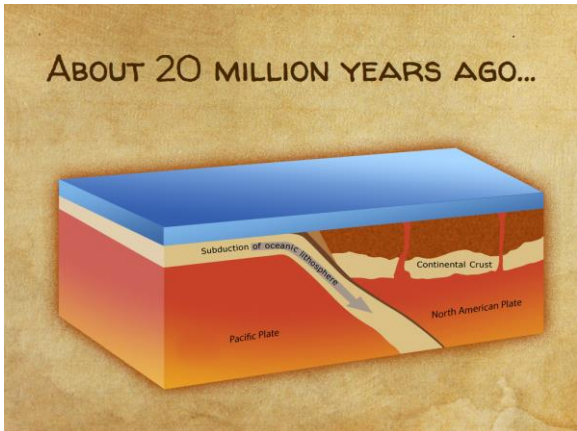
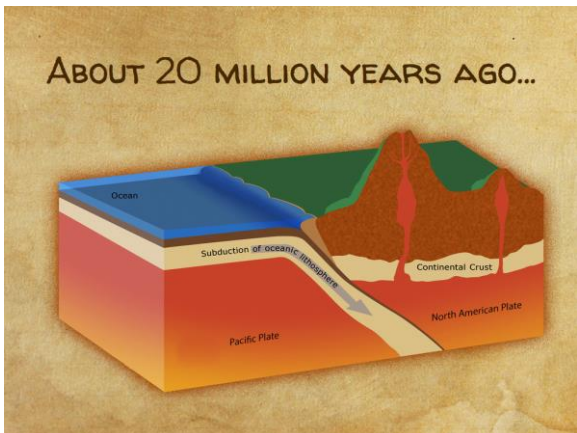


ABOUT 20 MILLION YEARS AGO...



ABOUT 20 MILLION YEARS AGO...



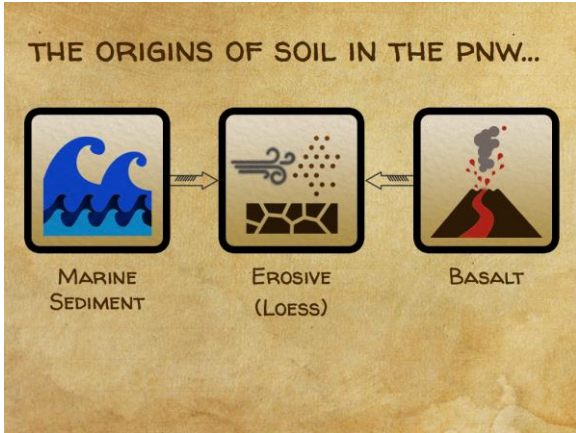
THE ORIGINS OF SOIL IN THE PNW...

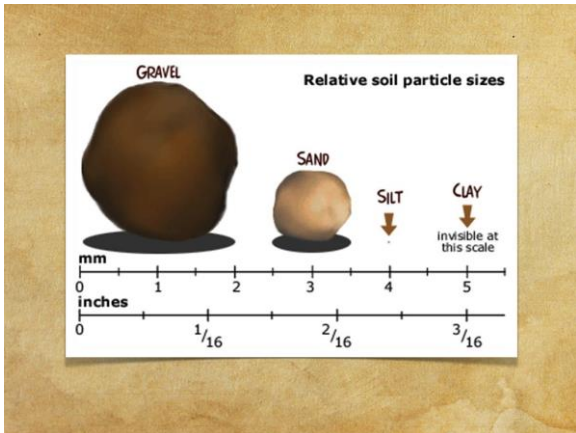


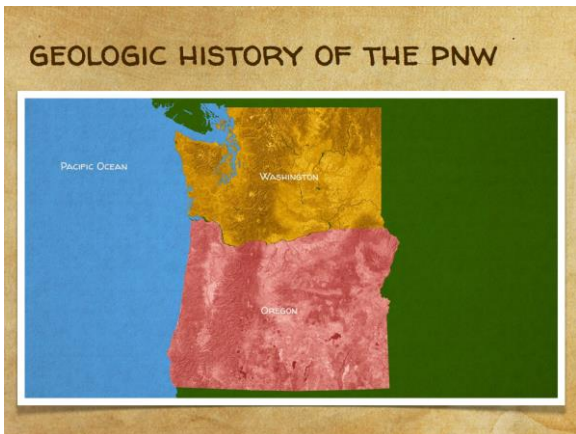
MARINE SEDIMENT



BASALT



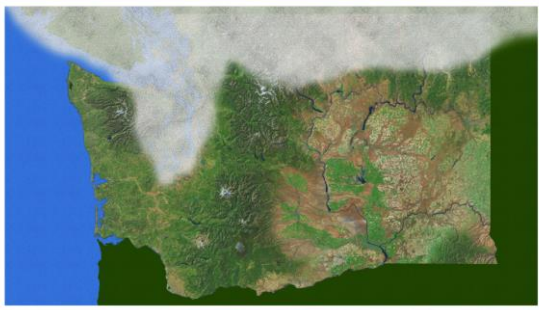




GEOLOGIC HISTORY OF THE PNW



GEOLOGIC HISTORY OF THE PNW



GEOLOGIC HISTORY OF THE PNW



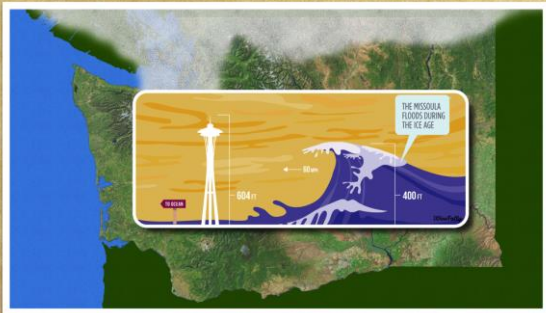
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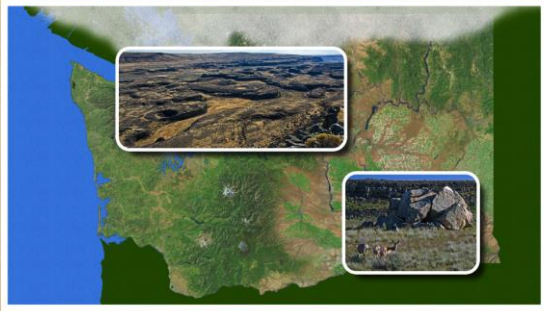
GEOLOGIC HISTORY OF THE PNW



GEOLOGIC HISTORY OF THE PNW



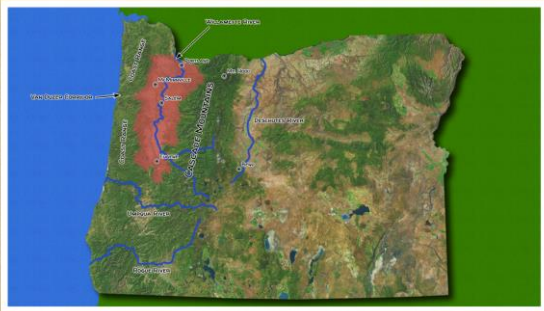
COLUMBIA VALLEY, WASHINGTON



COLUMBIA VALLEY, WASHINGTON



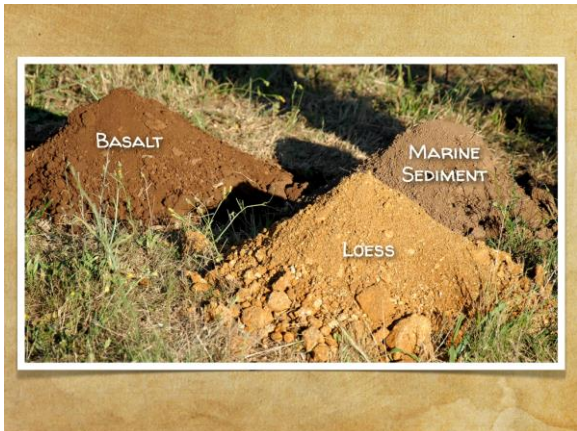
WILLAMETTE VALLEY, OREGON
















THE DIRT ON THE PACIFIC NORTHWEST

SAM SCHMITT, CS, CSS, CWE
DIRECTOR OF DTC SALES
ADELSHEIM VINEYARD, NEWBERG, OR




A map of the Pacific Northwest region, showing Washington and Oregon. The map is color-coded: Washington is yellow, Oregon is pink, and the surrounding areas are green. The Pacific Ocean is labeled to the west.



South Africa:
New World Wines from
the Oldest Vineyard Soils
in the World
presented by
Valerie Caruso, FWS, CWE

Geography & Climate

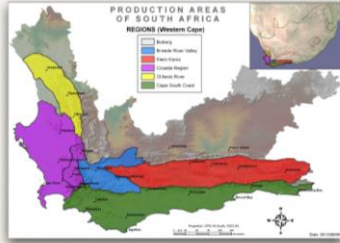
- ❖ Southern tip of Africa
- ❖ Mediterranean climate
- ❖ Benguela current



A 3D topographic map of the southern tip of Africa, showing the coastline, major rivers, and mountain ranges. The map is color-coded by elevation, with higher elevations in shades of brown and orange, and lower elevations in shades of green and blue.

Geography & Climate, cont.

- ✦ Regions, Districts, Wards, Estates
- ✦ Most fine wine from Coastal and South Coast
- ✦ Bulk of production inland from Breede River Valley



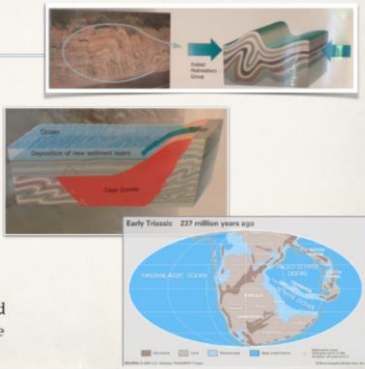
History

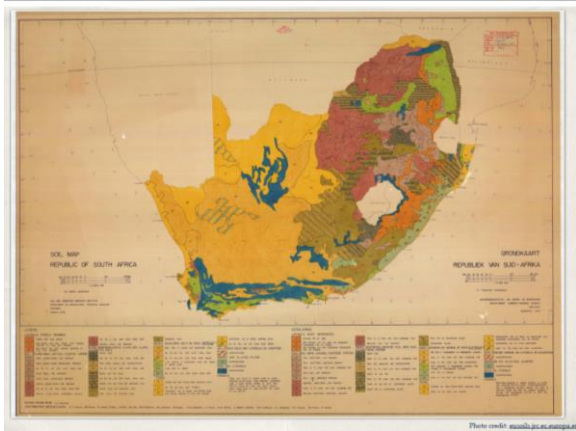
- ✦ 1654: 1st vines planted
- ✦ 1685: Constantia Wine Estate
- ✦ 1778: Sweet wines of Constantia are popular with aristocracy of Europe



History

- ✦ 500-510 Ma - continental collisions
- ✦ 250 Ma - more collisions, uplifting, folding to create mountains
- ✦ 225 Ma, Pangea supercontinent
- ✦ 200 Ma, Gondwanaland in southern hemisphere





Present Day Dirt

- ◆ Granite Bedrocks:
 - ◆ Yellow /brown clay, acidic, kaolin, tungsten
- ◆ Malmesbury Shale:
 - ◆ Greywacke-derived, acidic, clay content, more nutrient rich
- ◆ Table Mountain Sandstone:
 - ◆ Sandy, acidic, least nutrient rich /least water retention



Wines

- ◆ 56% White grapes
 - ◆ Chenin Blanc - 18%
 - ◆ Sauvignon Blanc - 10%
 - ◆ Chardonnay - 8%
 - ◆ Muscat, Semillon, Grenache Blanc, Colombard
- ◆ Dry, still, dessert and sparkling/ MCC



Wines

- ❖ 44% Red grapes
 - ❖ Cabernet Sauvignon - 12%
 - ❖ Syrah/Shiraz - 10%
 - ❖ Pinotage - 7%
 - ❖ Merlot, Pinot Noir, etc.
- ❖ Dry, still, dessert and sparkling/MCC



Questions?



Eavesdropping on the
"M" Word:
A Short Conversation
on Minerality
presented by Jane A. Nickles,
CSE, CWE



"J'adore the mineral, chalky aromas in Champagne that reflect the chalky minerals in the soil!"

"I love the way Mosel Riesling smells like wet slate. It must be derived from the slate-based soil."



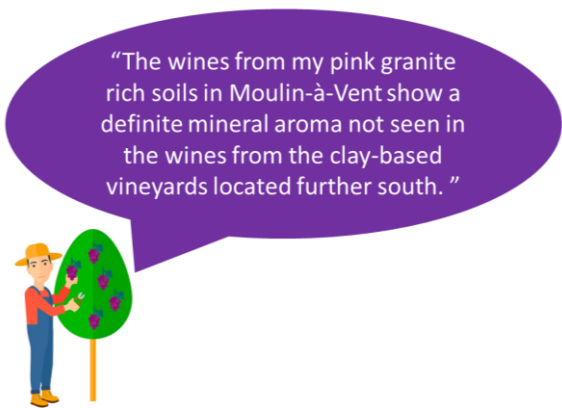
You are NOT drinking liquefied rocks!



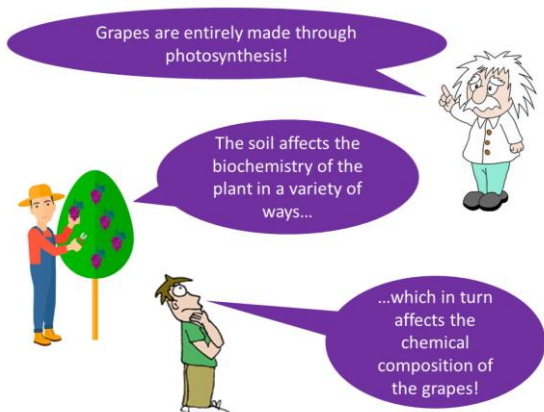
We're not drinking mineral ions from the soil?

“Soil minerals are not present AT ALL in wine. To say that ‘minerality is not related to minerals absorbed by grapevines’ is stating the obvious and is something that was never even taken seriously by the scientific community.”

Dr. Kevin Pogue, in response to an article on *Drinks Business*, October 15, 2015




“To say that ‘grapevines and the wines produced from them are unaffected by variations in the availability and concentrations of mineral-derived nutrients’ is also ridiculous – as ridiculous as saying that your health is unaffected by vitamins.”



“At present, our understanding of role of soil-derived nutritive elements in the synthesis of flavor and aroma compounds is almost non-existent.”

Dr. Kevin Pogue, in response to an article on *Drinks Business*, October 15, 2015

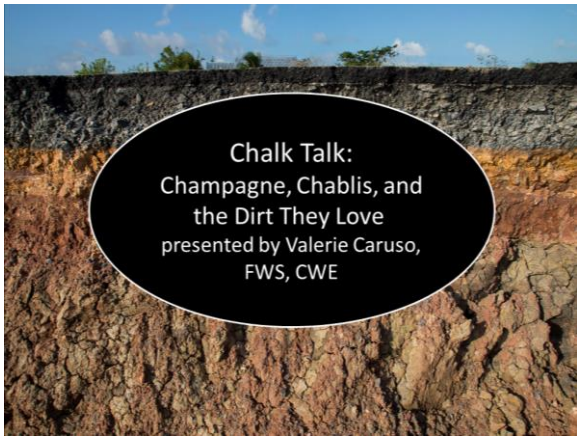


Minerality is derived from a tertiary aroma originated by noirsoprenoids...

It may be linked to acidity, certain sulfur compounds, or soil microbes...

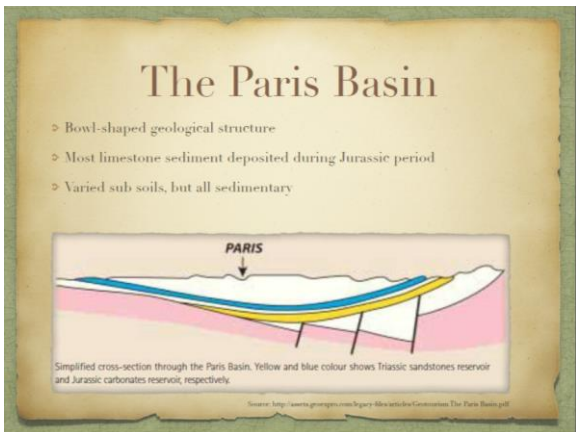
or potassium levels, reductive aging, and white wines made without oak influence...












The When

	Period	Soils	
Mesozoic Era	Triassic	250 - 200 ma	Sandstone, Gypsum
	Jurassic	200 - 145 ma	Limestone, Sandstone
	Cretaceous	145 - 65 ma	Chalk, Clay, Sand
Cenozoic Era	Tertiary	65 - 1.8 ma	Marl, Clay, Sand







Chalk Talk

- ▷ Belemnite Chalk
 - ▷ Preferred due to mid-slope location
 - ▷ Marine fossils of squid ancestor
- ▷ Micraster Chalk
 - ▷ Flatter areas/plains
 - ▷ Fossils of sea urchins from late Cretaceous



Dino Dirt

- ▷ Kimmeridgean (Virgulien) Marl
 - ▷ Part of Kimmeridgean Ring
 - ▷ Jurassic fossilized oysters
- ▷ Portlandian Marl
 - ▷ Newer than Kimmeridgean
 - ▷ No fossils



Photo Credit: www.earth-history.com



Photo Credit: www.chalk-talk.com

The Wine Terroirs

- ▷ Montagne de Reims
- ▷ Côte des Blancs, Vitryat, Sézannais, Montgueux
- ▷ Vallée de la Marne
- ▷ Côte des Bar

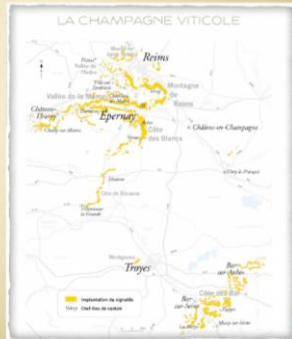
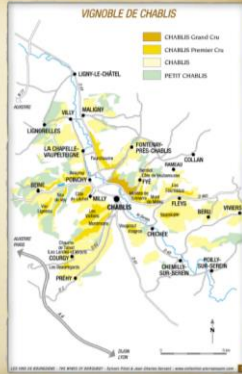


Photo Credit: www.champagne.com

The Wine Terroirs

- ▷ Chablis Grand Cru
- ▷ Chablis Premier Cru
- ▷ Chablis
- ▷ Petit Chablis



QUESTIONS?



Thank you
for
joining us!
