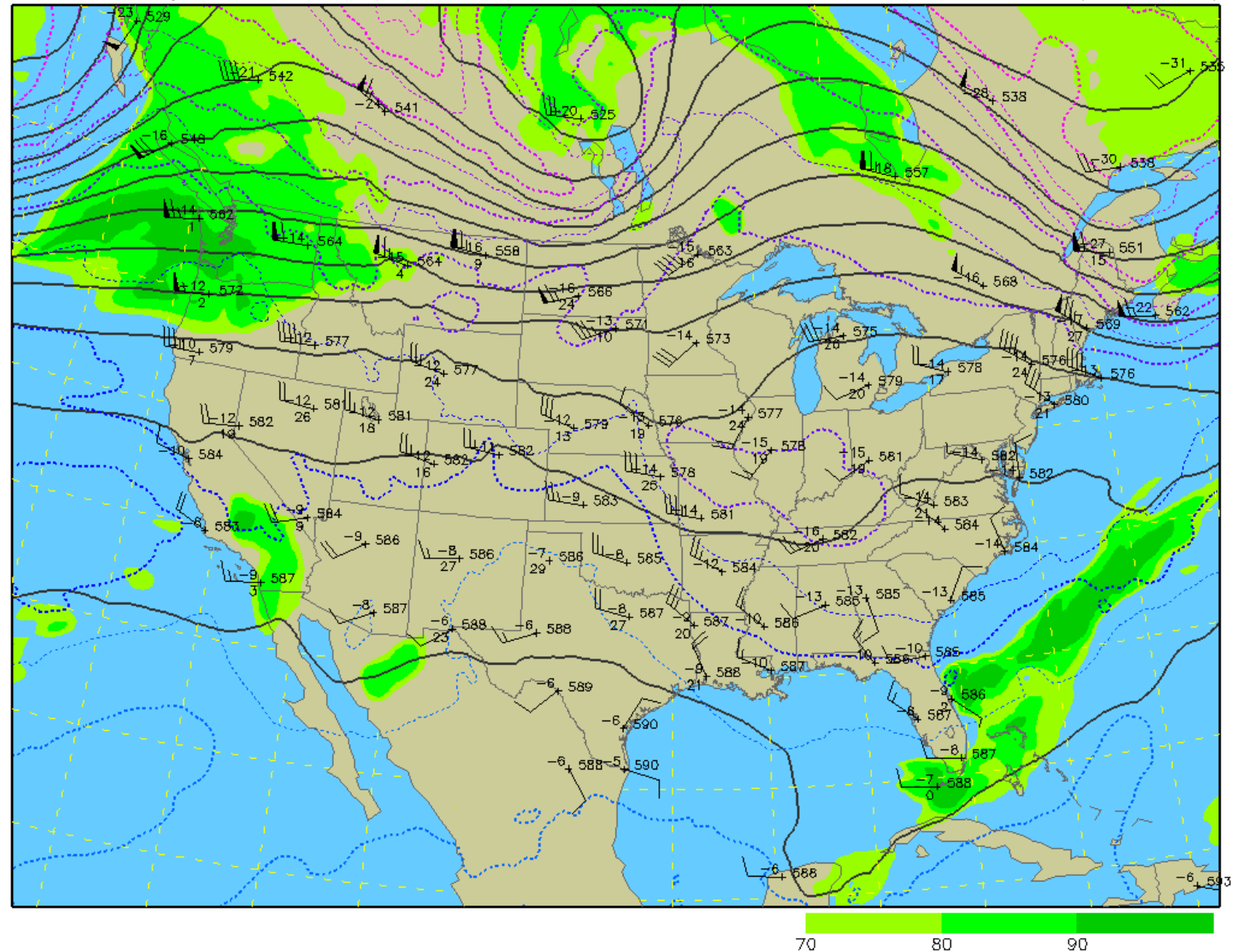




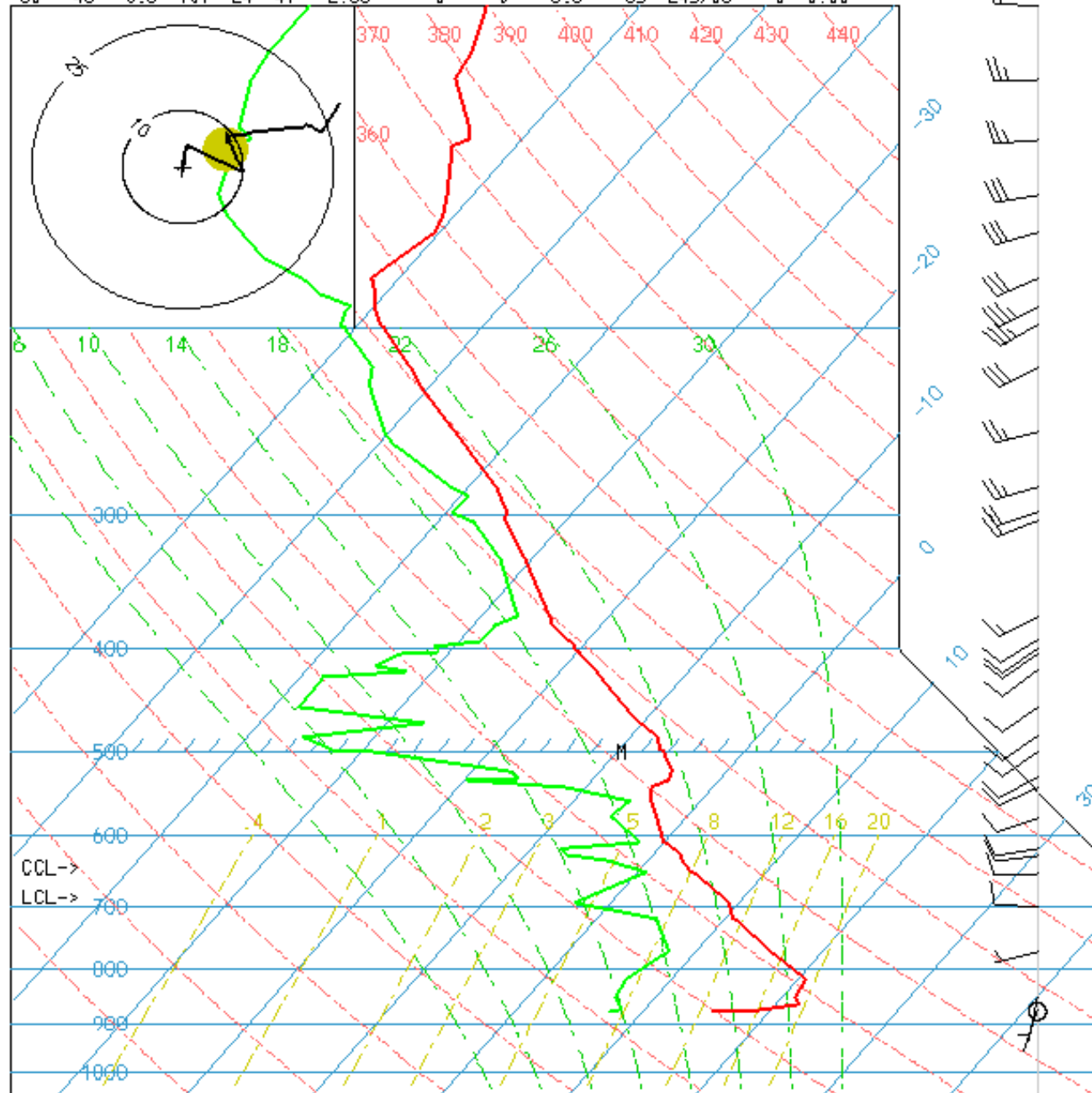
500 mb Heights (dm) / Temperature ($^{\circ}\text{C}$) / Humidity (%)

0-hour analysis valid 1200 UTC Wed 18 Oct 2017

RAP (12z 18 Oct)



T(F) Td LI SWT K TT Pw(1cm) CAPE CIN Bmin Tc CELL SREH VGP
 60 46 3.3 101 24 41 2.38 0 0 -3.8 85 245/08 0 0.00



KEPZ Sounding
 18 OCT 1200Z
 0600L

PW = 23.8 mm
 PW = .94 Inches

Right on the
 edge of
 thunderstorms.

SKEW-T/LOG-P VALID 1200 UTC 10/18/2017 KEPZ

Lat = 31.87 , Lon = -106.70

Rather than examine in detail borderland present weather,
this week we'll examine another weather-related disaster:

Fire Disaster Last Week in California's Wine Country
and

The Weather conditions which enabled it: The Diablo Winds

Last week's present weather graphics are excellent
diagnostics for this episode...

<http://www.express.co.uk/news/nature/864519/California-fires-map-diablo-winds-wildfires-latest-USA>

Firefighters assess the scene as a house burns in the Napa wine region of California



AFP/Getty Images

A destroyed car sits in the remains of a home in Santa Rosa, California



<http://www.mercurynews.com/2017/10/11/wine-country-fires-gov-brown-vetoed-2016-bill-aimed-at-power-line-wildfire-safety/>

News California News

Wine Country fires: Gov. Brown vetoed 2016 bill aimed at power line, wildfire safety



Fallen electrical lines on Parker Hill Road in Santa Rosa on Tuesday. (Nhat V. Meyer/Bay Area News Group)

<http://www.mercurynews.com/2017/10/11/wine-country-fires-gov-brown-vetoed-2016-bill-aimed-at-power-line-wildfire-safety/>

A year ago, a bipartisan bill aimed at reducing the risk of wildfires from overhead electrical lines went to Gov. Jerry Brown's desk. It was vetoed.

The author of the measure — passed unanimously by both houses of the Legislature — now says the governor missed out on a chance to tackle one of his state's longstanding vulnerabilities: massive wildfires endangering residential communities.

But the governor's office and the California Public Utilities Commission say the bill duplicated efforts already underway among the CPUC, Cal Fire and utilities like PG&E.

<http://www.mercurynews.com/2017/10/11/wine-country-fires-gov-brown-vetoed-2016-bill-aimed-at-power-line-wildfire-safety/>

Now, as a series of deadly fires rages in Wine Country, serious questions are once again being asked about the safety of overhead electrical wires in a state prone to drought and fierce winds.

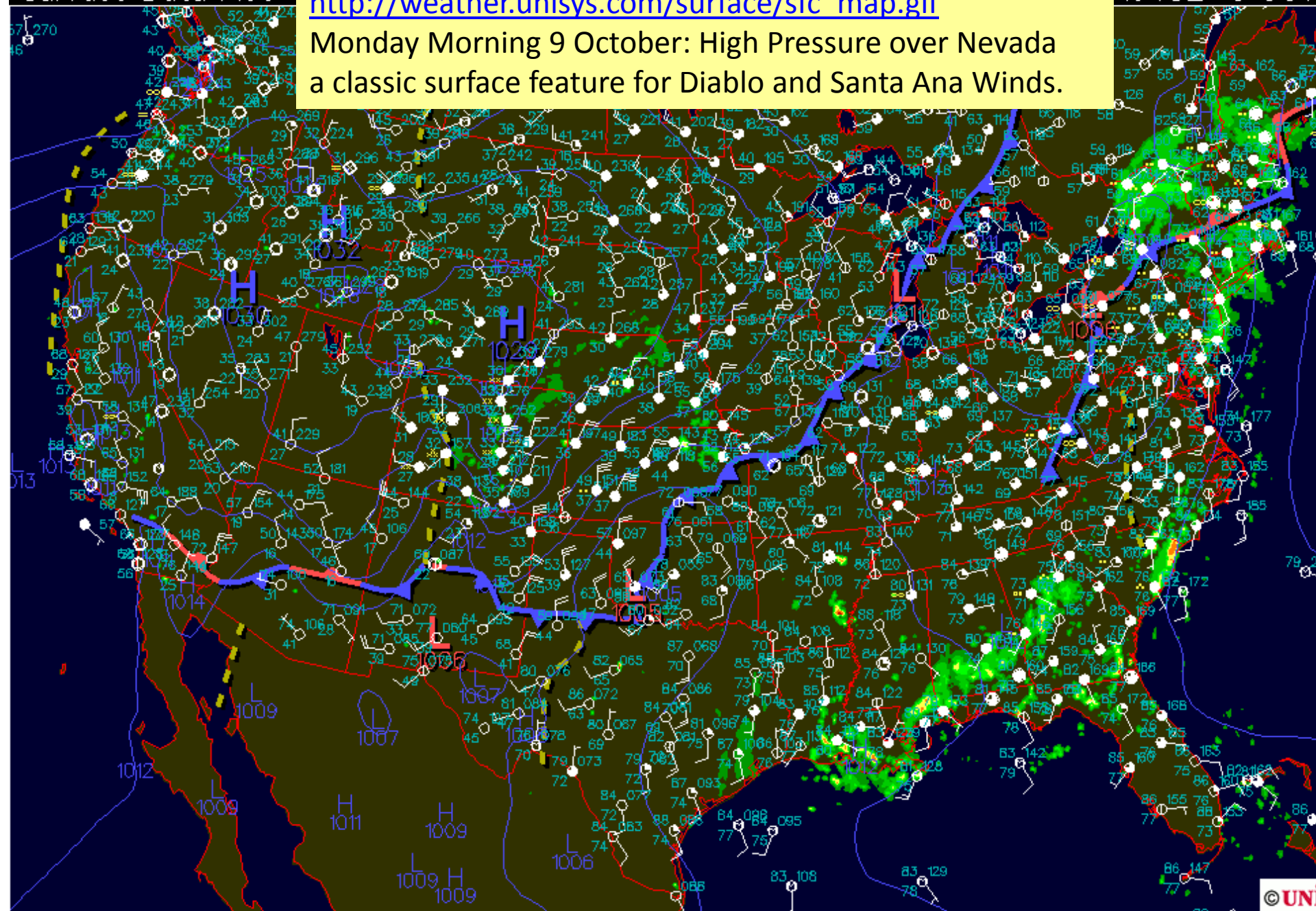
On Wednesday, Cal Fire said that investigators have started looking into whether toppled power wires and exploding transformers Sunday night may have ignited the simultaneous string of blazes.

<https://wattsupwiththat.com/2017/10/12/qotw-climatologist-hillary-clinton-shot-down-by-reality/>

PG&E power lines may be linked to Wine Country fires



Monday Morning 9 October: High Pressure over Nevada
a classic surface feature for Diablo and Santa Ana Winds.

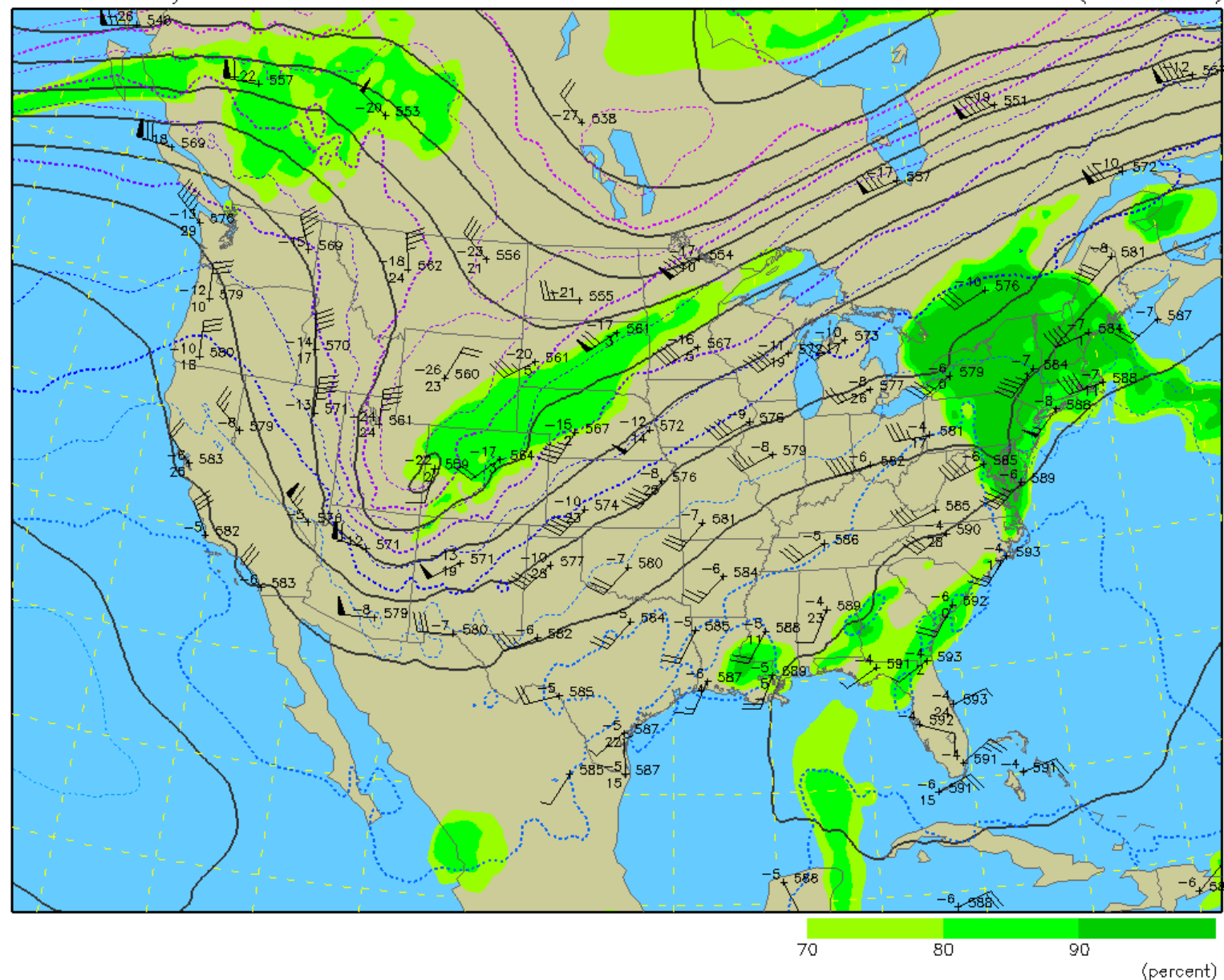


500 mb Heights (dm) / Temperature (°C) / Humidity (%)

9 OCT 2017/ 12Z 500 mb

0-hour analysis valid 1200 UTC Mon 09 Oct 2017

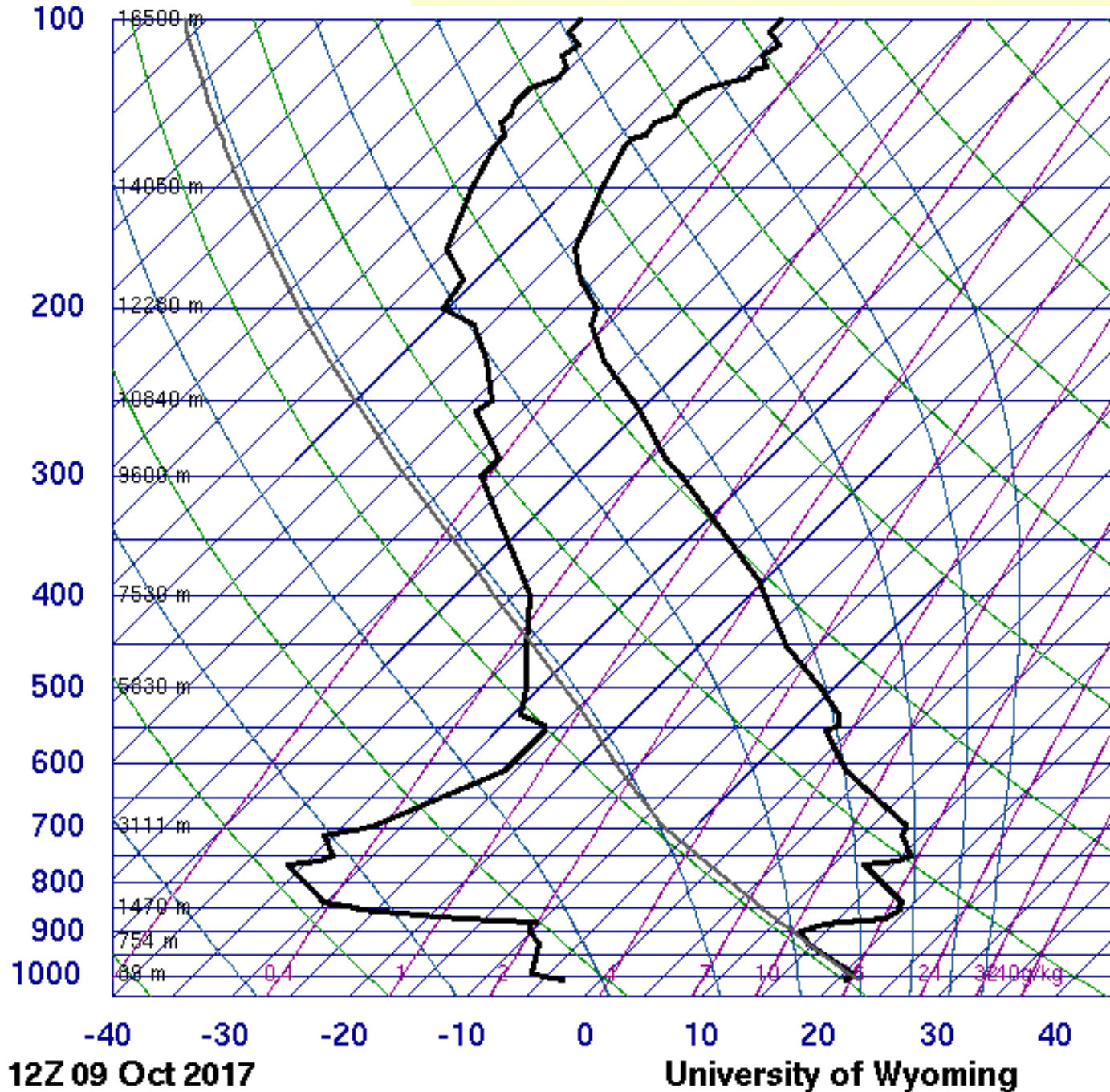
RAP (12z 09 Oct)



High Pressure building in at the surface and aloft in October over the Pacific Northwest is the key ingredient for Diablo Wind events.

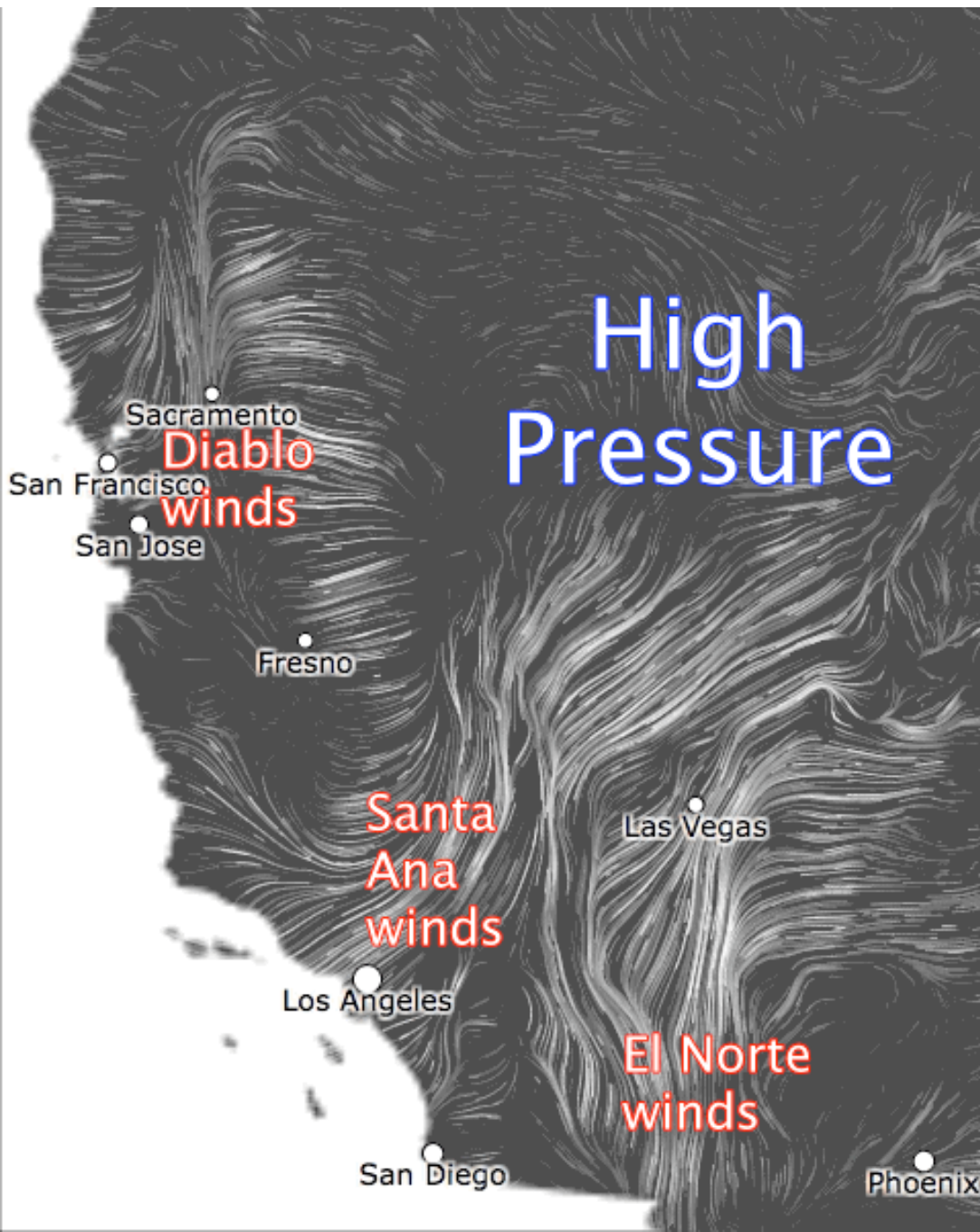
72493 OAK Oakland Int

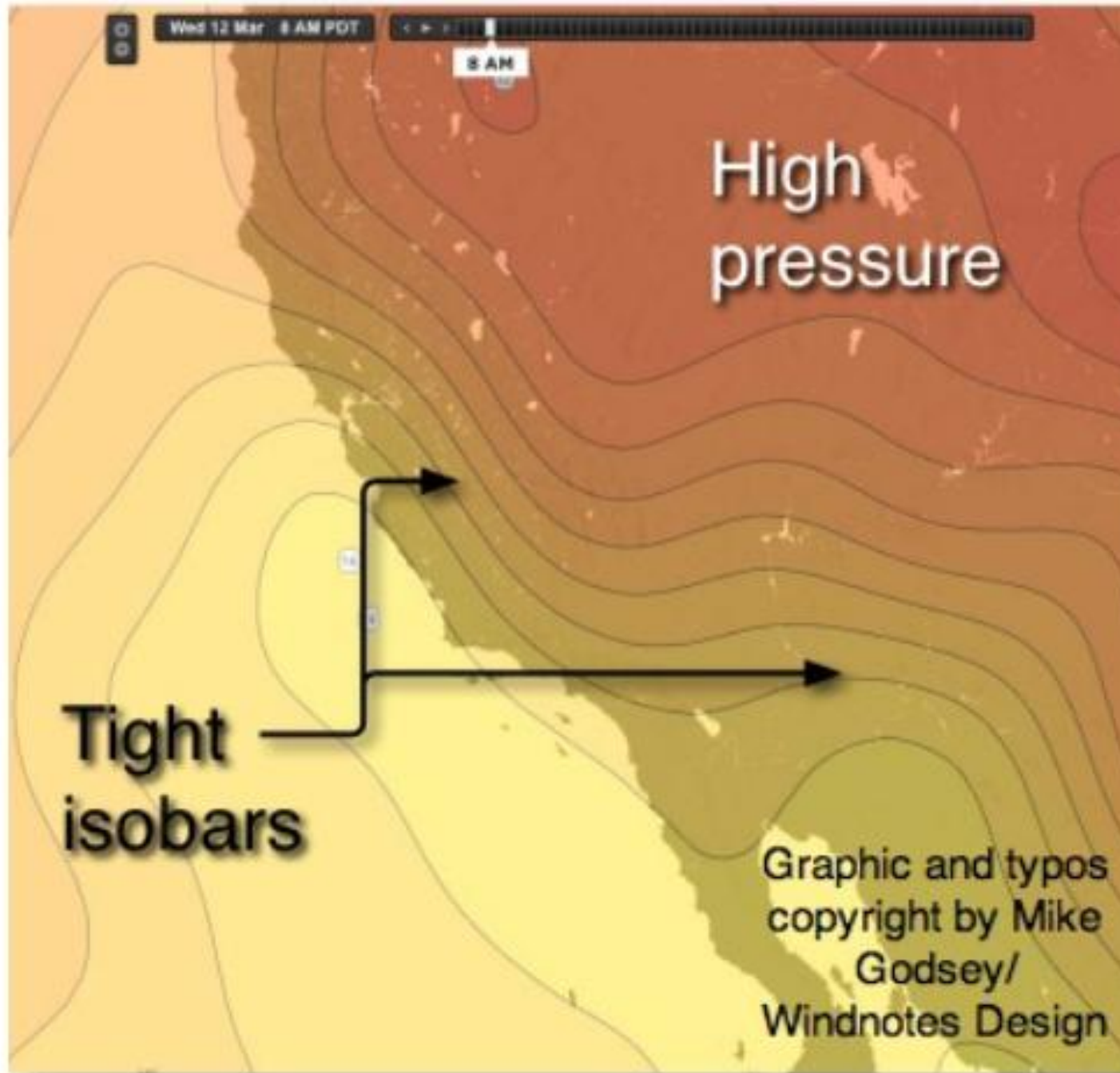
OAK Sounding Monday Morning 9 Oct 1200Z

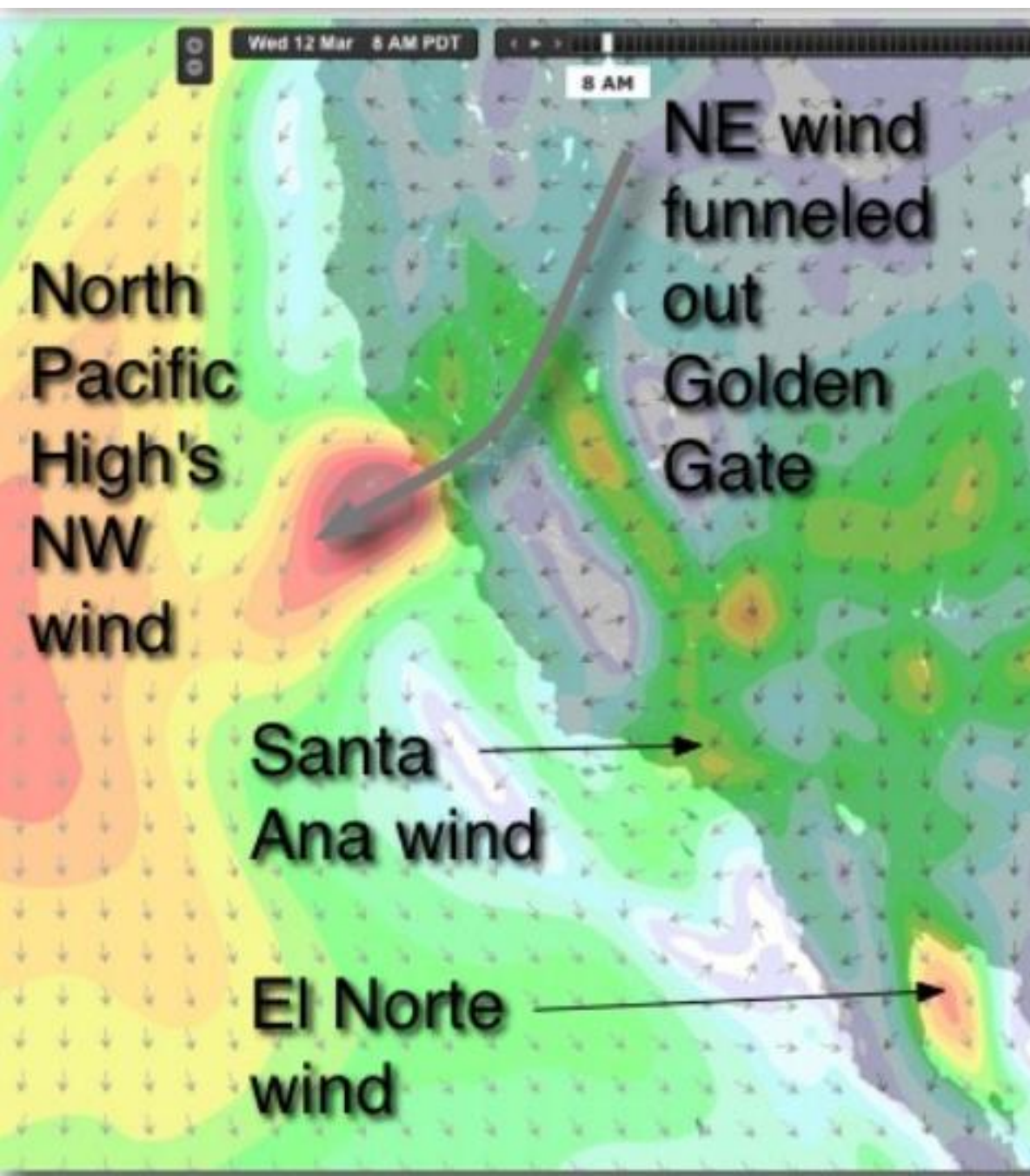


SLAT 37.73
SLON -122.21
SELV 3.00
SHOW 17.50
LIFT 21.69
LFTV 21.67
SWET 50.99
KINX -47.5
CTOT -20.7
VTOT 25.30
TOTL 4.60
CAPE 0.00
CAPV 0.00
CINS 0.00
CINV 0.00
EQLV -9999
EQTV -9999
LFCT -9999
LFCV -9999
BRCH 0.00
BRCV 0.00
LCLT 261.8
LCLP 664.9
MLTH 294.2
MLMR 2.44
THCK 5741.
PWAT 5.83

Offshore Winds
Downslope Wind
Adiabatic
Compression
Dry Conditions
up to 16,500 ft
~550 mb

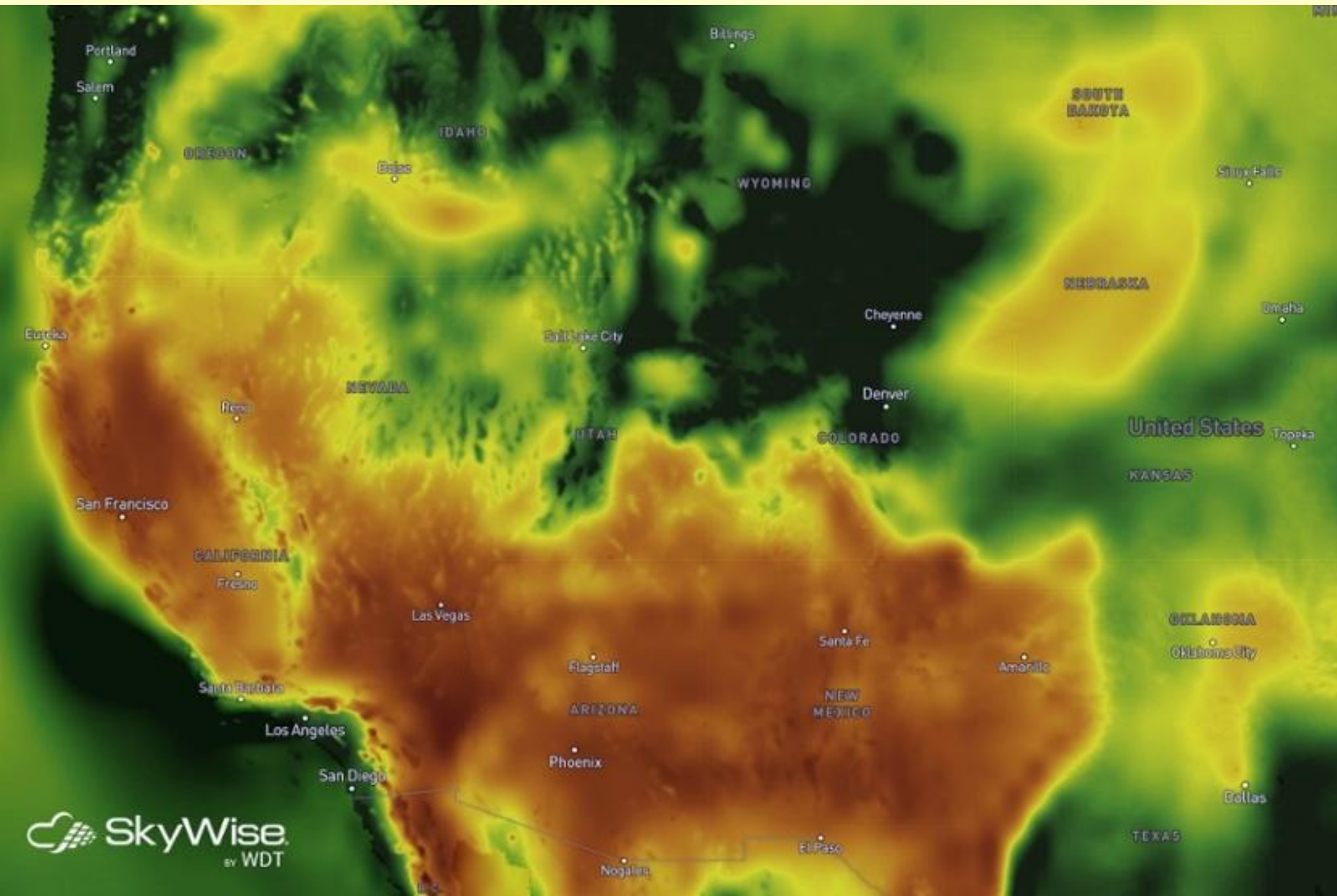








Relative Humidity Chart



<https://www.marketslant.com/article/15-stark-videos-expose-reality-california-wildfires-0>

WINDS WHIP UP FIERCE CALIFORNIA FIRES

Hot, dry winds (known as **Santa Anas** in southern California and **Diablos** in northern California) often whip up roaring fires across the state. It usually begins due to winds circulating around a high-pressure area over Nevada or Utah.

1 HIGH WINDS

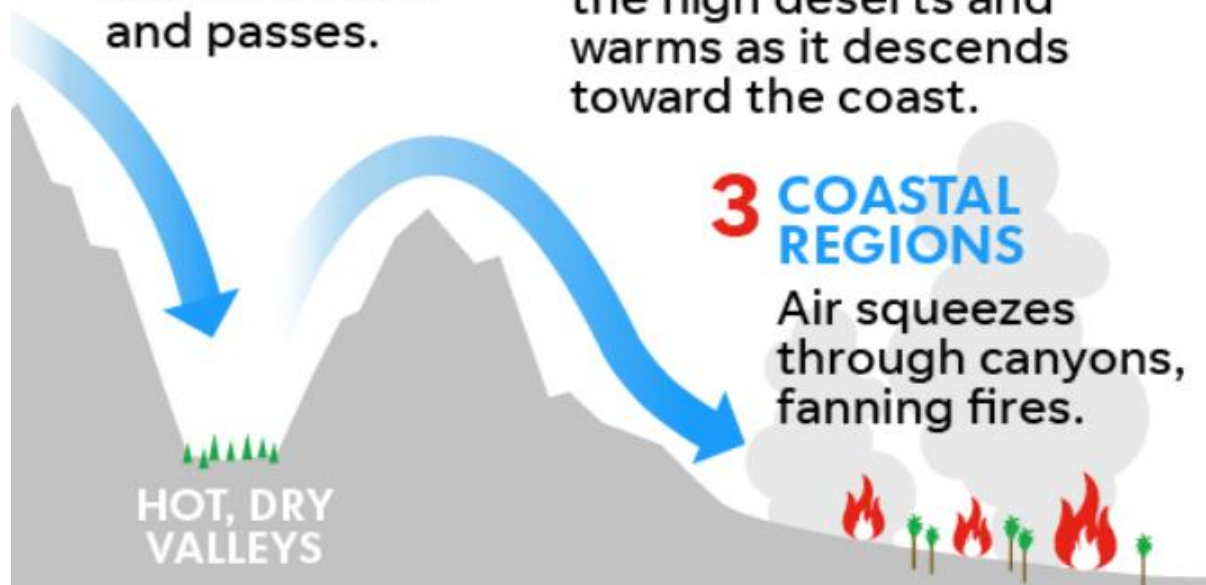
Winds can gust to **80 mph** in the mountains and passes.

2 COMPRESSED AIR

Cool air descends from the high deserts and warms as it descends toward the coast.

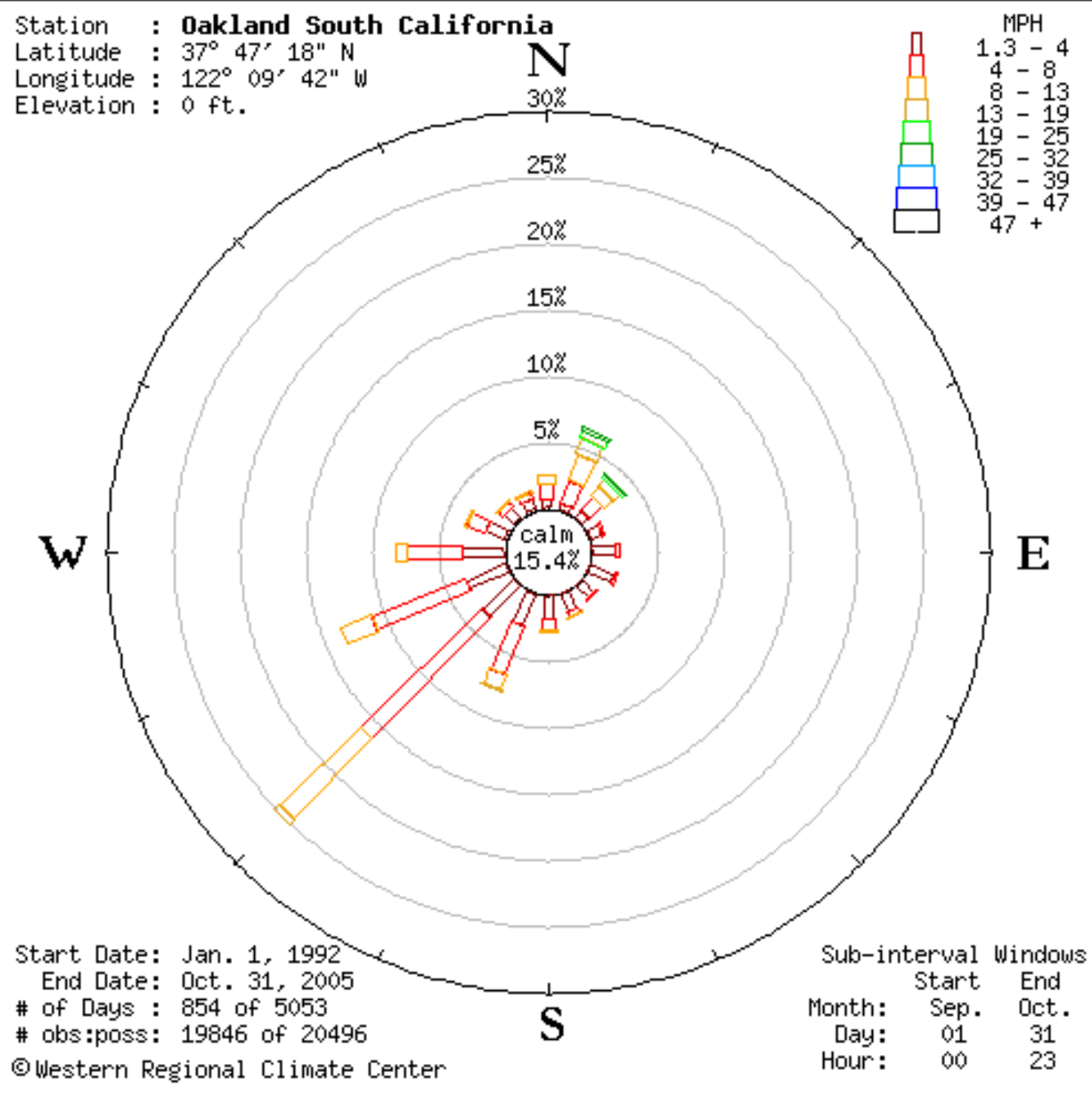
3 COASTAL REGIONS

Air squeezes through canyons, fanning fires.



SOURCE National Weather Service;
Storm Prediction Center

USA TODAY



Wind Rose:

Oakland South, California.

Strongest winds (Greens)

Strong winds from the Northeast.

“Diablo Winds”

CALIFORNIA

Here's Why October Is California's Most Dangerous Month for Wildfires

“....October ...most dangerous month for California wildfires as dry vegetation and seasonal winds fuel speedy flames.

"By the time you get to this season, right when you're starting to anticipate... rain, it's actually the most fire prone part of the year," said Max Moritz, a wildfire specialist at the University of California Cooperative Extension.

...most destructive and largest fires in California...have occurred in...October.

...1991 Oakland hills fire that [destroyed 3,500 homes and killed 25 people](#) in Alameda County near San Francisco... the state's most destructive fire.

...the October 2003 Cedar fire in San Diego county [scorched 273,246 acres of land](#) — the most of any fire in the state's history.