



napa valley vintners

**The Napa Valley's**

# **Dirty Little Secrets**

*Building quality from the ground up.*



Napa Valley.

To a Wine Grape, it's Eden™



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# What You Will Learn

**Napa Valley Quality:**  
A diversity of great wines



**Soils and Topography:**  
The source of greatness



**Climates:**  
The Climate Connection



**Appellations:**  
Diversity and Distinction

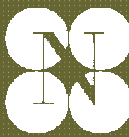


The Ingredients for Greatness



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## *Why soils are important...*

“...every drop of wine in your glass started as **rain falling to the ground**, the moisture in the ground being **drawn up as sap through the roots of the vine**, up through the stalk and into the grapes.”

*Hugh Johnson  
Wine, 1966*



It's no Secret...



# It Takes the Right Ingredients:

*The Land and the People*

Passionate people

+Vineyard aspects

+Soils

+Climate

= Diversity of Great Wines



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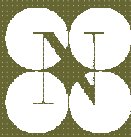
It's no Secret...



# Passion and Opportunity

People following their **dreams** in the  
winemaking arts

A seemingly **endless palette** of vineyard  
situations and climates



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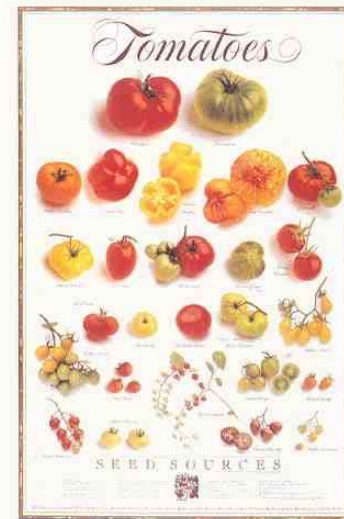
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## Great Flavor is Grown

Wine grapes are not so different from other forms of produce... **the right vine needs to be matched to the right conditions**

- Burpee's seed company offers varieties broken down by color, size, physical characteristics, climate compatibility and ripening characteristics
- One on-line company offers over 200 varieties of 'heirloom' tomatoes alone!





## Ripe, rich and bursting with Flavor

The right variety grown in the right location with expert care ...

- Great wine is all about the balance and intensity of color, flavor, aromas.



*Over 20 red grape varieties and 15 white grape varieties thrive to create fine wines in the diverse soils and micro climates of the Napa Valley*

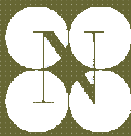




## Extraordinary Wine Character

The color, flavors, aromas and intensity of a wine are determined by:

- Grape variety or varieties selected
- Origin: where they are grown
  - Topography
  - Soil
  - Climate
- Viticulture: how they are grown
- Winemaking
- Cellaring and aging



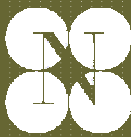
It's no Secret...



## Diversity

The Napa Valley has a range of climates, terrain and soil to support the creation of a diverse spectrum of world-class wine styles:

- Sparkling and still table wines
- Dry and sweet wines
- Reds, whites, blush and roses
- Dessert and fortified wines



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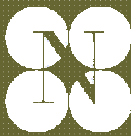
## Quality

- *A distinctive characteristic...*
- *An essential identifying nature or character...*
- *The highest or finest standard...*

“the Napa Valley is recognized as producing some of the **finest wines in the world.**”

“renowned for the **extraordinary diversity** of appellations and wine styles”





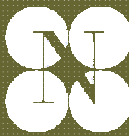
# The Napa Valley

## *A Great Place to Plant Your Roots*



- 60 miles (100 km) north of San Francisco
- 45,000 acres of premium wine grapes.
- Only 4% of California's total wine production.
- Quality and diversity: world class wines across a spectrum of styles





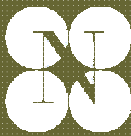
## Distinctive Viticultural Areas

The combination of

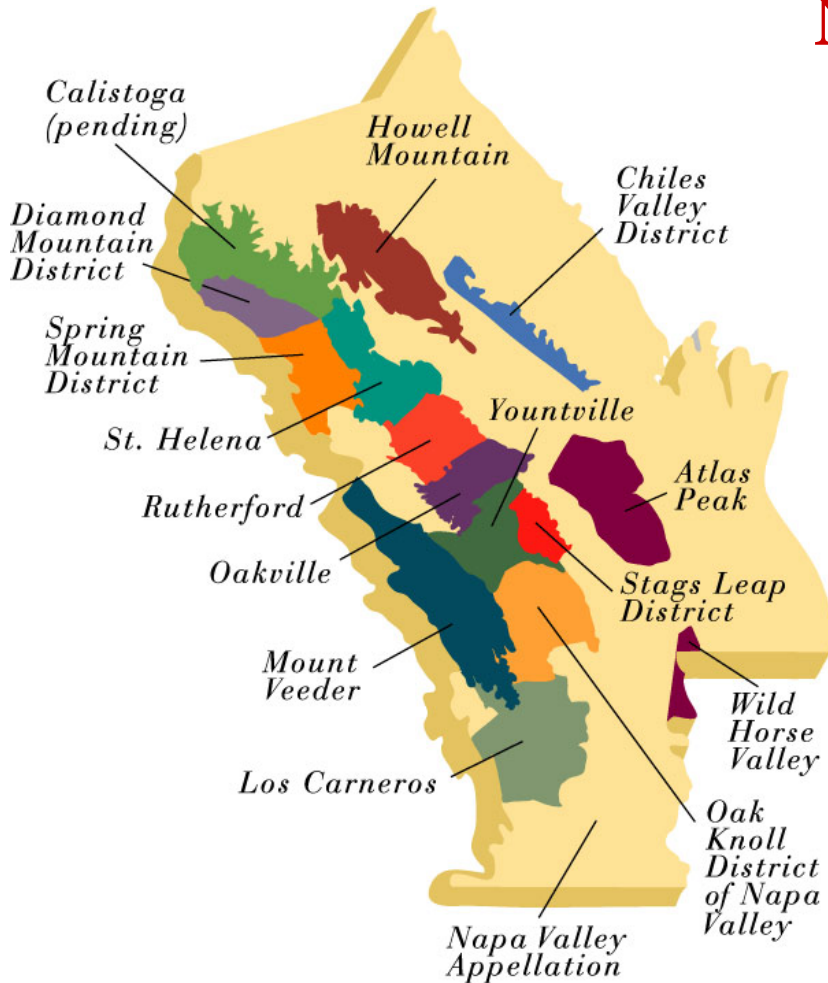
- Soils
- Climate
- Geology

makes Napa Valley an ideal place for growing a wide variety of consistently **excellent, high-quality wine grapes**, which allows our vintners to produce **world-class wines**.





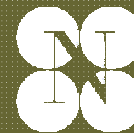
## Napa Valley AVAs



### What is an AVA?

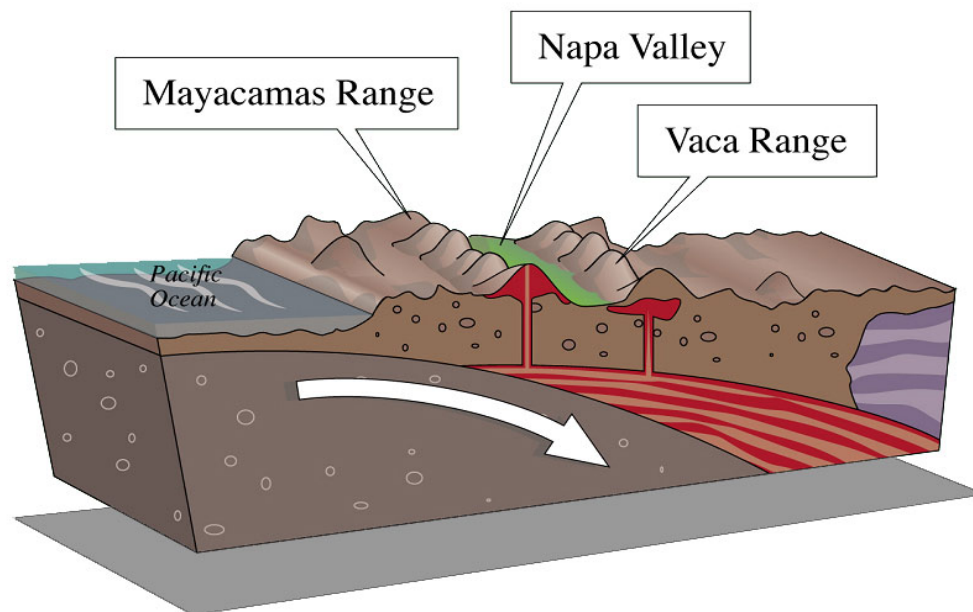
- An American Viticultural Area is geographically defined by
  - Topography
  - Unique soils
  - Climate
- There are 14 approved AVAs within Napa Valley.





## Rocking and Rolling

*Our unique geologic foundation*

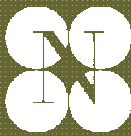
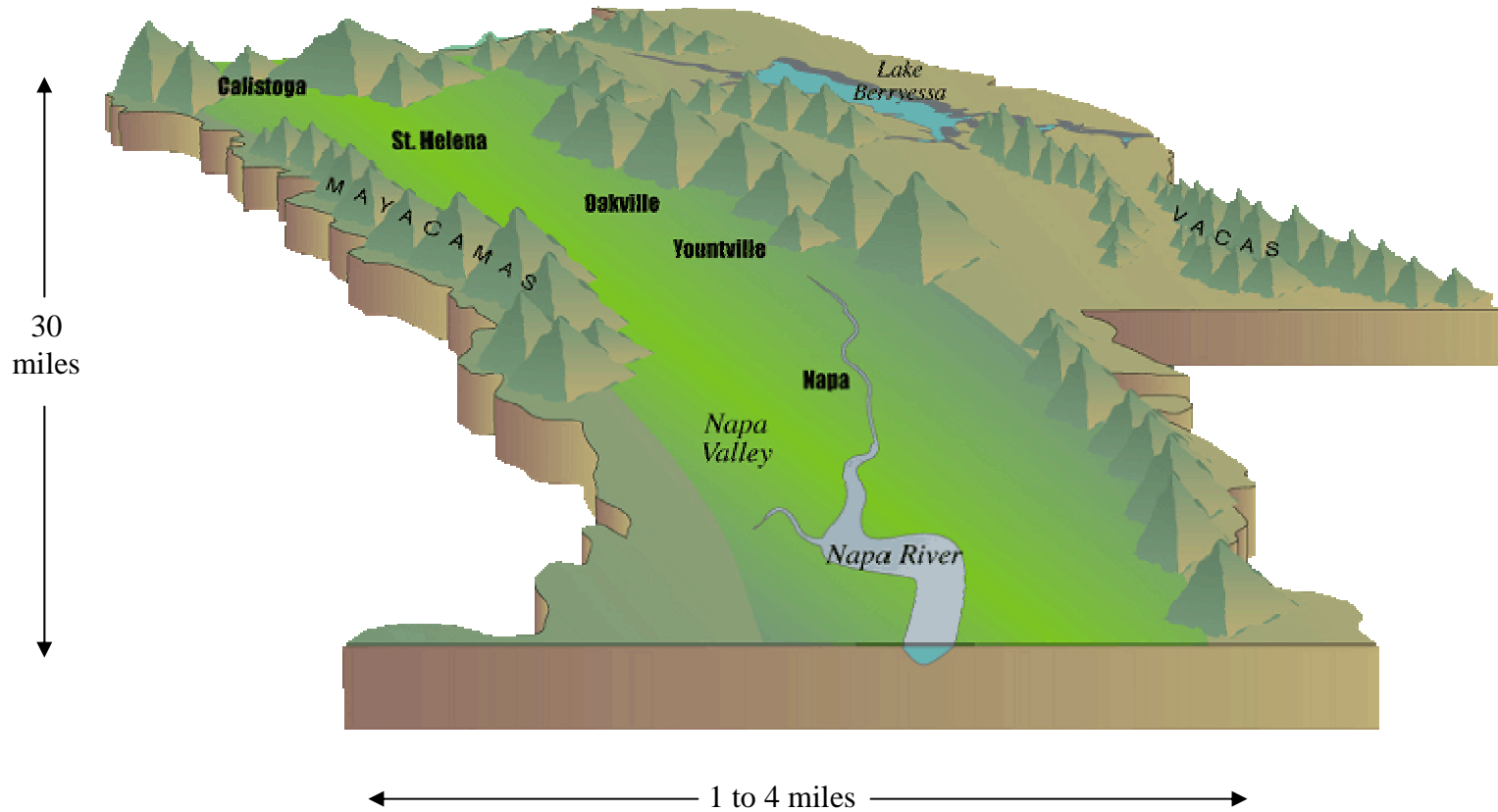


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# Geology: Napa ROCKS!

*Resulting in our diversity of aspects, altitudes, soils and climates...*



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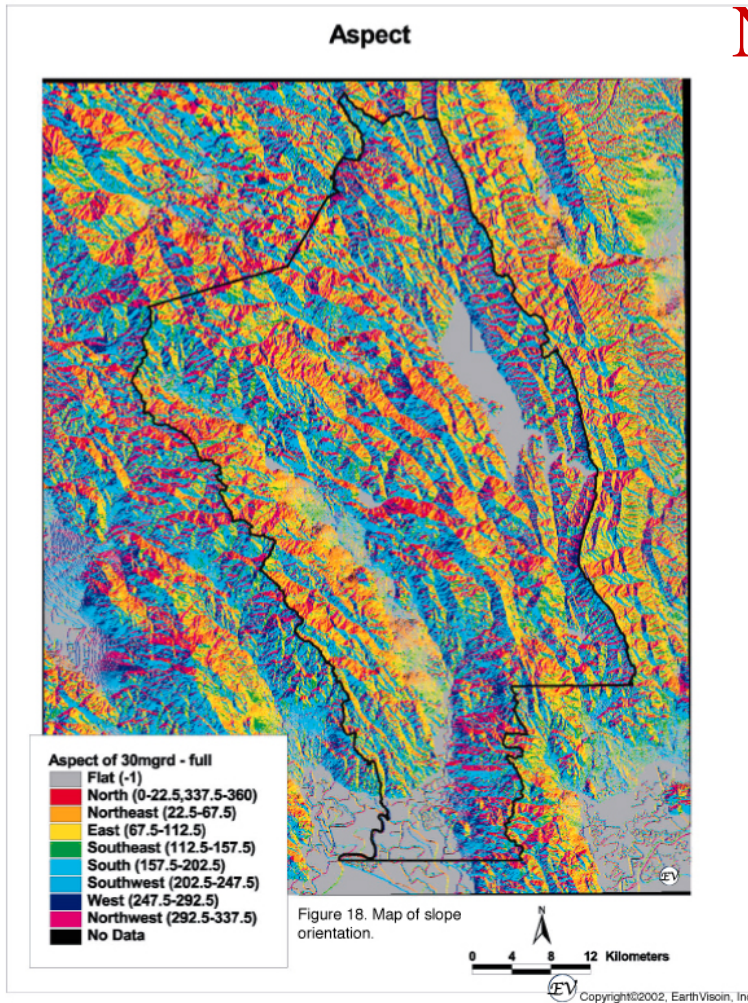
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## Napa Valley Topography

- Multiple exposures
- Elevation
- Slope
- Directional Aspects
- Mesoclimates





And look what you get!

*To a wine grape it's Eden...*

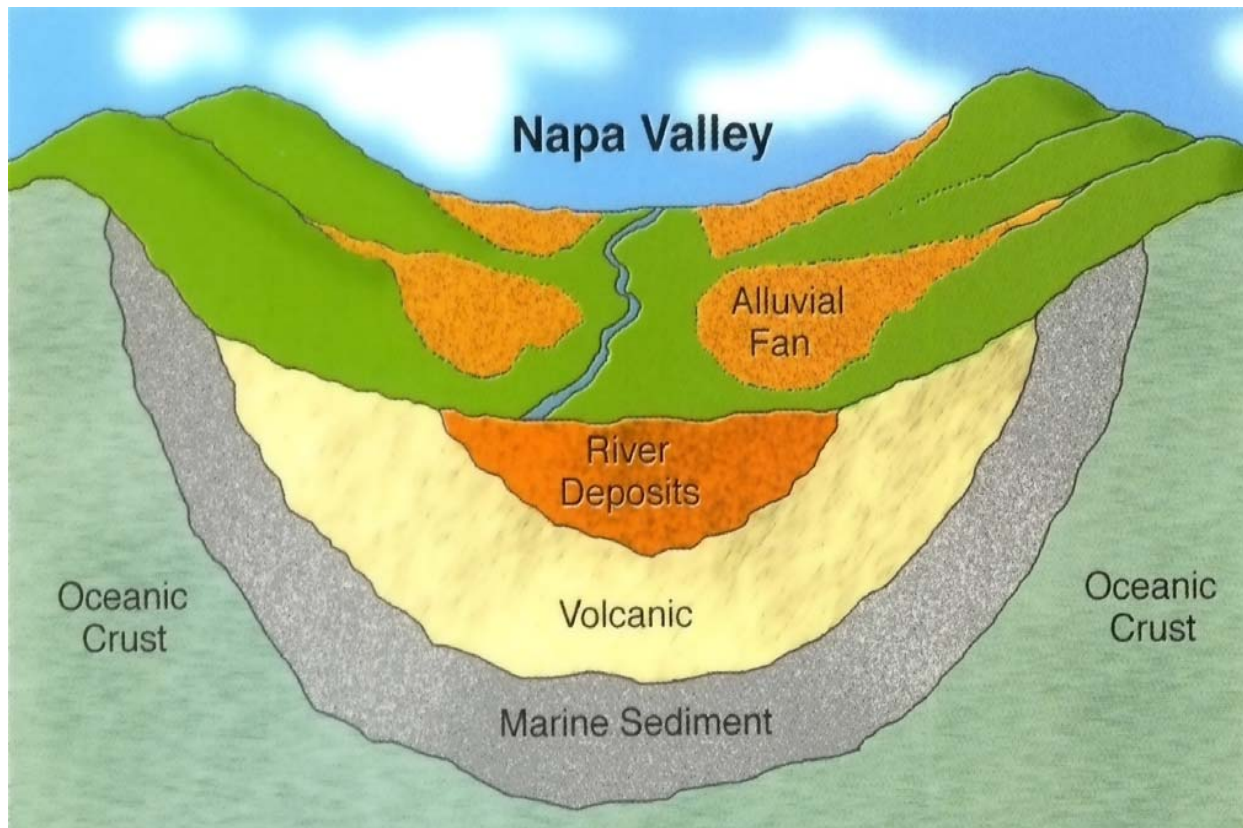


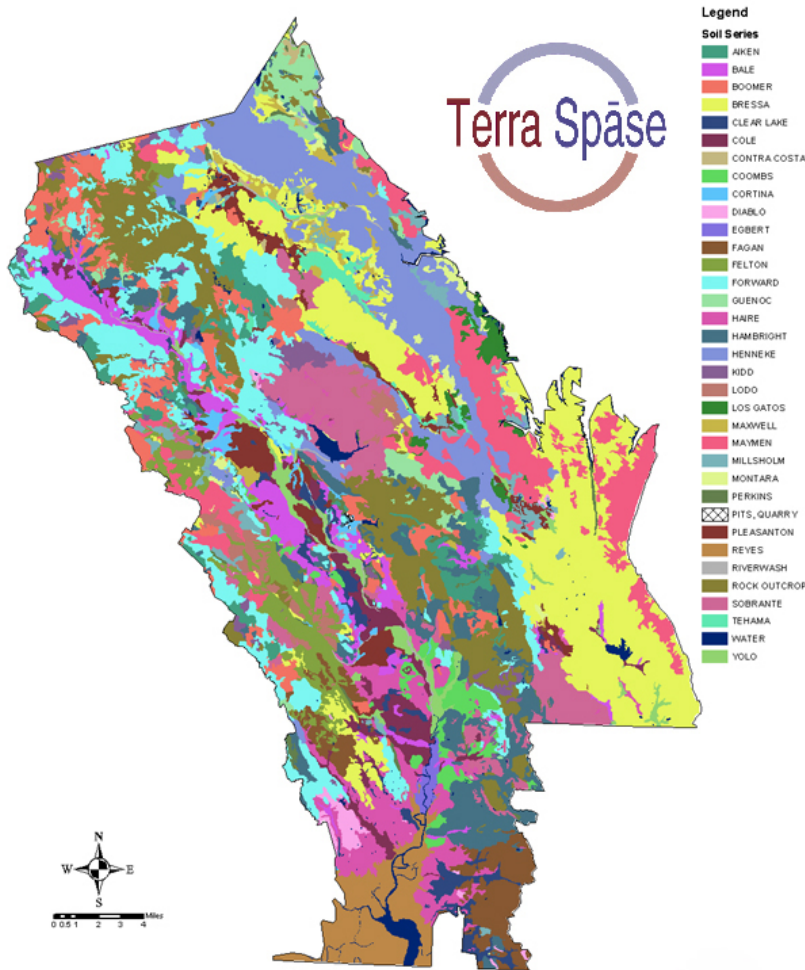
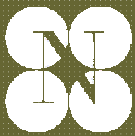
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## Digging beneath the surface...

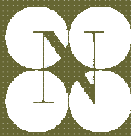




## Napa Valley Soil Diversity

- 33 Soil Series representing...
- More than 100 soil variations
- *Half of the Soil Orders on Earth exist in the Napa Valley*



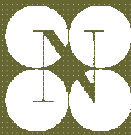


Between a rock and a hard place:

*Vines thrive where other plants fear to tread!*

- Soils are a **reservoir of nutrients** that are required by vines to complete their growth cycle
- Physical structure and variety of composition help **guide viticulturist** in selecting the best farming practices
- Soils, together with the diversity of bedrock and climate/topography are the **source of quality for Napa Valley wines**





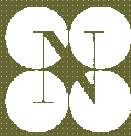
## Multiple influences

- Cool marine influences
- Warmer up-valley conditions
- Different altitudes, nooks and crannies in between





# Marine layer creeping south down the valley...

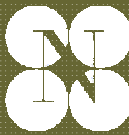


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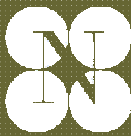
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- Without **great wine grapes**, there can be no **great wine**.
- Napa Valley is one of the world's **great wine-growing regions**.

The diversity of soils, terrains and climates in the Napa Valley supports a **diversity of great wines**.



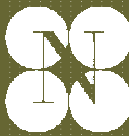


## **The Diversity of Napa Valley** **14 Distinct Appellations**



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## Howell Mountain

**Climate:** Howell Mountain is slightly warmer and dryer overall due to strong afternoon sun influence. Fairly cool nights and higher elevations help maintain good acidity.

**Elevation:** 1500 to 2600 ft

**Rainfall:** 40 to 50 inches (125cm) annually

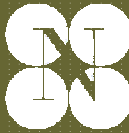
**Soils:** Predominately volcanic, shallow and infertile

### **Principal varieties & characteristics:**

**Cabernet Sauvignon, Merlot, Zinfandel:** Powerful, firm, blackberry-currant flavors and often richly tannic, with excellent acidity for aging.

**Chardonnay, Viognier:** Firm and not as fruity as those of the valley floor, revealing more citrus and stone fruit flavors.





## Chiles Valley District

**Climate:** Fairly warmer summer days (mid-80°F plus), but due to higher elevation and summer fog at night, quite chilly at night (below 50°F). With colder winters and spring, as well as strong winds, harvest comes later than on valley floor at Oakville.

**Elevation:** 600 to 1200 ft.

**Rainfall:** 35 inches (88cm) annually

**Soils:** On the valley floor, primarily alluvial soils with silty-clay composition of marine origin, with good fertility. Hillsides show more clay-loam and stony-clay composition, mostly marine in origin, with some volcanic outcropping, and less fertility.

### **Principal varieties & characteristics:**

**Cabernet Sauvignon, Merlot, Cabernet Franc:** Cabernets usually reveal a lush yet firm texture with good acidity, firm tannin and distinctive cherry-blackberry flavors. Merlot typically has vibrant black cherry flavors mixed with a touch of cocoa.





## Diamond Mountain District

**Climate:** Moderately warm temperatures with lower maximum temperatures and higher minimum temperatures than north Napa Valley floor, due to topography and altitude. Significantly cooler than valley floor near Calistoga, 50 to 95°F in growing season (10 to 32°C).

**Elevation:** 600 to 2300 ft.

**Rainfall:** 40 to 55 inches (135 cm) annually

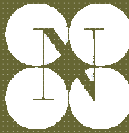
**Soils:** Residual uplifted soils of volcanic origin, often reddish and very fine-grained, even gritty in texture, composed of both weathered sedimentary and volcanic origin.

### **Principal varieties & characteristics:**

**Cabernet Sauvignon, Cabernet Franc:** Firmly structured, rich and fairly tannic when young, with strong black currant, mineral, and cedary flavors. Less supple and fleshy than valley or benchland wines, with good aging potential.

**Chardonnay:** Full-bodied, yet revealing mineral, green apple-peach aromas with fairly firm acidity; less richly textured than valley floor wines.





## St. Helena

**Climate:** Warm, due to greater protection from western hills, with less fog or wind incursions. The narrowing of the valley floor provides more heat reflection off the hillsides. Mid-summer temperature peak is often in the mid- to high 90°F range (31 to 35°C).

**Elevation:** 100 to 700 ft.

**Rainfall:** 38 to 40 inches (95 to 100 cm) annually

**Soils:** South and west borders are more sedimentary, gravel-clay soils, with lower fertility and moderate water retention. Further north and to the east soils are prevalently volcanic in origin and are deeper and more fertile.

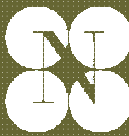
### **Principal varieties and characteristics:**

Cabernet Franc, Cabernet Sauvignon, Merlot: deep, ripe, often jammy flavors, with firm tannins for structure, and appealing aromas of currant and black fruit.

Rhone varieties (Syrah, Viognier): Fleshy, supple and slightly earthy.

Zinfandel: Blackberry-like, well-structured.





## Spring Mountain

**Climate:** Spring Mountain is similar to Mt. Veeder AVA, with cool weather prevailing and smaller diurnal changes. Fairly cool nights in and higher elevations help maintain good acidity.

**Elevation:** 400 to 2100 ft

**Rainfall:** 40 to 50 inches (125 cm) annually

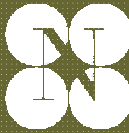
**Soils:** Primarily sedimentary; weathered sandstone/shale, loamy and friable in texture. Drainage is high, fertility low.

### **Principal varieties & characteristics:**

**Cabernet Sauvignon, Merlot, Zinfandel:** Powerful, firm, blackberry-currant flavors and often richly tannic, with excellent acidity for aging.

**Chardonnay, Viognier:** Firm and not as fruity as those of the valley floor, revealing more citrus and stone fruit flavors.





## Rutherford

**Climate:** Moderately warm, still marginally influenced by early morning fog. Western bench area is cooler, with less late afternoon sun, tempered by afternoon marine winds. (This AVA averages a bit warmer than Oakville and Stags Leap District). Usual summer peak temperatures are mid-90°F with good diurnal range.

**Elevation:** Sea level to 600 ft.

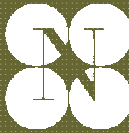
**Rainfall:** 38 inches (95 cm) annually

**Soils:** Western benchland is sedimentary, gravelly-sandy and alluvial, with good water retention and moderate fertility. The eastern side has more volcanic soils, moderately deep and more fertile.

### **Principal varieties & characteristics:**

**Cabernet Sauvignon, Merlot, Cabernet Franc, Zinfandel:** This is “Cabernet country.” Quite intense cherry and mineral, almost earthy aromas. Flavors are full, ripe, and notably currant with firm, but supple tannins for extended aging.





## Atlas Peak

**Climate:** Cool, mountain-influenced, with temperatures about 10 to 15°F cooler than the Valley floor in summer. Above the fog line, there is a low diurnal change, with summer temperatures rarely above 90°F (30°).

**Elevation:** 400 to 2600 ft

**Rainfall:** 35 inches (94 cm) annually

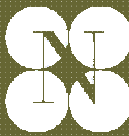
**Soils:** Volcanic in origin, with basaltic red color, shallow with limited water retention, so irrigation is often essential.

### **Principal varieties & characteristics:**

**Cabernet Sauvignon, Sangiovese:** Bright berry and cherry fruit, and more acidity than wines from Stags Leap District.

**Chardonnay:** Crisp, floral, aromatic, with distinctive pear-mineral flavors and bright acidity.





## Oakville

**Climate:** Moderately warm, with temperatures commonly in the mid-90°F range in high summer, but also still strongly affected by night and early morning fog which helps keep acidity levels good. East side of the AVA receives more of warmer afternoon sun.

**Elevation:** Sea level to 500 ft

**Rainfall:** 35 inches (87.5 cm) annually

**Soils:** Primarily sedimentary gravelly alluvial loams on the western side, with more volcanic but heavier soils on the eastern side. Low to moderate fertility and fairly deep, with average water retention.

### **Principal varieties & characteristics:**

**Cabernet Sauvignon, Merlot:** Ripe currant and mint flavors, rich texture and full, firm structure tempered by rich fruit.

**Sauvignon Blanc:** Full, steely, yet very fleshy, and not especially crisp.





## Yountville

**Climate:** Moderate, with definite cool marine influence and fog contributing to cool summer mornings and the marine breeze keeping afternoons more comfortable than further up valley. Mid-summer peak temperatures may reach 90°F (31°C), with noticeable diurnal fluctuation to the mid-50°F range (13°C).

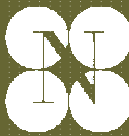
**Elevation:** 20 to 200 ft

**Soils:** Principally gravelly silt loams, sedimentary in origin, and gravelly alluvial soils with rock, moderately fertile.

### **Principal varieties & characteristics:**

**Cabernet Sauvignon, Merlot:** Yountville favors Cabernet and Merlot with ripe, violet aromas and rich, but supple flavors and firm tannins.





## Mount Veeder

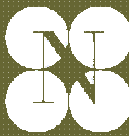
**Climate:** Cool to moderate, with most vineyards above the fog-line, meaning warmer nights and cooler days and less diurnal range than the valley floor. Typical mid-summer high temperatures about 85°F (30°C).

**Elevation:** 500 to 2600 ft.

**Soils:** Sedimentary based, former seabed, shallow and generally well drained, as well as more acidic, with low fertility. Most have a sandy or sandy-loam texture.

**Principal varieties & characteristics:** Ageability is a hallmark of Mt. Veeder wines. Cabernet Sauvignon, Merlot, Zinfandel: Low yields give red wines a firm, tannic structure with strong earth-berry aromas and rich, but powerful flavors. Chardonnay: minerally, appley, even citrus flavors with good acidity.





## Stags Leap District

**Climate:** Moderately warm, with afternoon marine winds acting as an ‘air-conditioner’ to cool the warmer air radiating off the bare rocks of Stags Leap itself and the surrounding hillsides. This AVA is often up to 10°F warmer than in Yountville AVA. Mid-summer temperatures can reach 100°F, but more regularly are in mid-90 range (32 to 34°C).

**Elevation:** Sea level to 500 ft.

**Rainfall:** 30 inches (75 cm) annually

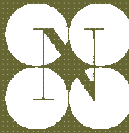
**Soils:** Volcanic gravel-loams on the floor of the valley, with rocky hillsides, and low to moderate fertility due to hard clay bedrock subsoils 2 to 6 feet down.

### **Principal varieties & characteristics:**

**Cabernet Sauvignon, Merlot, Sangiovese:** Distinguished by lush, velvety textures and fine perfumed cherry and red berry flavors, supported by soft tannins.

**Chardonnay, Sauvignon Blanc:** Round and ripe, especially Sauvignon Blanc, yet retain excellent citrus and apple flavors.





## Oak Knoll District of Napa Valley

**Climate:** Moderate to cool with marine air and fog influence often remaining until late morning. Afternoon breezes frequently occur, maintaining slightly cooler temperatures than up-valley. Mid-summer temperatures may reach 92°F (31.5°C) and drop to around 50°F (10°C) at night.

**Elevation:** sea level to 800 ft

**Soils:** Primarily alluvial deposits of sedimentary sources on the valley floor, composed of silty clay loam or gravelly loam. The northwest area is composed of volcanically derived soils with very stony or gravelly loam consistency.

### **Principal varieties & characteristics:**

**Chardonnay:** Chardonnay: crisp, minerally, very appley and medium bodied.

**Cabernet Sauvignon and Merlot:** need a long growing season to mature with warm autumn temperatures. Cassis, olive and tobacco are the predominant aromas/flavors.





## Wild Horse Valley

**Climate:** A warmer area well to the east of Napa Valley proper, but still moderated by both altitude and prevailing winds coming off Suisun Bay to the Southeast.

**Elevation:** 600 to 1900 ft.

**Rainfall:** 35 inches (94 cm) annually

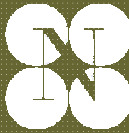
**Soils:** Volcanic in origin, with basaltic red color, shallow with limited water retention, so irrigation is often essential.

### **Principal varieties & characteristics:**

**Cabernet Sauvignon, Sangiovese:** Bright berry and cherry fruit, and more acidity than wines from Stags Leap District.

**Chardonnay:** Crisp, floral, aromatic, with distinctive pear-mineral flavors and bright acidity.





## Los Carneros

**Climate:** Cool, prevailing marine winds from the San Pablo Bay and ideal for sparkling wine grape production and cooler climate varieties.

**Elevation:** Sea level to 700 ft.

**Soils:** Clay dominated, very shallow in general, with more loam and hillside alluvials in the northern section. Yields typically are restrained by the hard claypan subsoil, which prevents deep-rooting.

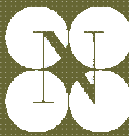
### **Principal varieties & characteristics:**

Chardonnay: minerally pear-apple and spice flavors.

Merlot: Lightly herbal, with fine tannins and sleek structure.

Pinot Noir: ripe cherry-cinnamon spice flavors with earthy notes.





## Calistoga (*pending*)

**Climate:** Warm to hot depending upon time of year with lower humidity than down valley. Daytime summer temperatures peak above 100°F (37°C) and fall to low 40s°F (7°C) at night, the result of cool marine air drawn into the valley from the northwestern hills. Cool afternoon and evening breezes continue this process, and on clear nights are assisted by cold air sliding down the mountainsides to the valley floor.

**Elevation:** 300 to 1200 ft.

**Rainfall:** 23 to 60 inches (57.5 to 150 cm) annually

**Soils:** Almost completely of volcanic origin, soils in Calistoga range from rocky, stony loam on the hillsides, to gravelly or cobbly loams on the alluvial fans, to heavier clay-silt soils in the valley center areas.

### **Principal varieties and characteristics:**

**Cabernet Sauvignon, Zinfandel, Syrah, Petite Sirah:** Cabernet is typified by rich powerful dark berry and sometimes “roasted” flavors with full structure and tannins capable of aging well. Zinfandel has notable black pepper flavors; spicy and very bright fruit. Syrah and Petite Sirah reveal dark blackberry and often cocoa or licorice overtones with firm structure.

