

Quarry Park Eucalyptus Canopy Fire An El Granada Tragedy?



Keith Mangold – 7/22/2021

What is Unique to El Granada

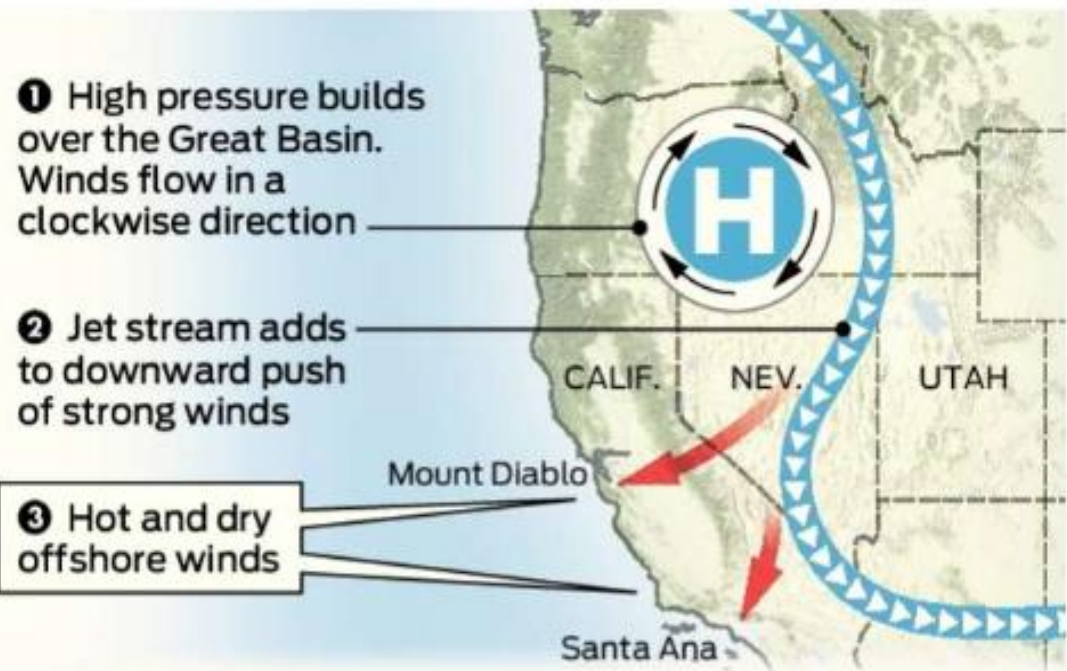
- ½ Square Mile of Dense Eucalyptus Grove
- 30 to 70 % Slopes
- Northeast Fire Wind (most prevalent) would shower embers over entire town in Canopy Fire –
- No Effective Ground Equipment Canopy Fire Suppression
- High Population Density adjacent to Quarry Park Eucalyptus
- No Escape on El Granada Blvd if fire jumps road at San Pedro Blvd. (120 Residences at Risk)

Topography



700 Feet in Elevation with 30%-70% Grades
Ground Fire Equipment unable to Reach Canopy

Hot, Dry Diablo Wind



RED FLAG WARNING

North Bay Hills through 5 PM Thursday

East Bay Hills from 11 PM through 5 PM Thursday

Santa Cruz Mtns from 11 PM through 5 PM Thursday

Mtns of Monterey and San Benito counties from 11 PM through 5 PM Thursday

Impacts:
Any fires that develop will spread rapidly. Outdoor burning is NOT recommended

Winds and Humidity:

- North to northeast winds 20-30 mph with gusts to 50 mph
- 10-20% humidity with nighttime recovery values between 30-40%

The complex block features a satellite-style map of California with several areas highlighted in red, indicating Red Flag Warnings. A yellow banner at the top contains the text 'RED FLAG WARNING'. A National Weather Service logo is in the top right corner. Arrows point from text boxes to specific warning areas on the map.

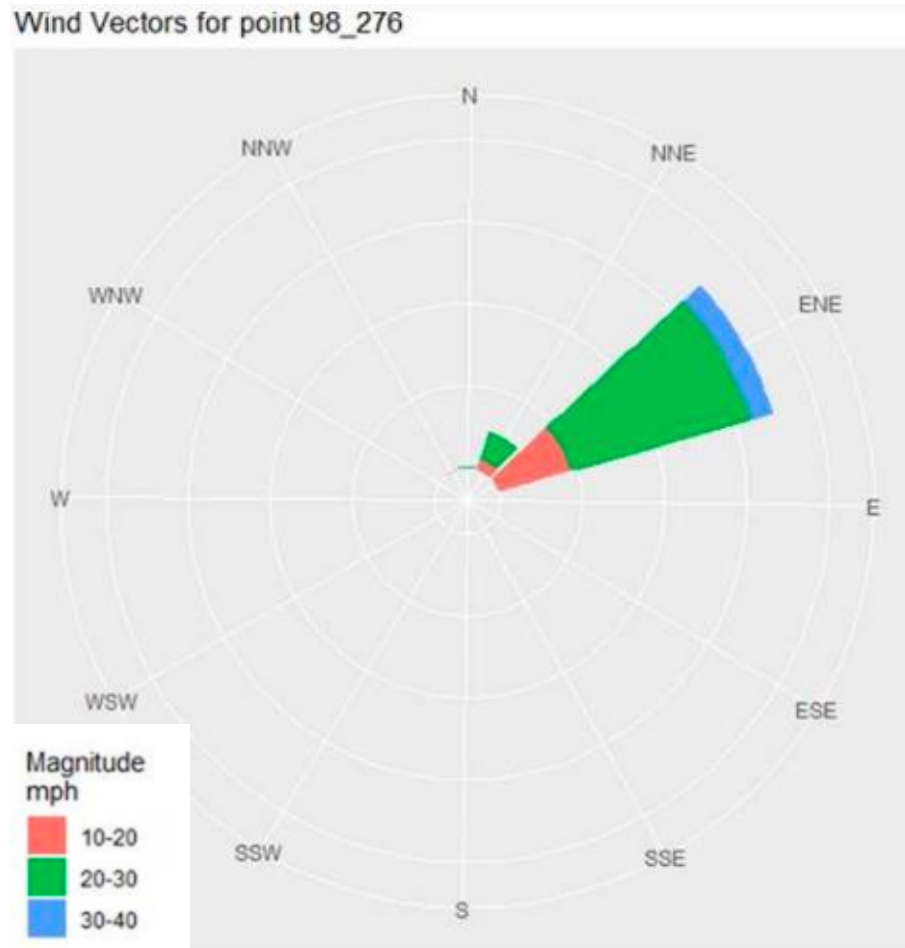
10/15/2020

Temperature 80

Wind 39 MPH

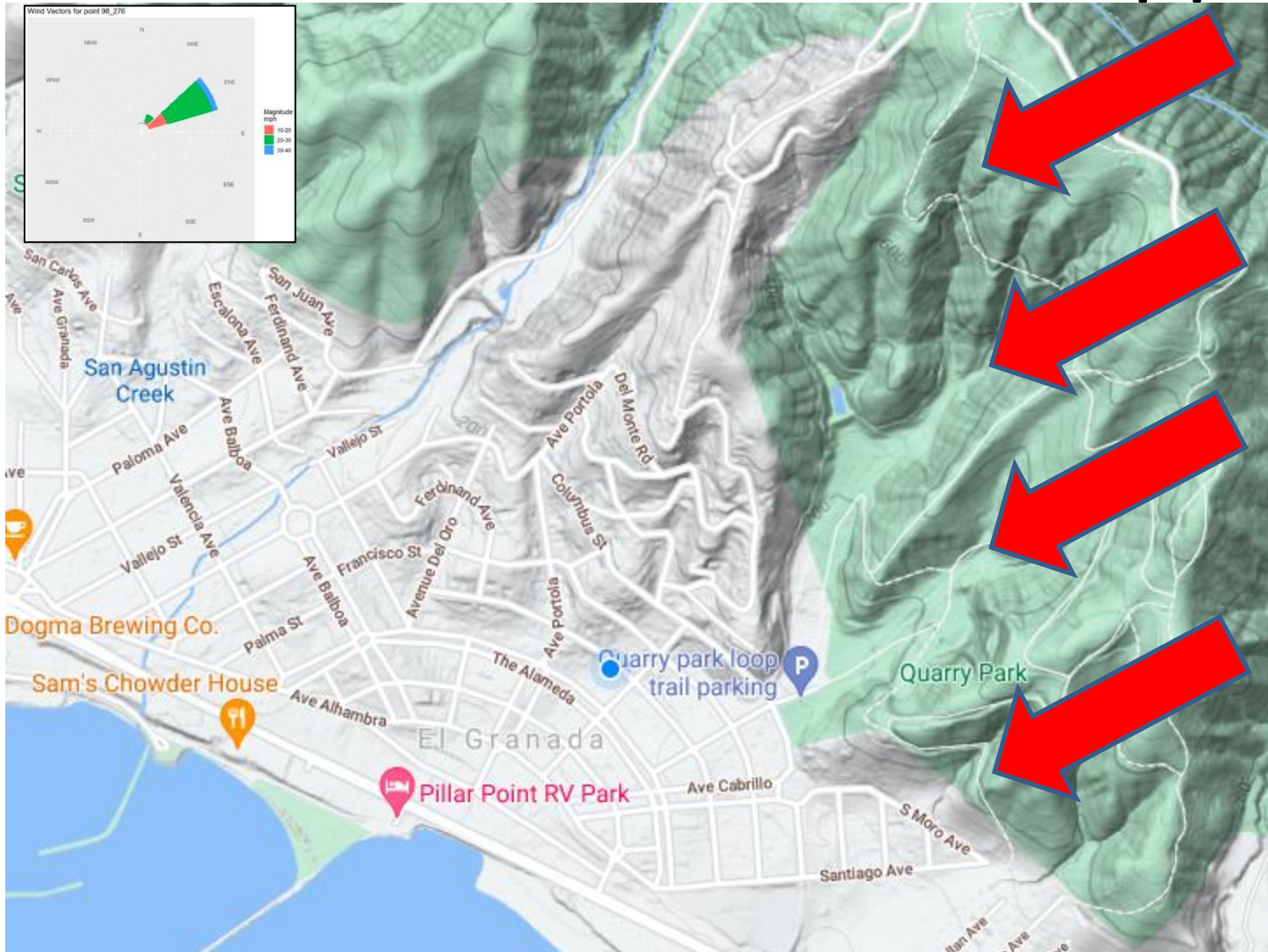
Humidity 12%

Local “Fire Weather” Winds



Local frequency distribution of the ~600 hourly records of the worst fire weather occurring over the period of record (2003-2018). Source: CalFire Fire and Resource Assessment Program

“Fire Weather Wind” Mapped



**Diablo
Wind**

“Worst fire weather” frequency distribution mapped to Quarry Park and El Granada



- **Oils in dry eucalyptus leaves create flammable ground cover**
- **Oils in dry eucalyptus bark create a pathway to the canopy overhead**
- **Eucalyptus canopy fires become firestorms**
- **Embers from burning leaves and bark travel miles in high winds**

**Canopy Firestorm -
Burning Embers over
El Granada**

3



**Dry Bark & Branches -
Pathway to the
Canopy**

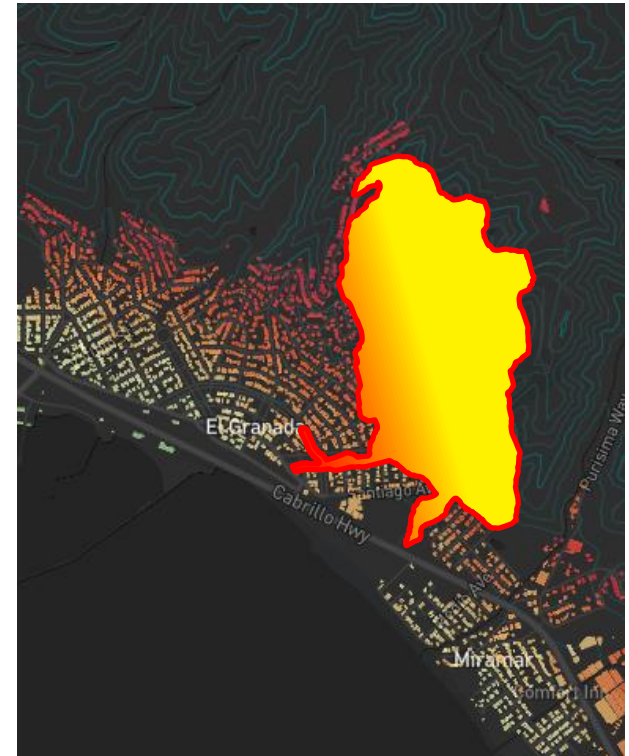
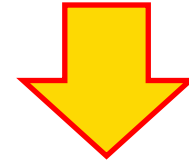
2



**Flammable Ground
Cover**

1

4



**Destroying El
Granada = Quarry
Park Eucalyptus +
Diablo Wind**

Ignition Sources

- Urban Boundary Accidents
 - House Wiring, Power Poles, Transformers, etc.
 - Generators (Major Concern!)
 - Vehicle Collisions
 - Barbeque Grills, Fire Pits
- Aerial Fireworks & Gasoline Fire *(Quarry Park Rave – August 29, 2020)
- Fireworks – Multiple Occurrences 2021
- Cigarettes (Anytime)
- Off Road Motorcycles (September 13, 2020)
- Arson
- Power Transmission Lines (1.8 Miles above EG highlands)
- Spread from GGNRA, SFPUC Lands
- Lightning ** (CZU Progression)

Fire Probability

We have averaged four Diablo Wind events per year over last 10 years.

- Recently September, October and November have multiple days with 40+ mph winds and temperatures in the upper 80's. With very low humidity, these factors cause high flammability conditions within a single day.
- If a canopy fire occurs in Quarry Park during a Diablo Wind event, it will be unstoppable by ground crews.
- **The consequences are catastrophic, and the probability is increasing, especially with the drought!**

The End?



Oakland Hills Fire Aftermath, 1991

Shaded Fuel Breaks



In a shaded fuel break, trees are typically spaced so their crowns no longer touch, lower branches are pruned, and brush and dead and down material are removed or replaced with masticated material. Shaded fuel breaks are most often placed strategically on ridgetops, roads, and around structures.

Shaded fuel breaks are strips of land in which vegetation has been modified to act as strategic "defensible landscape." The purpose is to reduce the amount of combustible material so that when a fire hits the shaded fuel break it will

decrease in intensity, cool down, and drop from the canopy to the ground. Along roadways, shaded fuel breaks create safer ingress and egress routes for fire personnel and citizens.

[Cal Fire Fuels Reduction Guide - Final 2021](#)

Not Effective in High Winds, When Crowns Touch, or Eucalyptus Fires – i.e. Quarry Park Canopy Fire



Before



After

[Quarry Park Fuel Reduction | Parks Department \(smcgov.org\)](#)