OBSIDIAN

VOLCANO CAMP

MAY 2025

Volcano Camp 2025 Itinerary

Tuesday, May 6th

8:00am	Depart SF
11:15am	Arrive Obsidian Ridge Vineyard
11:30am	Obsidian's Volcanic Journey
12:30pm	Lunch
1:30pm	Adventures off the Volcano
2:30pm	Group Photo
2:45pm	Oak Tree
3:00pm	Depart for Tallman Hotel
4:00pm	Components of Volcanic Winemaking
5:00pm	Free Time
6:30pm	Dinner @ Tallman Hotel

Wednesday, May 7th

8:00am	Breakfast @ Tallman
9:15am	Meet in Hotel Lobby
10:00am	Hike a Volcano
11:30am	Session 1: Layers of Influence
1:30pm	Asado Lunch
2:30pm	Session 2: Selling the Edge
4:00pm	Group Photo
4:30pm	Departures
5:00pm	Free Time at Hotel
6:00pm	Meet in Hotel Lobby
6:30pm	Dinner at Peace & Plenty

Tuesday, May 6th

Session 1: Obsidian's Volcanic Journey

Obsidian Wine Co. founders Arpad Molnar, Peter Molnar, and Michael Terrien and winemaker Alex Beloz share their experiences and insights over 25 years of planting, farming, and winemaking on on a sheet of solid volcanic glass at nearly 3,000 feet elevation, and the community of farmers & scientists they have met along the way.

Session 2: Obsidian Adventures

A discussion of the Obsidian teams' adventures off the volcano: from Carneros to Tokaj to Base Camp and down the proverbial Rabbit Hole.

Session 3: Components of Volcanic Mountain Wine

Obsidian Winemaker Alex Beloz leads a component tasting and blending session exploring the character differences and varietal expressions of the three distinct growing zones of Obsidian Ridge Vineyard.

Wednesday, May 7th

Session 1: Layers of Influence-Primary vs. Weathered Volcanic Soils

Geologists, viticulturalists, and winemakers discuss how volcanic wines reflect the land they come from. We'll taste two curated flights from volcanic winegrowing regions around the world. The first highlights primary volcanic soils-young, raw, unweathered lava rock, glass and ash. The second explored weathered volcanic soils-older, complex soils. Together they tell a story of how lava, ash, climate, and time shape this distinct class of wines.

Session 2: Selling the Edge- How Do We Talk About Volcanic Wine

Volcanic vineyards are among the most dramatic & difficult to farm, and the resulting wines are bold, tense, and wildly expressive. But how do we translate that to customers? Ryan Woodhouse of K&L Wine Merchants moderates an open forum to explore what makes volcanic wines resonate, where they fit in the market, and how to tell the stories that connect vineyards halfway around the world in an industry focused on AVA.

Volcano Camp Panelists

Ryan Woodhouse: Domestic Buyer, K&L Wine Merchants

With deep experience in wine buying and vineyard-driven storytelling, Ryan curates one of the most dynamic domestic portfolios in the country with a passion for site-expressive wines.

Seth Burgess: Geologist, U.S. Geological Survey

A volcanologist at the California Volcano Observatory, Seth studies how volcanic rocks form and how those processes shape the physical landscapes we live, farm, and build upon. sburgess@usgs.gov

Phil Mooney: Geologist, Sonoma State University

Phil Mooney is a structural geologist at Sonoma State University interested in the evolution of the western margin of North America. You can usually find him riding his bike or unwinding with a glass of wine. philip.r.mooney@gmail.com

Paul Skinner, PhD.: Soil Scientist & Viticulture Consultant

Paul combines scientific depth with hands-on farming insight, advising vineyards around the world. skinnerpw@gmail.com

Brenae Royal, Viticulture Consultant and Founder, Violet's Paradise

Manager of Sonoma's famed Monto Rosso Vineyard for over a decade, Brenae now leads her own wine project while consulting and advocating for sustainable agriculture. info@brenaeroyal.com

Nicole Hayden: Grower Relations Manager, Huneeus Vineyards

Sourcing grapes across Northern California for a top producer, Nicole brings a broad view of how volcanic soils shape farming strategies and long-term grower partnerships. nhayden@huneeuswines.com

Alex Beloz: Winemaker, Obsidian Wine Co.

Alex has crafted Obsidian wines for two decades, translating rugged volcanics into bold, elegant wines.

Obsidian’s Volcanic Journey

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Co-Founders Michael Terrien, Peter Molnar, Arpad Molnar

Abandoned Walnut Orchard (Pre-Obsidian Ridge Vineyard)

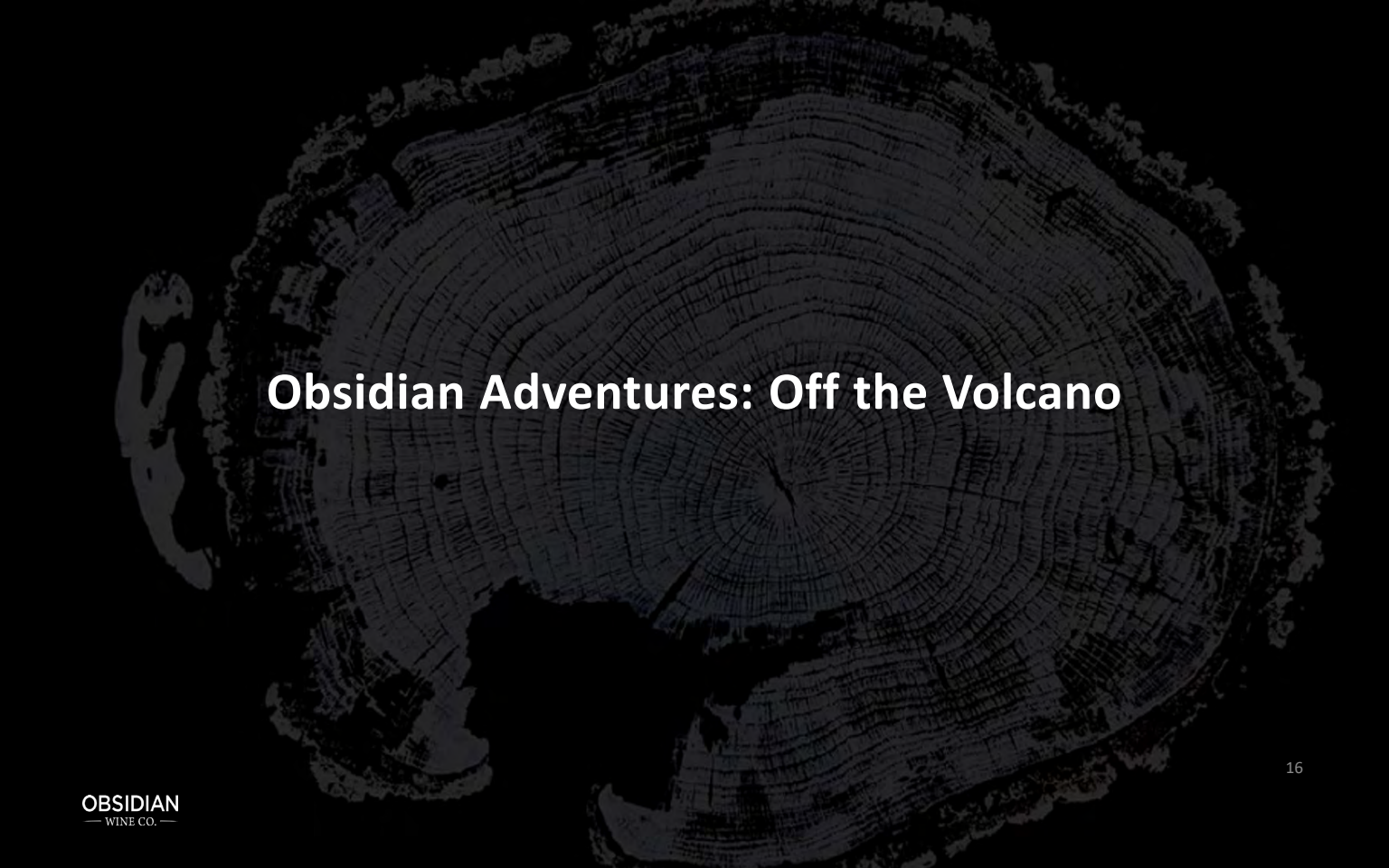
Site Prep 1999

Obsidian Ridge Vineyard Eli's Block Pre-Planting

Obsidian Ridge Vineyard, Eli's Block

Obsidian Ridge Vineyard, Looking North

Obsidian Ridge Vineyard, Looking South



Obsidian Adventures: Off the Volcano

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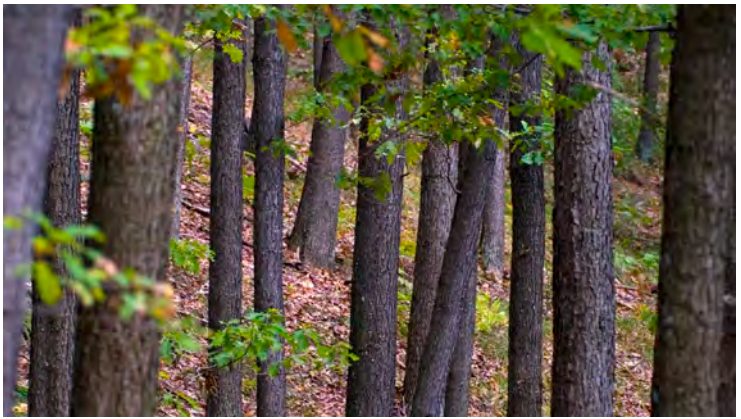
Poseidon Vineyard



Barrels & Casks made from Volcanic Tokaj Oak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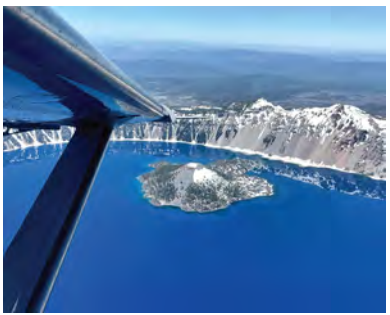

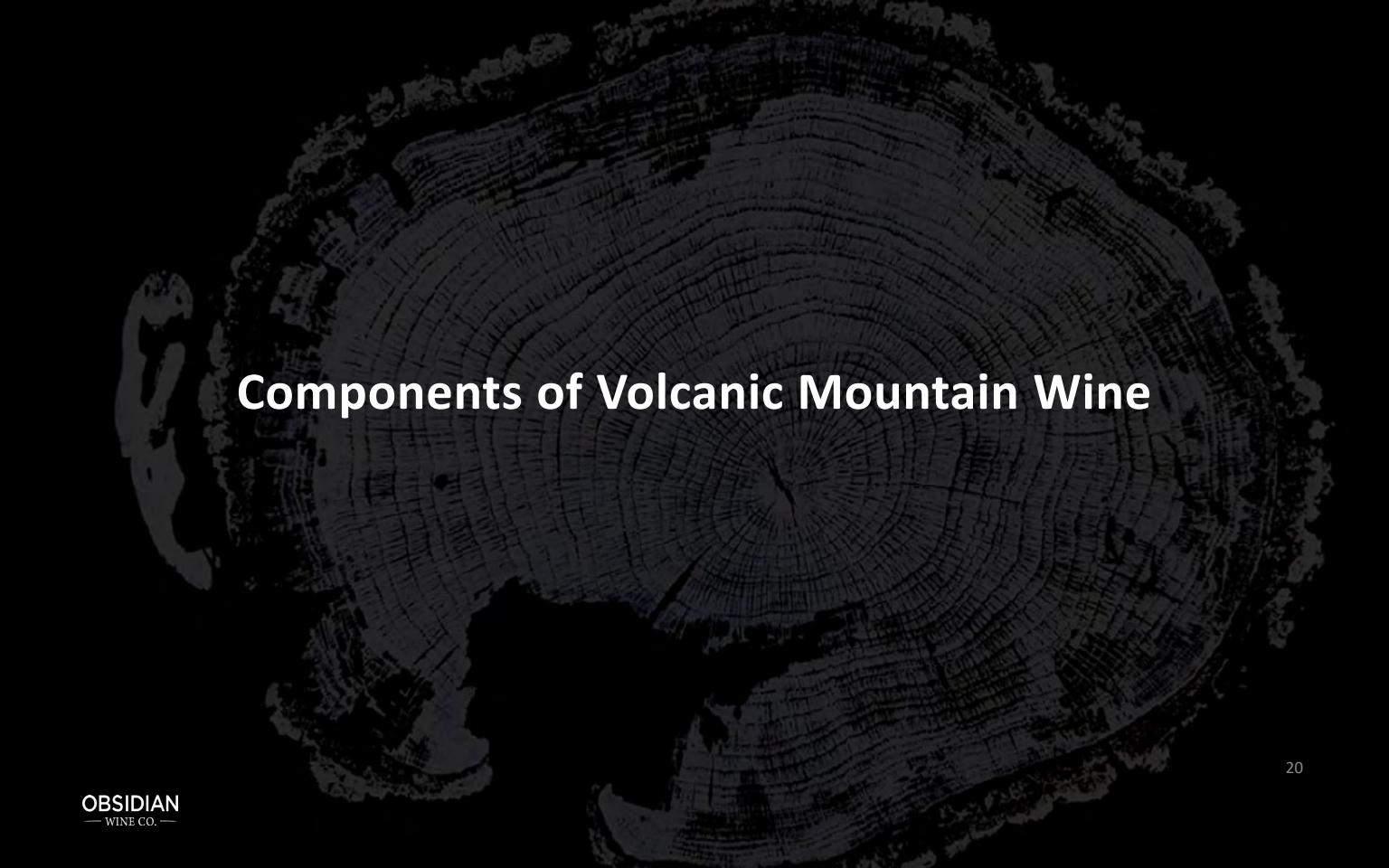

Components of Volcanic Mountain Wine

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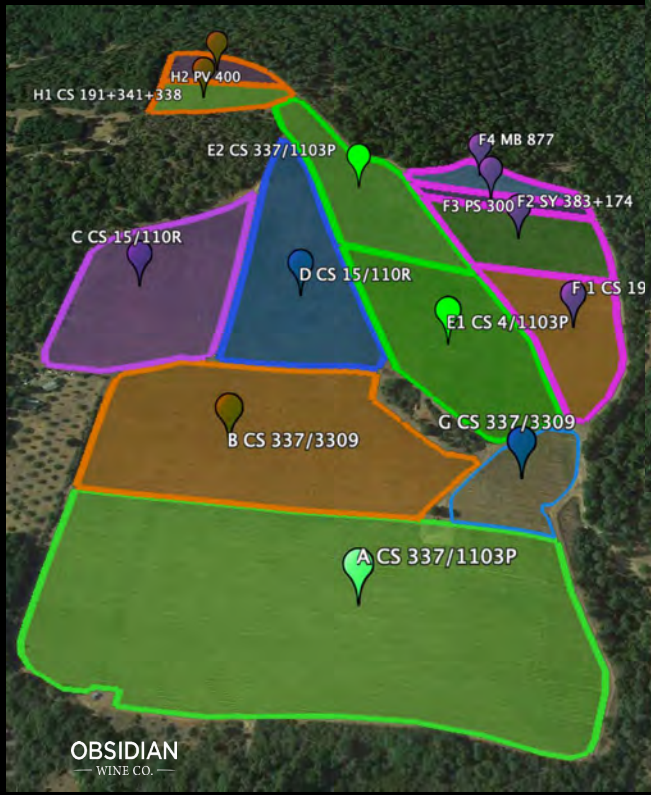
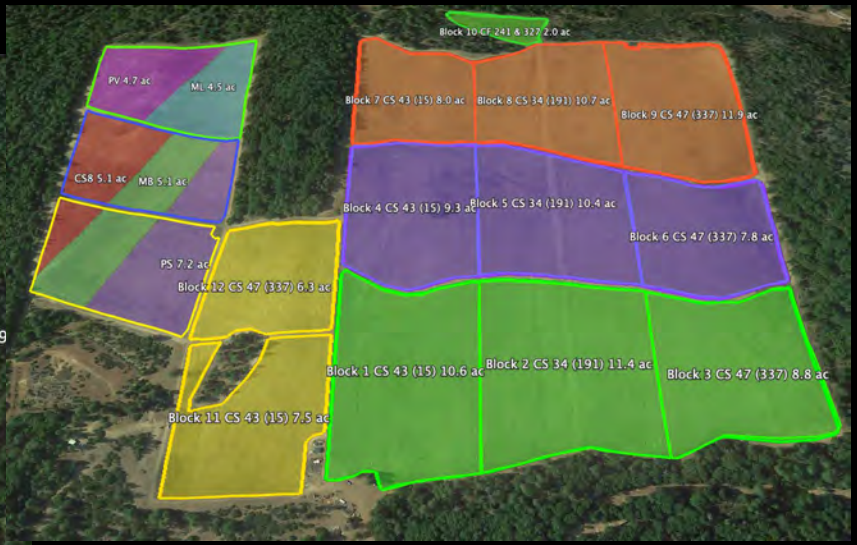
Obsidian: Unique Among Volcanics

- Obsidian is inert glass—neither rock nor mineral because its not crystalline
- Contributes no nutrients to soil
- Extremely low water retention/excellent drainage
- Highly reflective glass bounces UV into fruit zone
- Absorbs & radiates heat





OBSIDIAN RIDGE VINEYARD

- 235 acres planted
- Original parcel (L) planted 2000-2001
- Eli's Block (R) planted 2017-2019
- Elevation from 2400' to 2875'

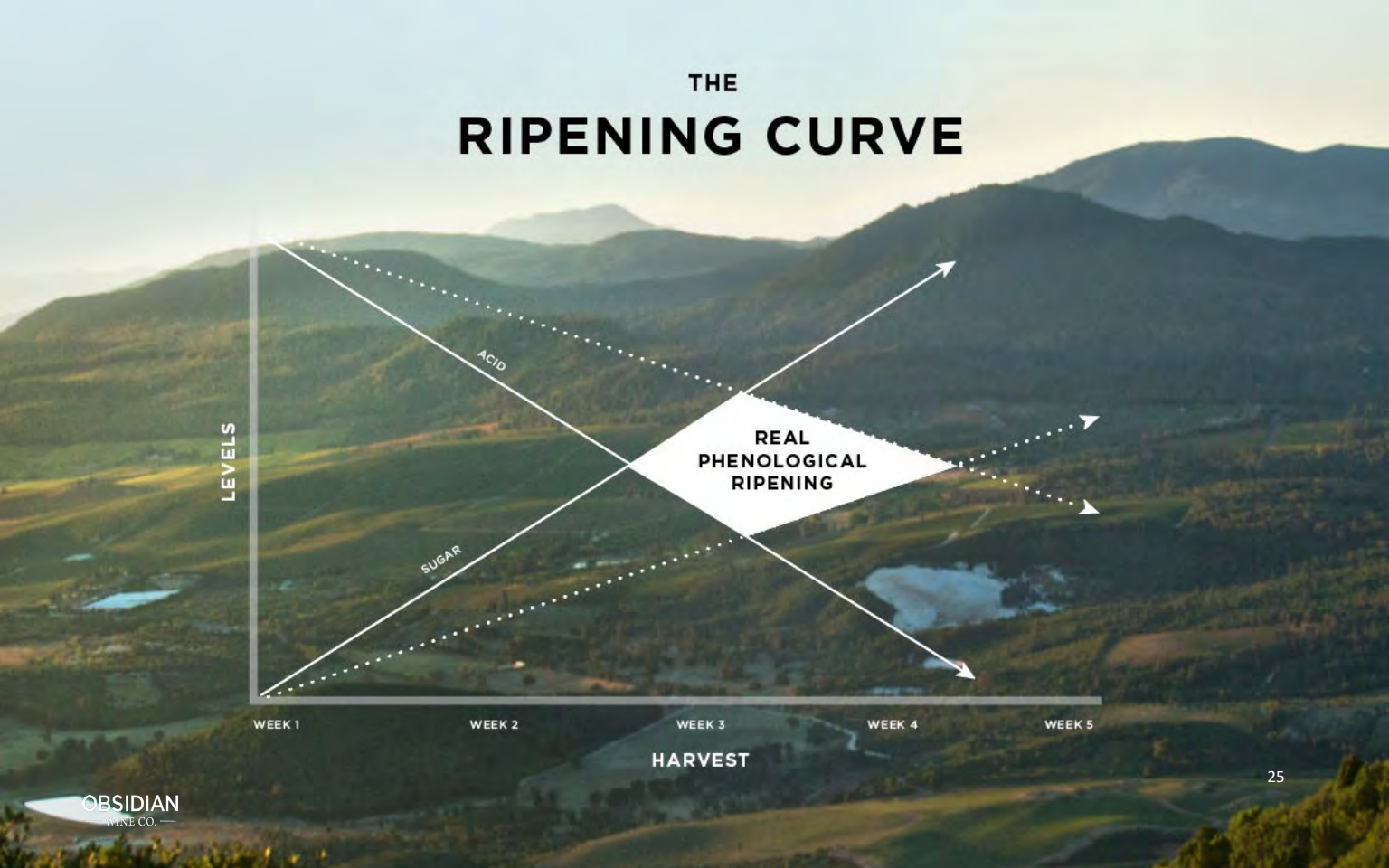
The Holy Trinity of Cabernet

1. **Complexity** (phenolic ripeness)
2. **Freshness** (acidity)
3. **Structure** (drainage)

Volcanic Mountain Climate: Wine Impact

	Mountain climates	Obsidian Ridge Vineyard
Complexity (phenolic ripeness)	3% more UV every 1,000 feet	10%+ UV
Freshness (acidity)	Diurnal shifts	50 degree shifts
Structure (drainage)	Rocky soils	Covered in obsidian

THE RIPENING CURVE



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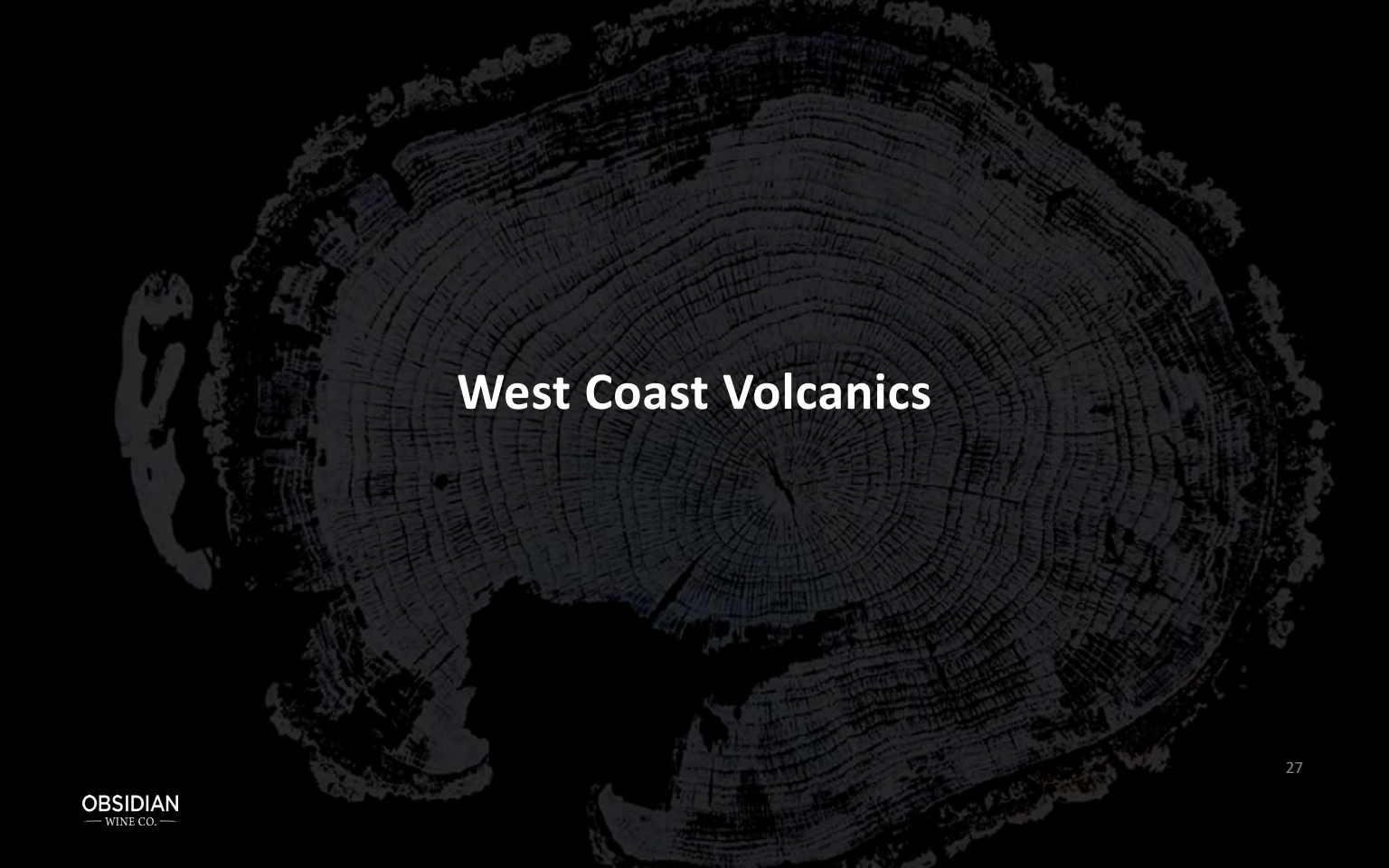
Volcanic Trio



West Coast Volcanics

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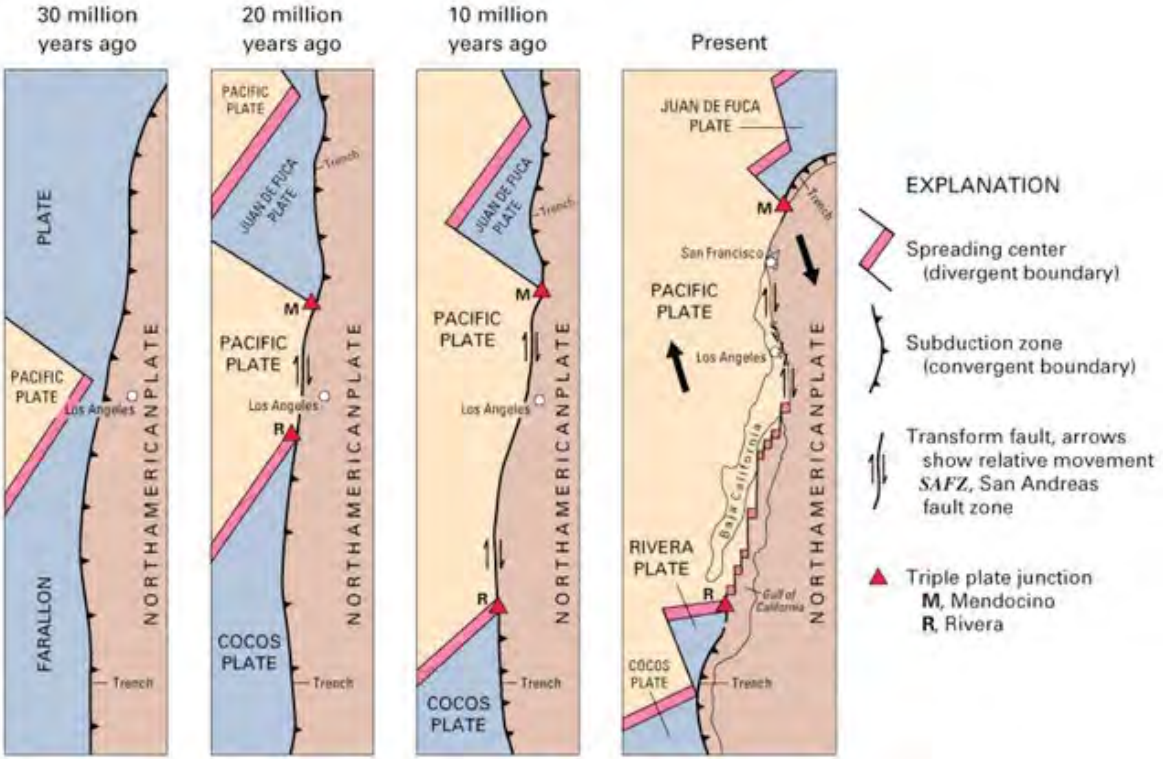
WEST COAST RING OF FIRE


30 million years ago
20 million years ago
10 million years ago
Present
PACIFIC PLATE
FARALLON PLATE
NORTHAMERICANPLATE
Los Angeles
Trench
JUAN DE FUCA PLATE
M
R
COCOS PLATE
San Francisco
Baja California
Gulf of California
RIVERA PLATE
EXPLANATION
Spreading center (divergent boundary)
Subduction zone (convergent boundary)
Transform fault, arrows show relative movement
SAFZ, San Andreas fault zone
Triple plate junction
M, Mendocino
R, Rivera

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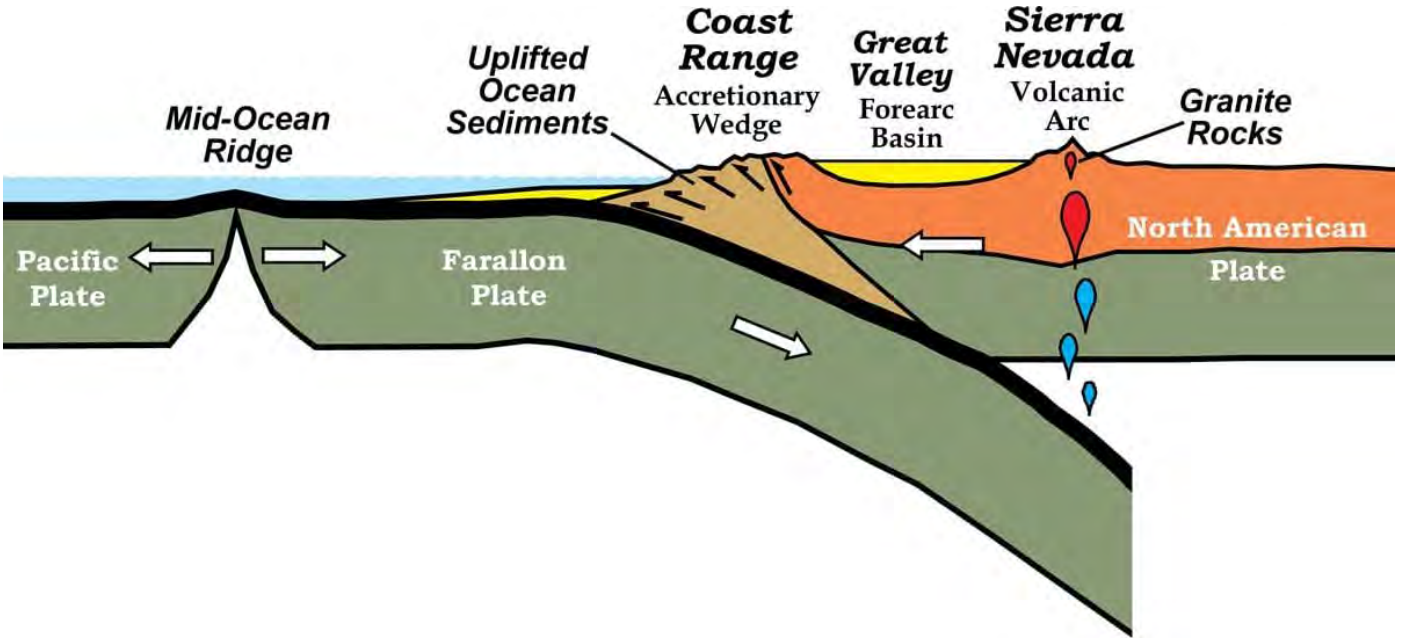
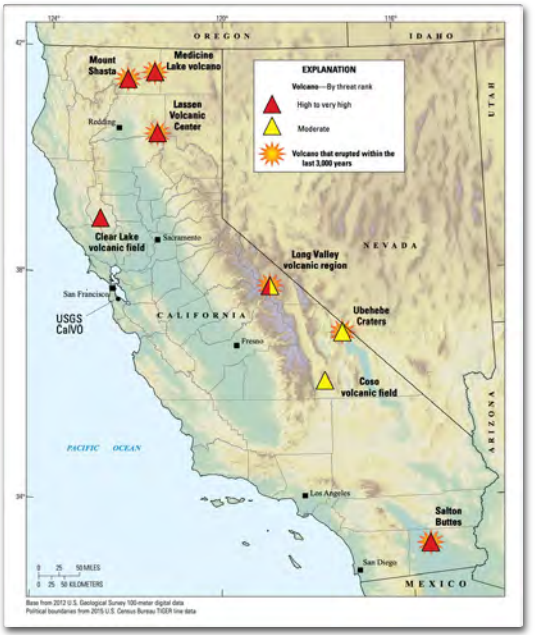
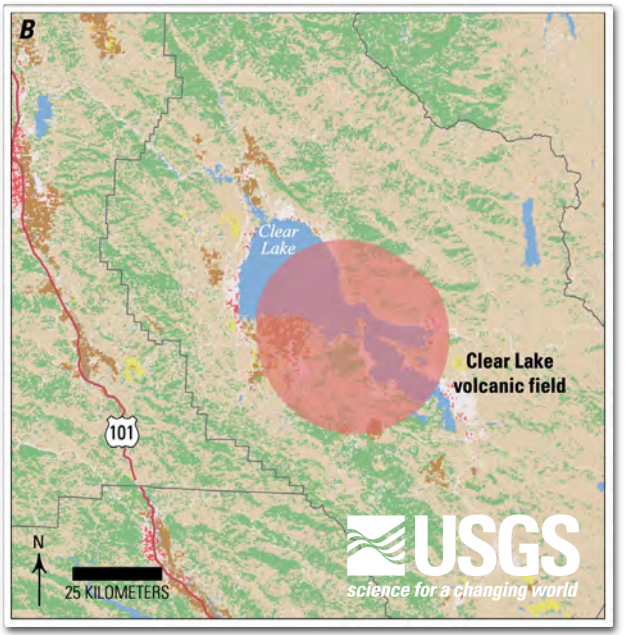

Mid-Ocean Ridge
Uplifted Ocean Sediments
Coast Range
Accretionary Wedge
Great Valley
Forearc Basin
Sierra Nevada
Volcanic Arc
Granite Rocks
Pacific Plate
Farallon Plate
North American Plate

Clear Lake Volcanic Field





Clear Lake Volcanic Field

HOME

GEOLOGY AND HISTORY

HAZARDS

MONITORING MAP

MULTIMEDIA

PUBLICATIONS

FAQS

Hazards

At present, the system appears to be in a lull following a volcanically busy stretch between 60,000 and 10,000 years ago, which averaged 1 eruption every 1,800 years.

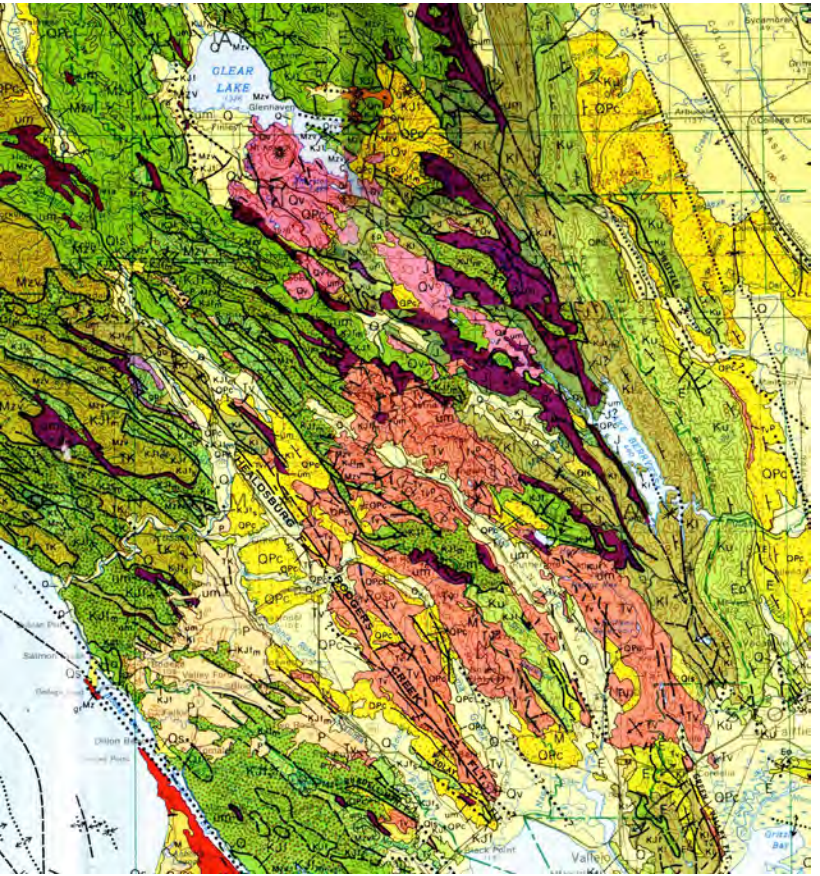
It is difficult to strictly compare the eruptive history of the Clear Lake Volcanics area to any other historically or presently active volcanic system within California. Clear Lake field is unlike both the Sonoma Volcanics to the south and the Cascades volcanoes to the north. The 2 million year volcanic history of the Clear Lake field is highly episodic, with long lulls in activity separated by shorter intervals of frequent eruptions. At present, the system appears to be in a lull following a volcanically busy stretch between 60,000 and 10,000 years ago, which averaged 1 eruption every 1,800 years. Because of long pauses in the volcanic activity near Clear Lake, it is currently uncertain what stage of volcanism the region might be undergoing. Intermittent seismic activity and the presence of heat at depth indicate that the system is still active and eruptions are likely.

If the magma chamber beneath the Clear Lake field were tapped again, eruptions might occur in the lake. These eruptions would be phreatomagmatic and would pose ash-fall and wave hazards to the lakeshore and ash-fall hazards to areas within a few kilometers of the vent. Eruptions away from the lake would produce silicic domes, cinder cones and flows and would be hazardous within a few kilometers of the vents. Future eruptions would be signaled by heightened earthquake activity.

Mt. Konocti erupted during the most recent stage of volcanism (01. Ma to 10,000 years ago), and a future eruption from the same site would be devastating to the nearby inhabitants.

(Credit: Donnelly-Nolan, Julie M.. Public domain.)

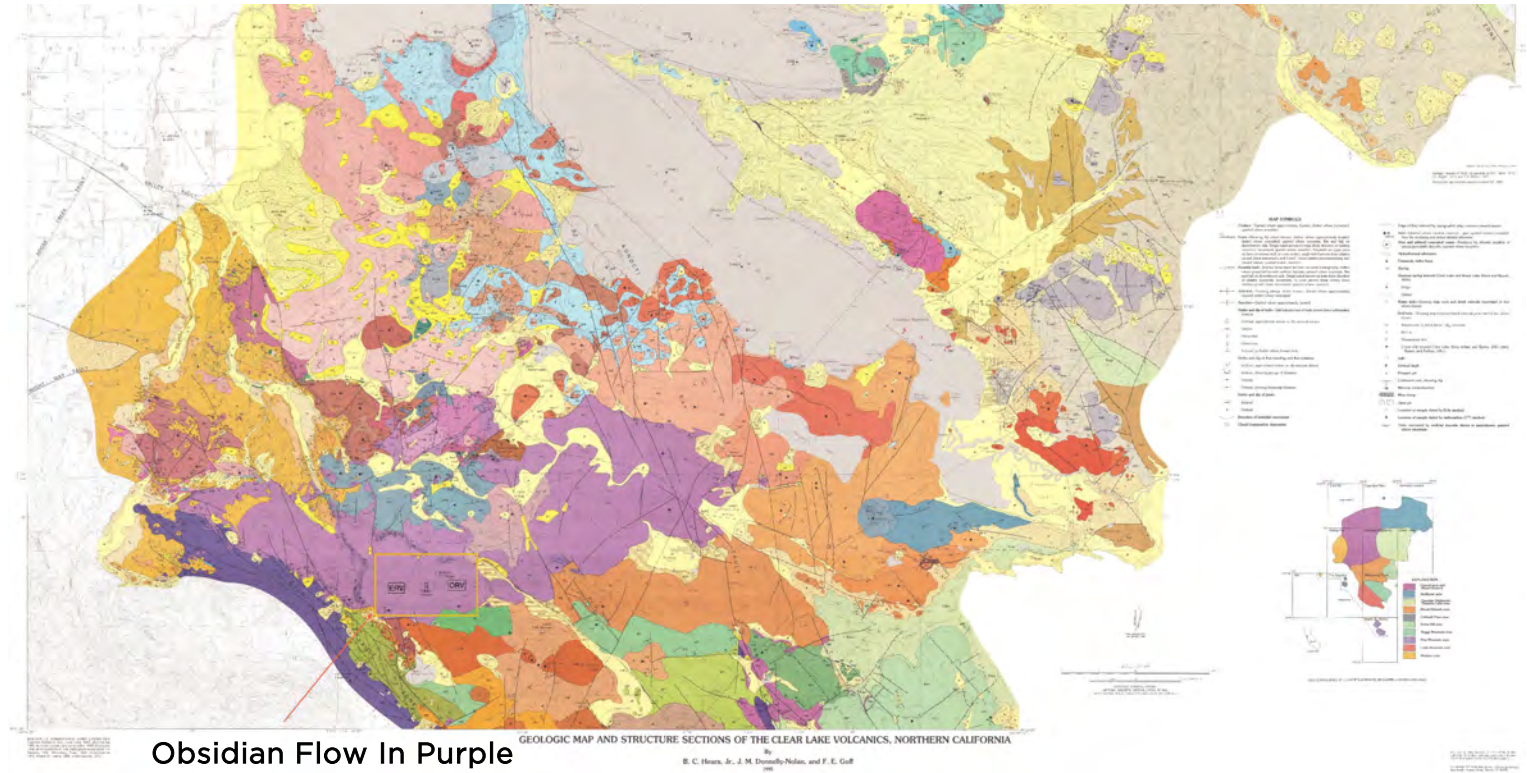
Clear Lake Volcanic Field
Geothermal Plants



Volcanic Regions & Soils

- Formed from the weathering of extrusive igneous rocks
- Relatively young, shallow and acidic soils
- Highly variable from one another depending on chemistry and climate
- Associated with higher concentration of aromatics, savory compounds, and acidity in wines.

Clear Lake Volcanic Field Geology



Obsidian Flow In Purple

Layers of Influence:
Soils, Climate, & Environment

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Extrusive Volcanic Rocks & Soils

Categorized by rock type and (composition)

- BASALT (Mafic): Low in silica; high in magnesium & iron. The most common volcanic rock. Dark red and black, fertile, heat retentive. Weathers to clay; high affinity to water.

  Etna, Willamette, Canary Islands, Yarra Valley

- ANDESITE (Intermediate): Variable soils that typically contain both mafic and felsic minerals and a significant amount of quartz. Includes dacite and andesite. Named for the Andes mountains.

  Chile, Argentina, Alsace, North Coast CA

- RHYOLITE (Felsic): Over 65% silica; significant potassium. Born from extremely violent eruptions. Formed by rapid cooling of lava at the earth's surface. Includes pumice, ash, tuff, & obsidian. Low in nutrients; very low water-holding capacity.

  North Coast CA, Tokaj, Santorini

Extrusive Volcanic Rocks & Soils: BASALT

Columnar basalt, Columbia River Basin

Weathered basalt soil, Willamette Valley

Basaltic lava, Mt. Etna

Basalt boulders, Napa Valley

Monte Rosso Vineyard, Sonoma Valley

Extrusive Volcanic Rocks & Soils: ANDESITE

Stony Andesite, Tokaj

Spring Mountain, Napa Valley

Weathered Andesite,
Rangen, Alsace

Andesite

'Trumao' soils, Itata, Chile

Extrusive Volcanic Rocks & Soils: RHYOLITE

Rhyolite, Tokaj, Hungary

Mazama Ash, Echo, Oregon

'Aspa' soil (pumice + ash), Santorini

Obsidian & Tuff, Obsidian Ridge Vineyard, CA

Volcanic Mountain Environment

- **Geography:** Continentality & Latitude
- **Elevation:** Relative & Absolute Relief
- **Atmosphere:** Lapse Rate & Humidity
- **Topography:** Terrain, Slope & Aspect

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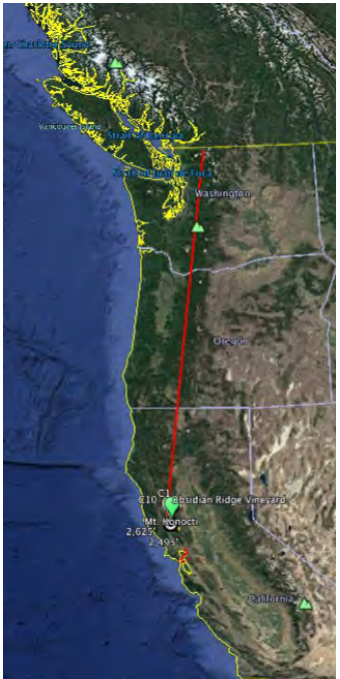
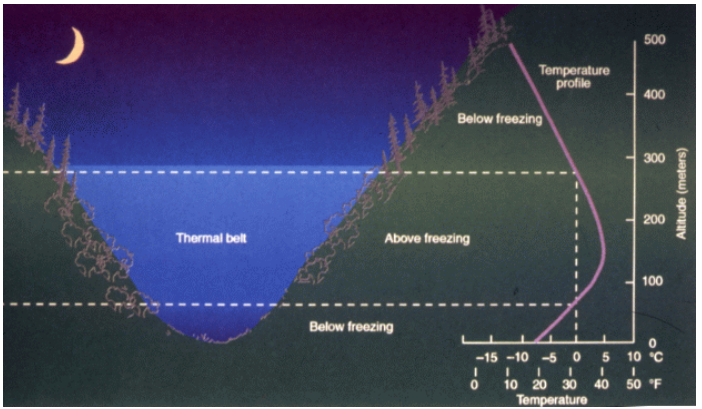
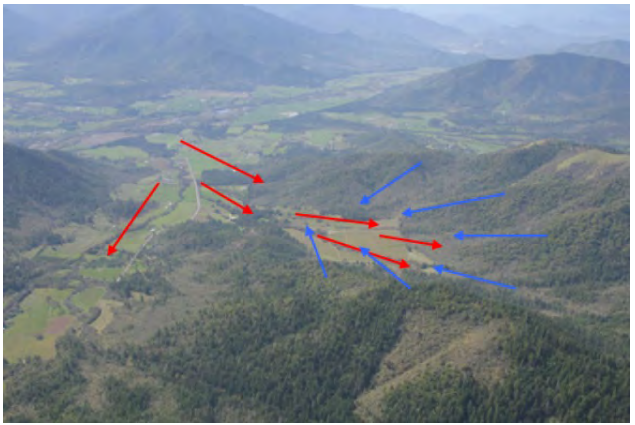
Geography & Topography



Farming at 3,000' is comparable to farming at sea level 900 miles north.





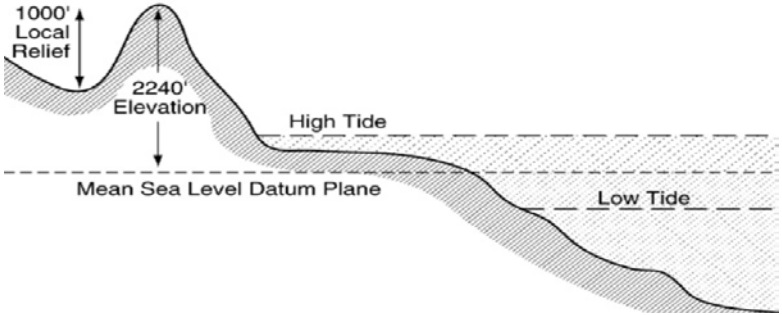
All weather is driven by air temperature, pressure & humidity.

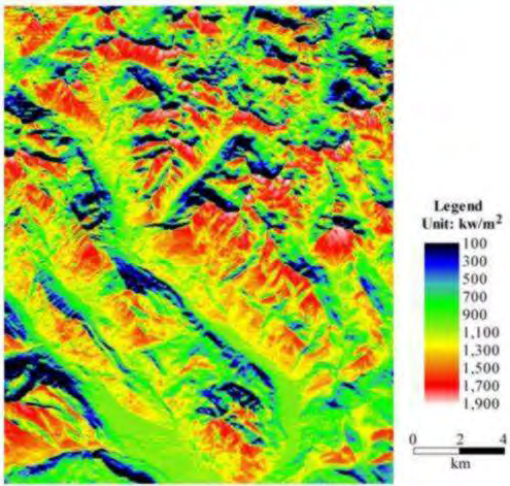
Local weather is shaped by slope, aspect, diurnal characteristics, proximity to coast.

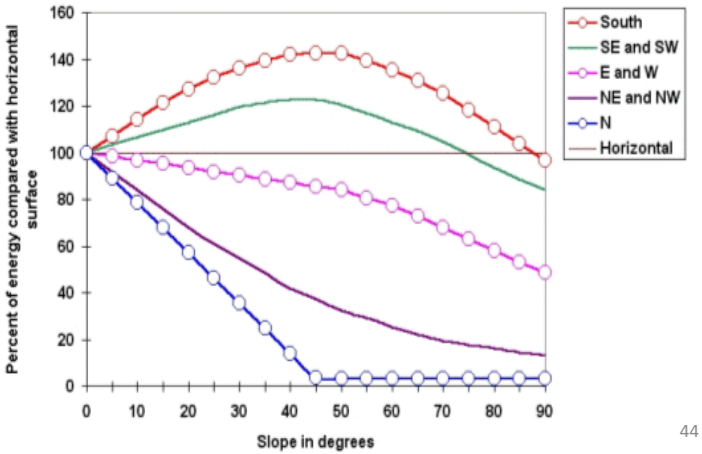
Slope & Relief

Relative vs Absolute Relief.

Sun angle is primary driver of heat loading and retention for both air & soil temperatures.

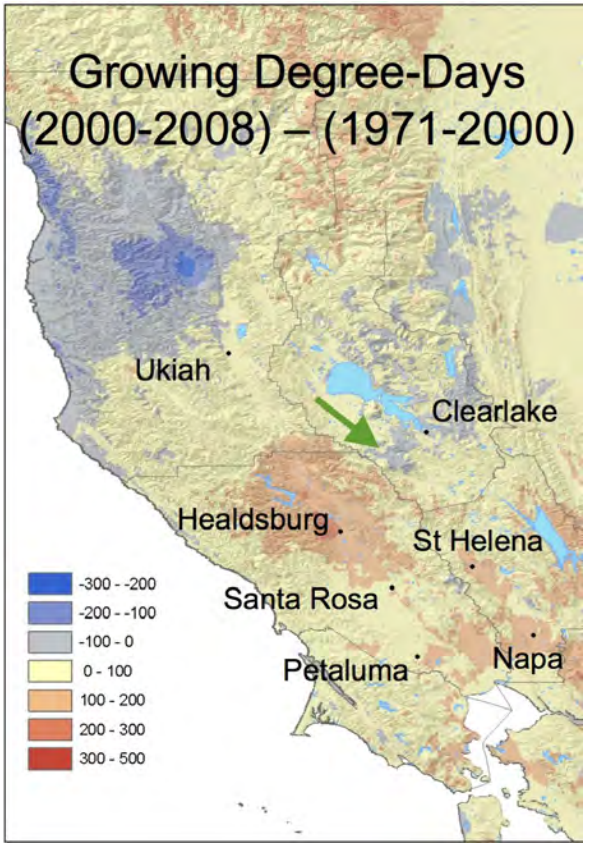






Impact of a Changing Climate

- Valley heat
- Diurnal Shifts/Night Cooling
- Extreme Events



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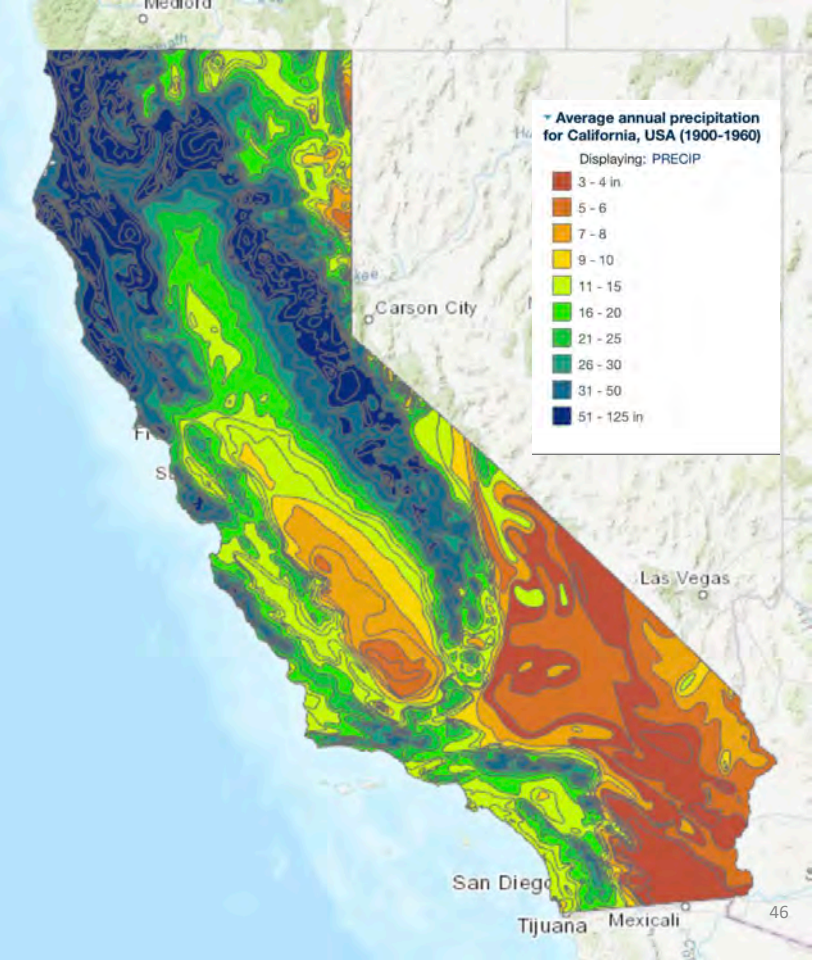
Volcanic Mountain Viticulture

- Ample Availability of Water
- High UV/Luminosity
  - Skin thickness
  - Skin to Pulp Ratio
  - Breakdown of pyrazines
- Low Pest & Disease Pressure



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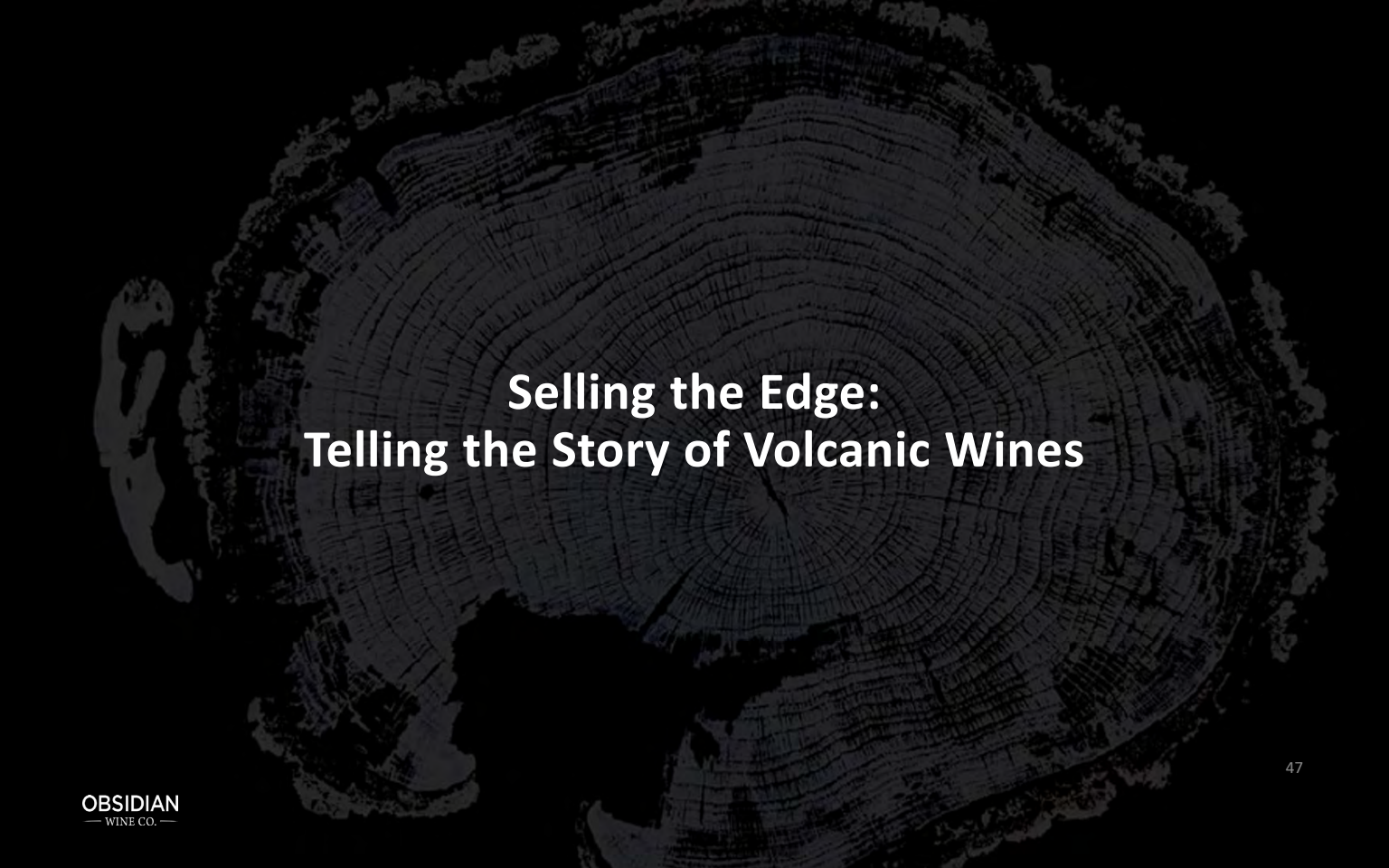

Selling the Edge:
Telling the Story of Volcanic Wines

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MOUNT ETNA, ITALY

AZORES, PORTUGAL

SOMLO, HUNGARY

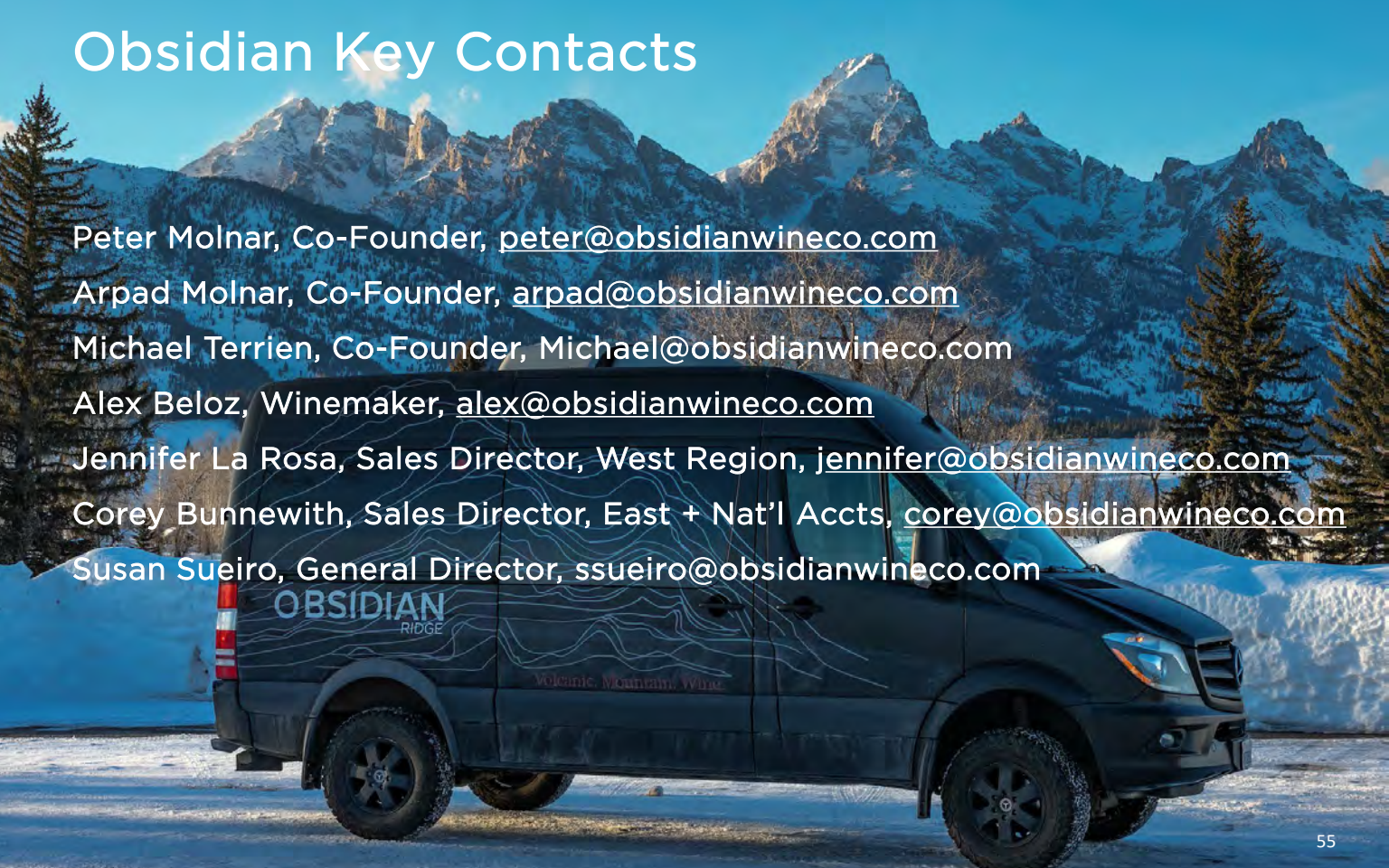
RED HILLS LAKE COUNTY, CALIFORNIA

Volcanic Journey Film

obsidianwineco.com/volcanicjourney

Obsidian Ridge Vineyard

Obsidian Key Contacts



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