

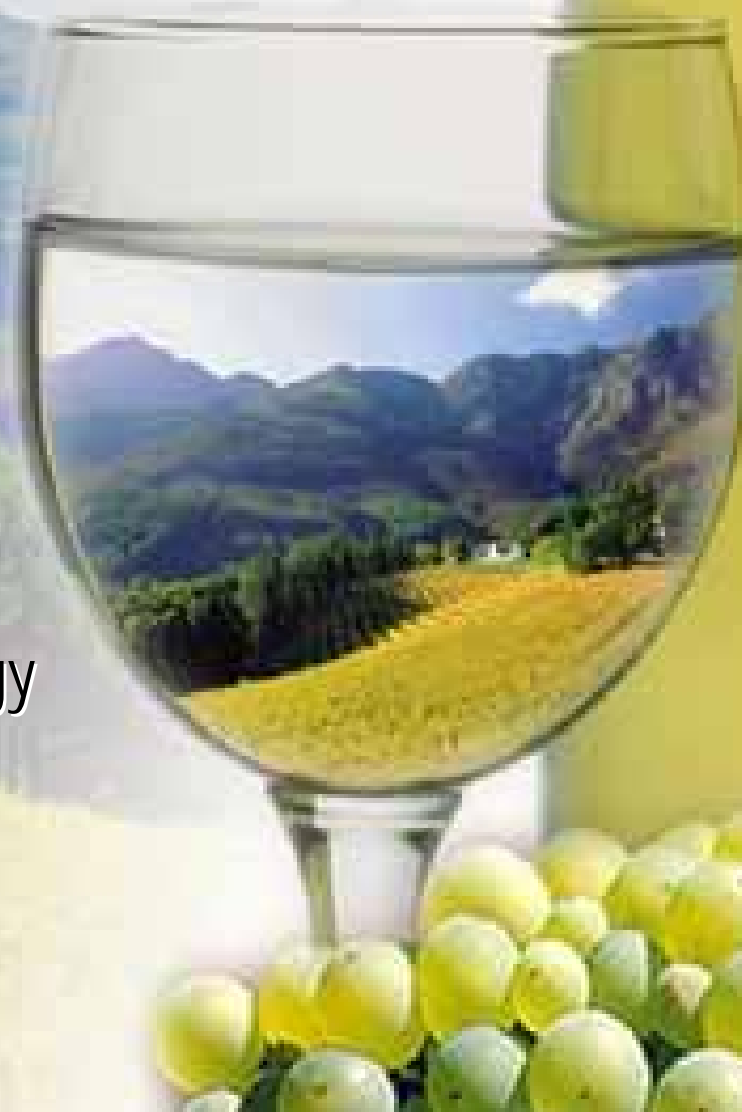
Terroirs of South Africa

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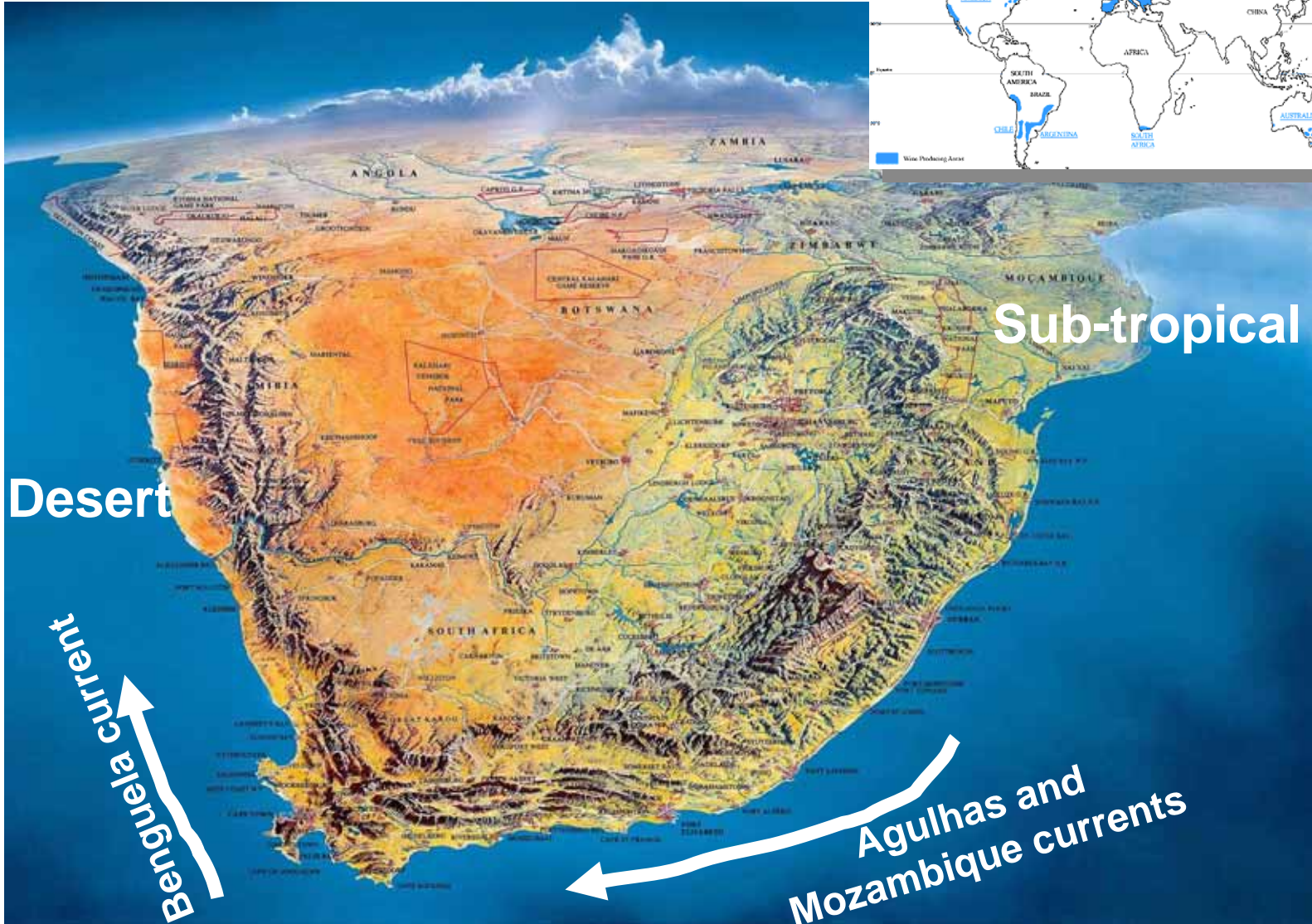


Climate and soil



Geography

THE WINE PRODUCING AREAS OF THE WORLD

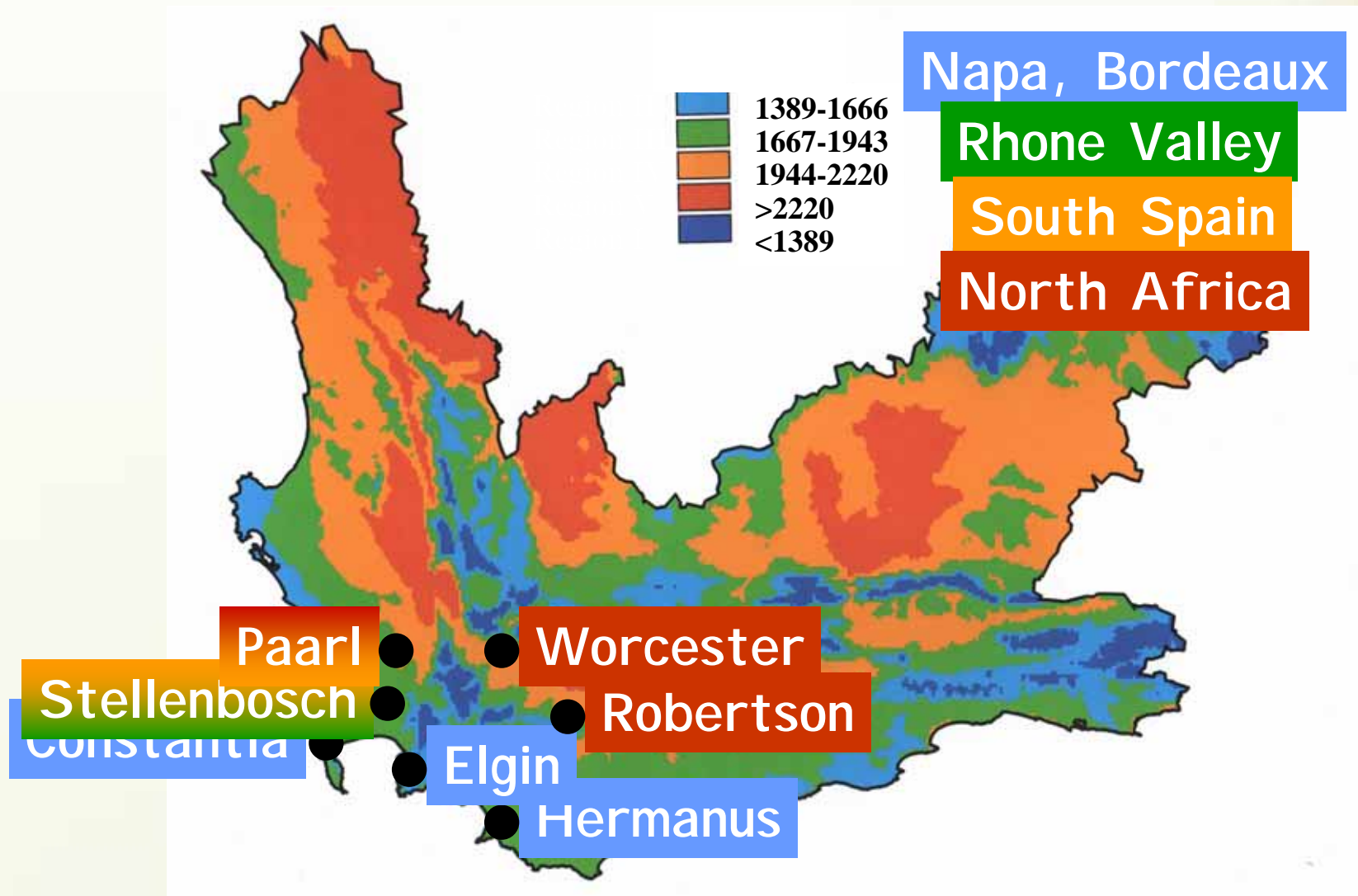


Geography and climate

- Ocean on three sides of the country has a moderating influence
 - Results in summer temperatures being cooler than similar latitudes and altitudes in the northern hemisphere
- Broken relief (coastal plain, long, high mountain ranges, deep narrow valleys)
 - results in very varied rainfall

Climatic indices

Growing degree days (Winkler Index ARC-Nietvoorbij)



Soils

- **The characteristics of the soil are determined by**
 - the nature of the parent material and
 - the pedogenetic processes that played a role in its development
- **therefore related to position in landscape and macroclimate of region**

Soils – heuweltjies or kraaltjies



Soils – heuweltjies or kraaltjies



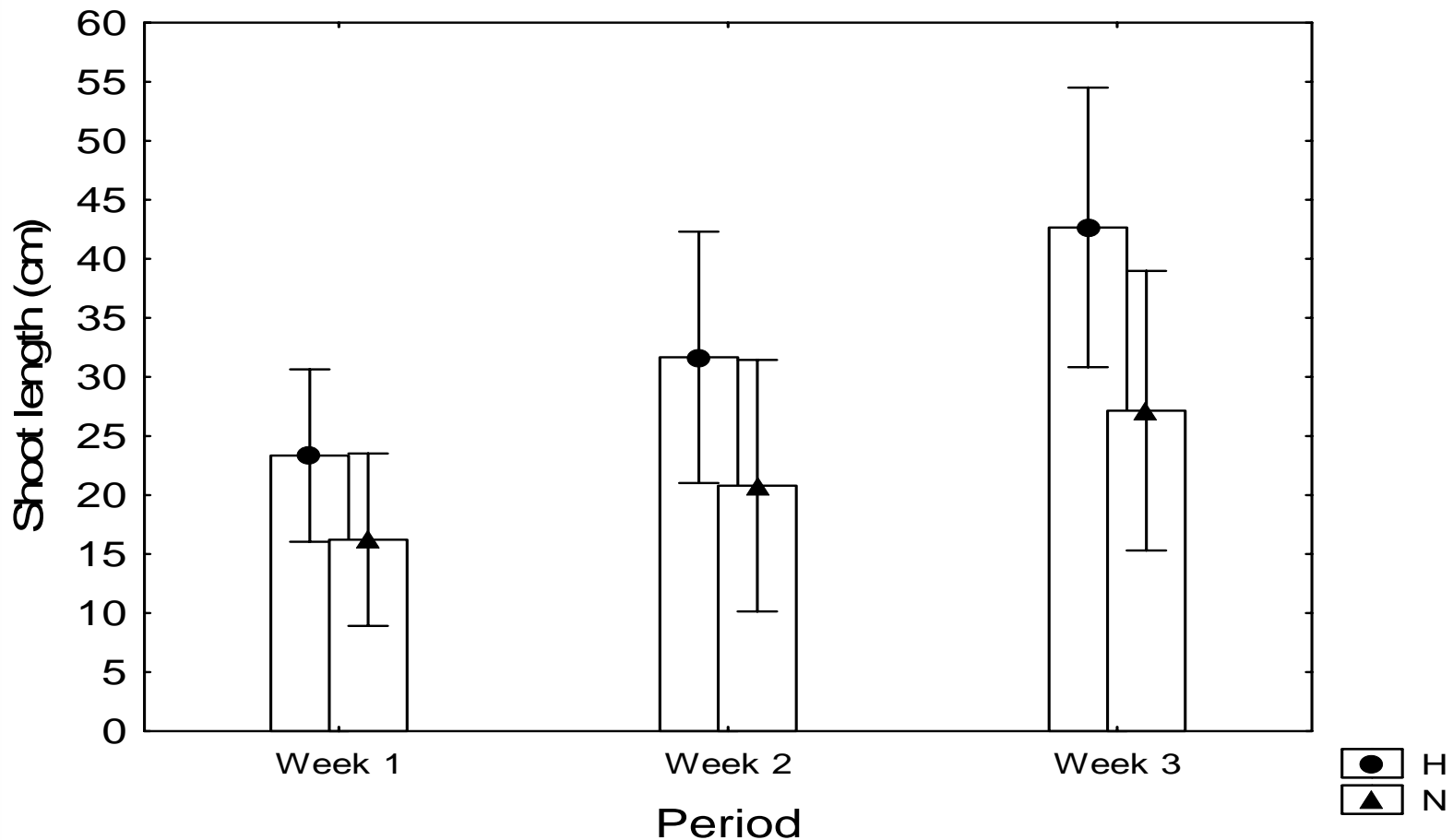
Kraaltjie soils with dark topsoils and brownish B horizons

Kraaltjie soils had a higher base status, more optimal pH and a higher volumetric soil water content



in-between soils with light top soils and uniform red/yellow B horizons

Soils – heuweltjies or kraaltjies



The *kraaltjie* plots had a higher shoot growth rate than the in-between plots.

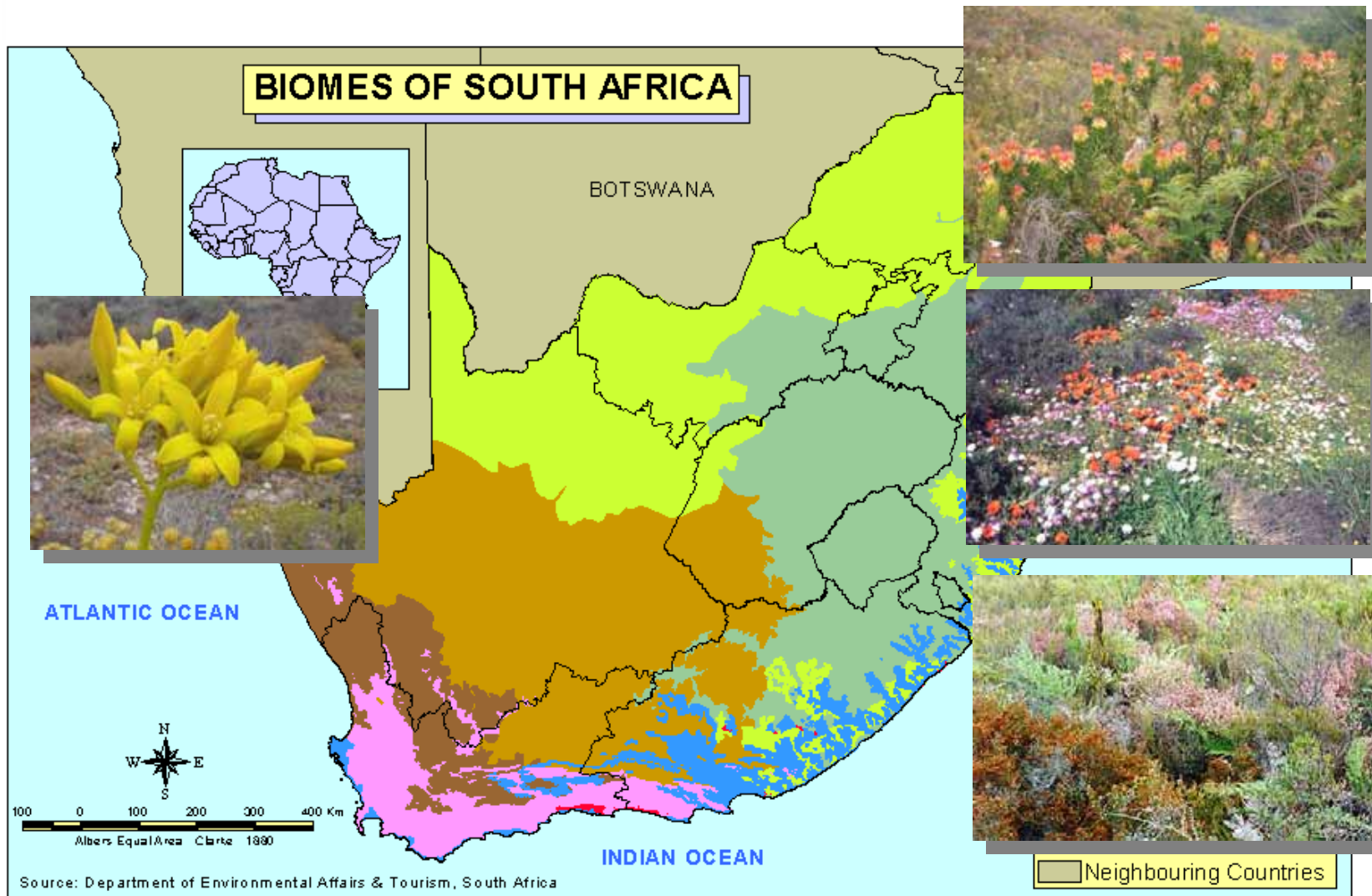
Soils – heuweltjies or kraaltjies

	<i>Heuweltjies</i>	In-between <i>Heuweltjie</i>	p- value
	mean	mean	
Length of main shoot (cm)	89	103	0.80
Length lateral shoot (cm)	174	91	0.05
Leaf area on main shoots (cm ²)	1 445	1 067	0.51
Leaf area on lateral shoots (cm ²)	2 717	1 375	0.05
Total leaf area per vine (cm ²)	86 427	34 870	0.05
Number main shoots/vine	20	14	0.05
Vine trunk diameter (cm)	17	15	0.05
Pruning weight (kg /vine)	1.2	0.5	0.05
Cane diameter (cm)	2.5	2.6	0.60
Length of internodes (cm)	6	5	0.30

Vegetation types

- **Cape floral kingdom**
 - Smallest but richest (more than 8 700 plant species)
 - Table mountain has more floral species than the whole of the United Kingdom
 - 70% of plant species not found anywhere else
 - 1 300 species per 10 000 km²
 - Many species very site specific, sometimes occurring only in a single km²
- **Wine production in the Western Cape is predominantly associated with the Fynbos Biome**
- **Vineyards may be cultivated within the Succulent Karoo Biome (characterised by low winter rainfall and extreme summer aridity) with the aid of irrigation from water catchments in the area within the Fynbos Biome**

Vegetation types



The Wine of Origin System



Wine of Origin system

- Legislated initially in 1973
- The objects of this Scheme are-
 - to serve as a basis for the development of the distinctiveness and quality of wines.
 - to confirm the correctness of certain indications in connection with the origin of wine; and
 - to create confidence in such indications

Wine of Origin system



- **Importance of origin**
 - Climate
 - Soil
- **Boundaries must be defined by law**
- **Demarcation committee**
 - Experts (soil science, viticulture, oenology)
 - Investigate (all available data)
 - Recommend

Wine of Origin system



- **Origin**

- 100% of the wine must be from stated demarcated origin
- Grown, made and bottled

- **Vintage**

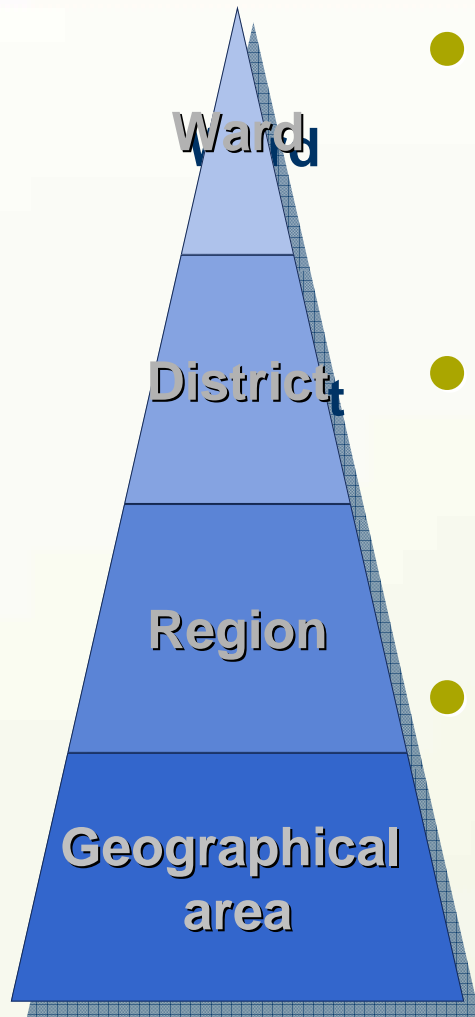
- At least 75% of wine must be from said vintage

- **Cultivar**

- At least 75% of wine must be from stated cultivar

- **The Wine and Spirit Board will certify a wine if all the requirements of the Scheme with regard to origin, cultivar and vintage have been met and the wine has also sensorially been evaluated by one of the tasting panels of the Board and it did not show any unacceptable quality characteristics**

Wine of Origin system



- For a ward, **soil, climate** and **ecological** factors are considered. The proposed area name also has to be the real **geographical place name** and nature has to dictate that the specific area can actually produce wine with a distinctive character.
- Districts have to meet the **same criteria** as wards, but with a **broader definition**. Makes use of macro-geographical characteristics such as mountains and rivers as criteria. A greater variety of soil types are allowed than in the wards
- Regions are mainly defined according to the **encompassing area name**

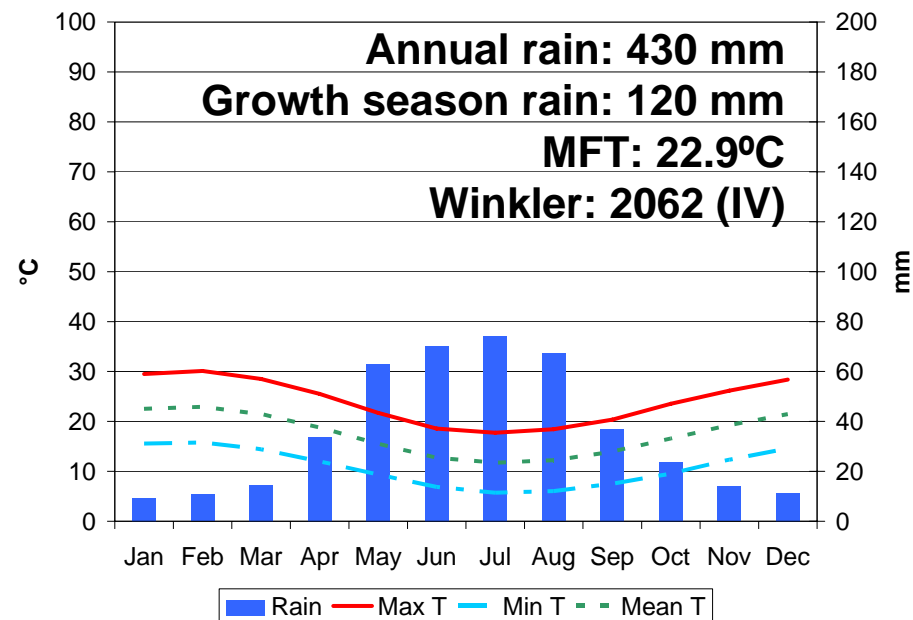
A brief description of some wards of origin



Durbanville

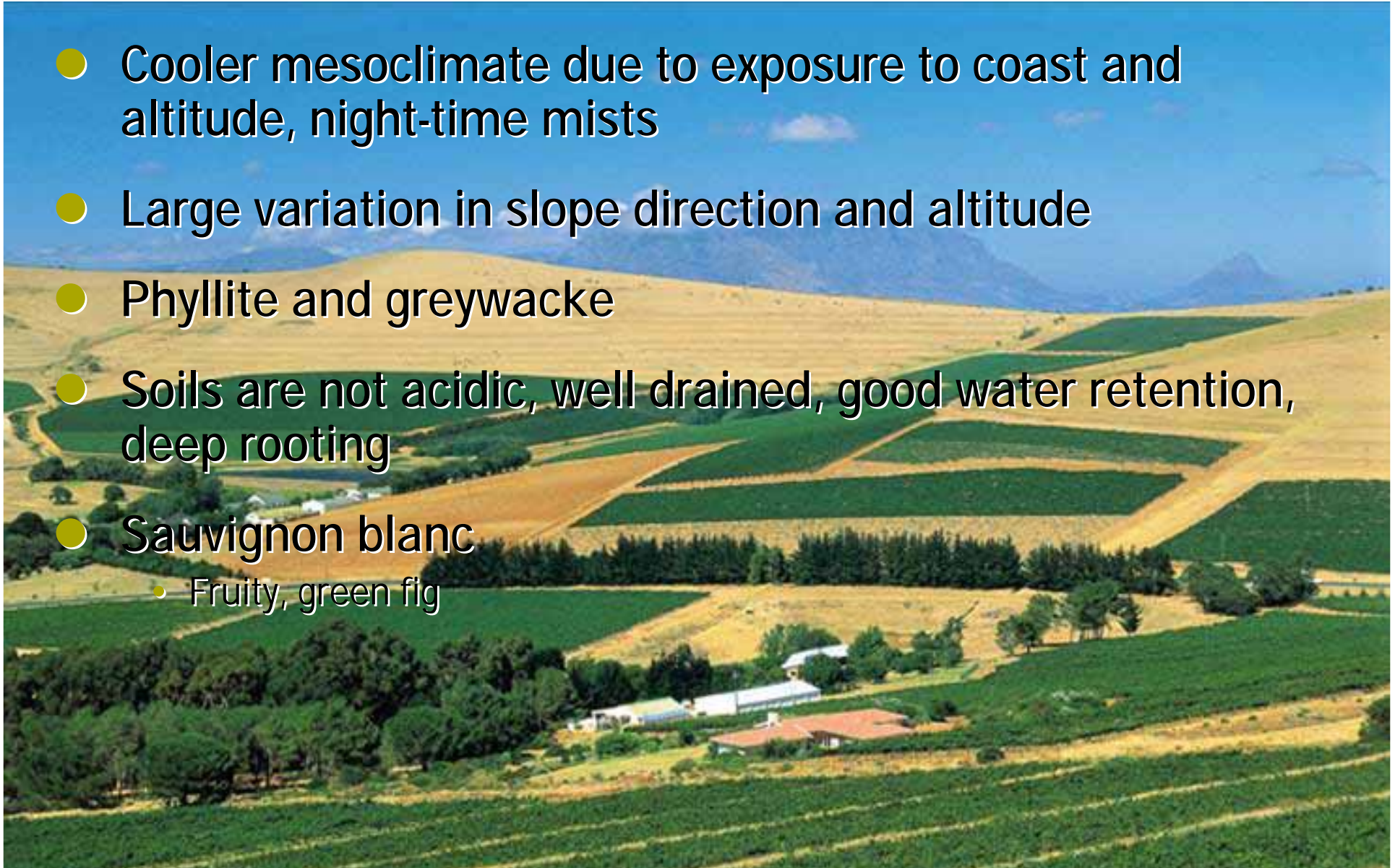


Situated close to the Atlantic Ocean and cold Benguela current, which results in a Mediterranean-type climate with mild winter temperatures, dominant winter rainfall and dry, warm to hot summers



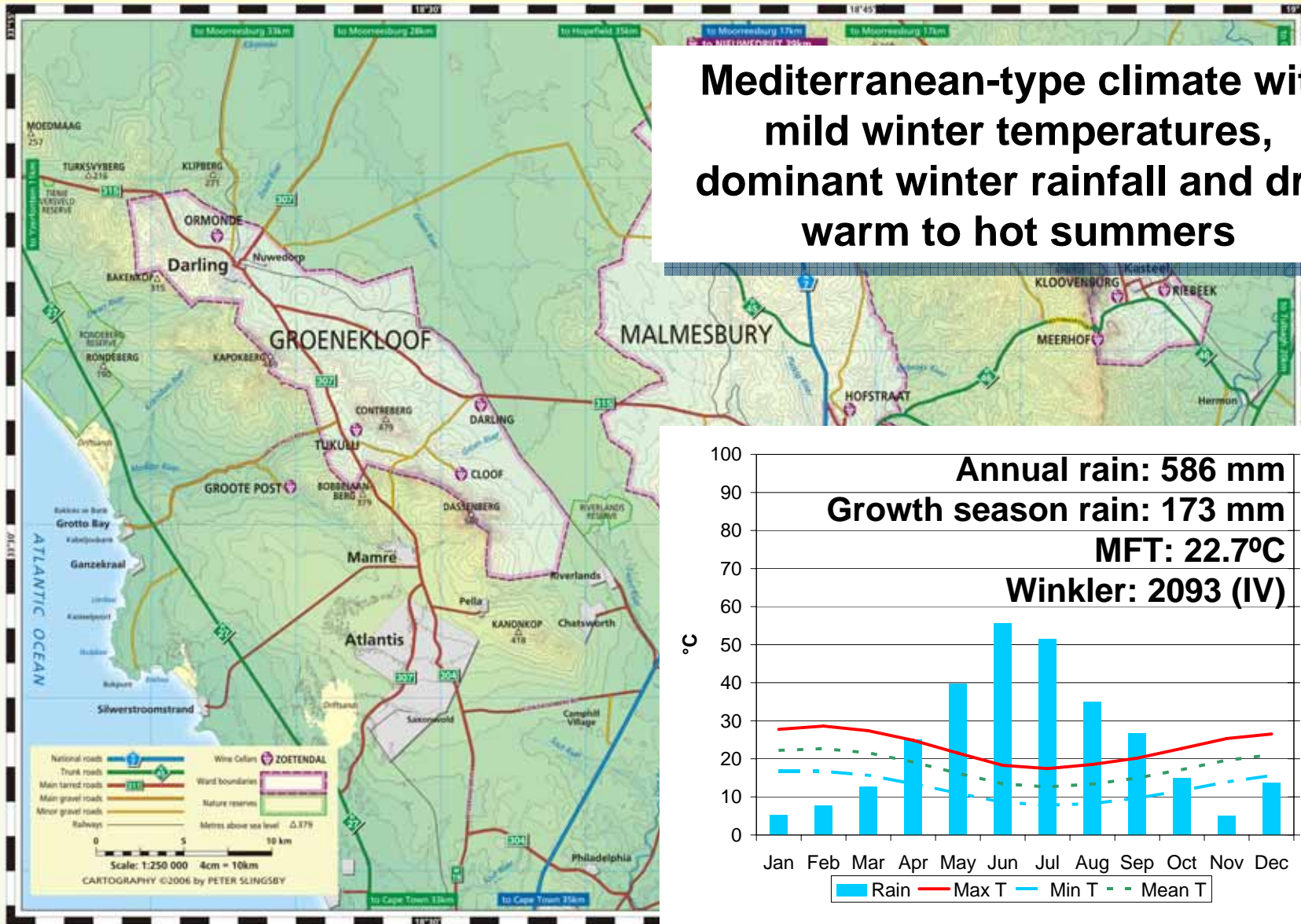
Durbanville

- Cooler mesoclimate due to exposure to coast and altitude, night-time mists
- Large variation in slope direction and altitude
- Phyllite and greywacke
- Soils are not acidic, well drained, good water retention, deep rooting
- Sauvignon blanc
 - Fruity, green fig



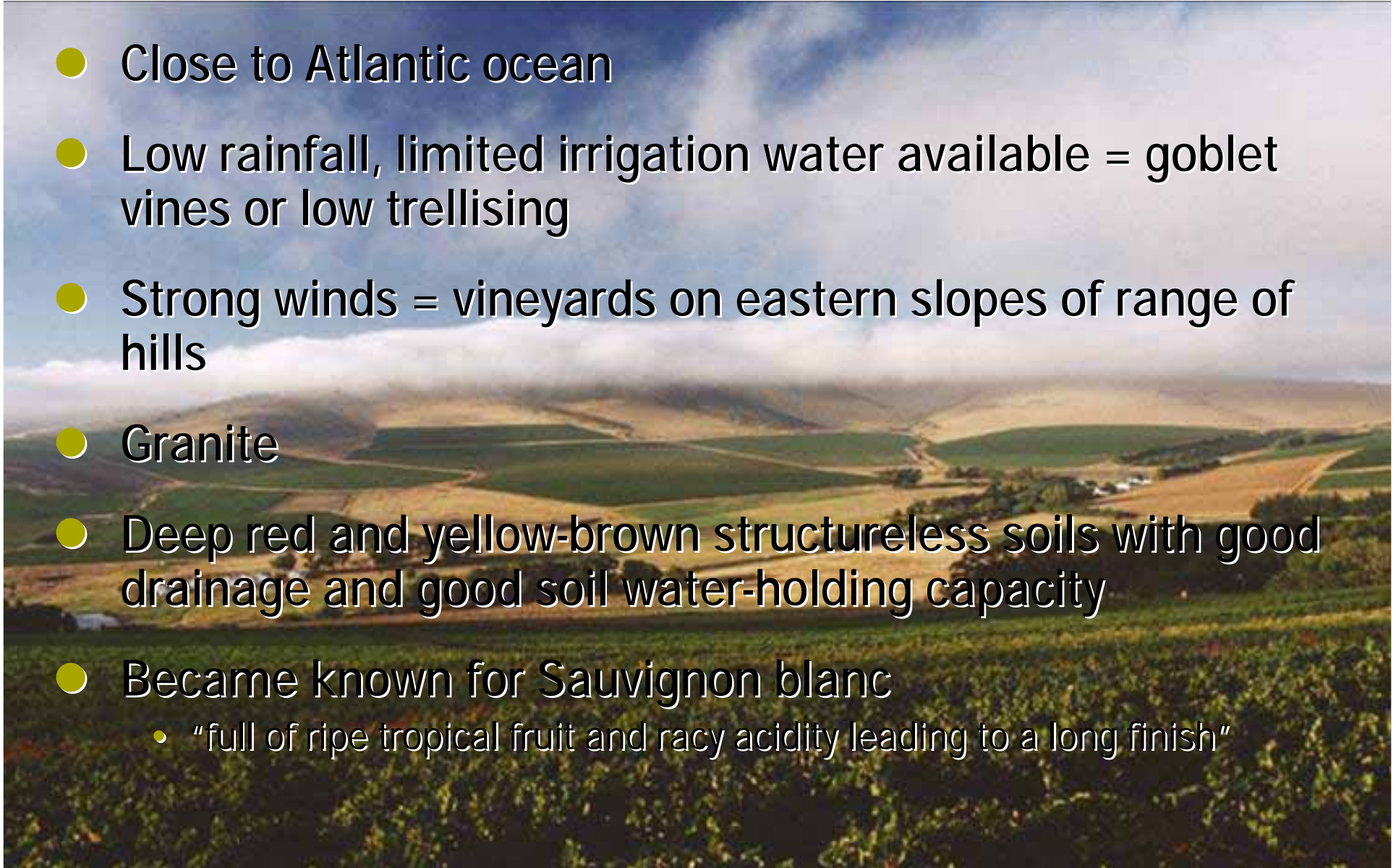
Darling (Groenekloof)

Mediterranean-type climate with mild winter temperatures, dominant winter rainfall and dry, warm to hot summers



Darling (Groenekloof)

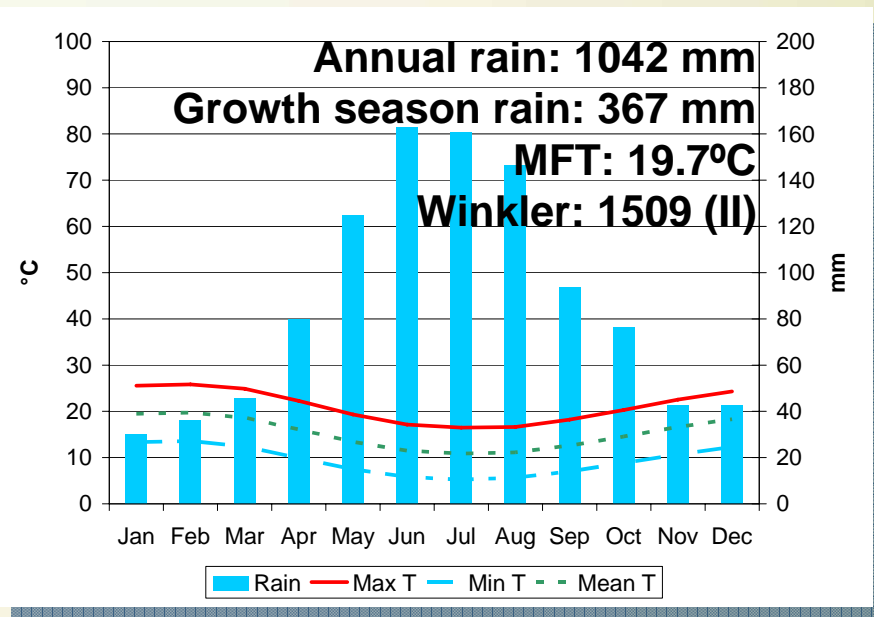
- Close to Atlantic ocean
- Low rainfall, limited irrigation water available = goblet vines or low trellising
- Strong winds = vineyards on eastern slopes of range of hills
- Granite
- Deep red and yellow-brown structureless soils with good drainage and good soil water-holding capacity
- Became known for Sauvignon blanc
 - “full of ripe tropical fruit and racy acidity leading to a long finish”



Elgin

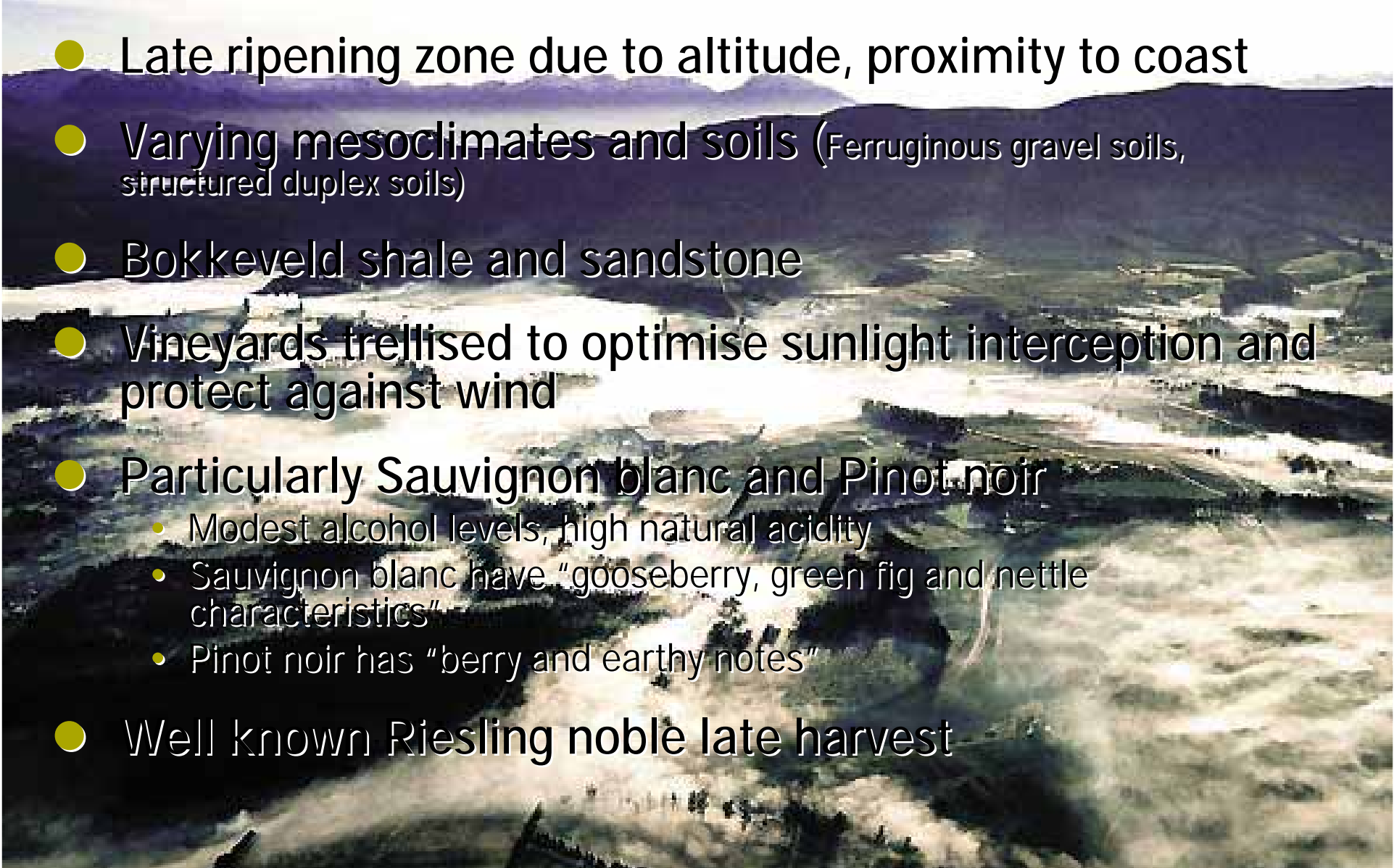


Mediterranean-type climate with mild winter temperatures, dominant winter rainfall and warm to hot summers. During summer, gale-force SE winds bring cloud cover to the mountain valleys, sometimes bringing rain, and reducing the sunlight hours.

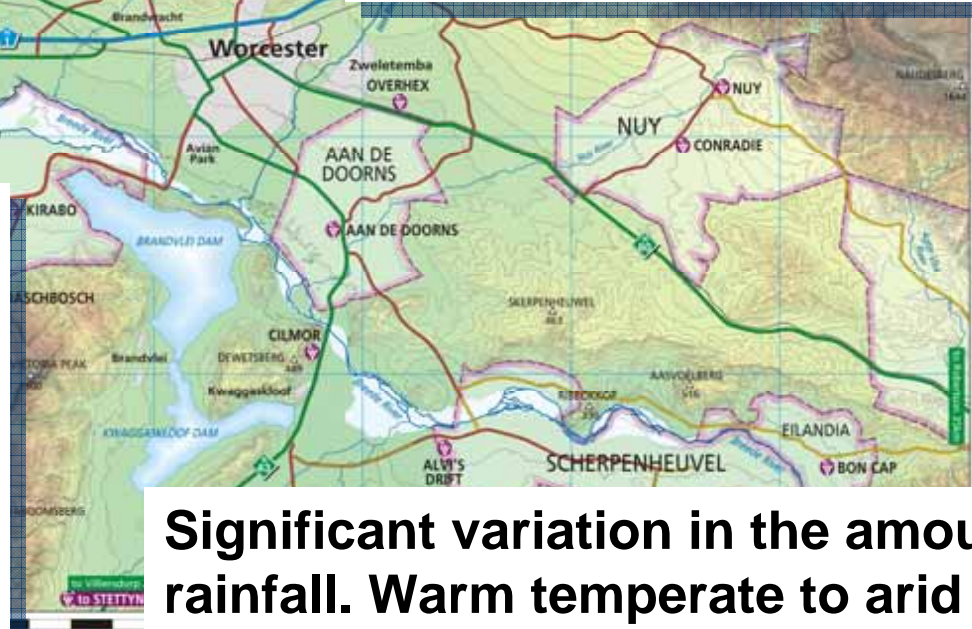
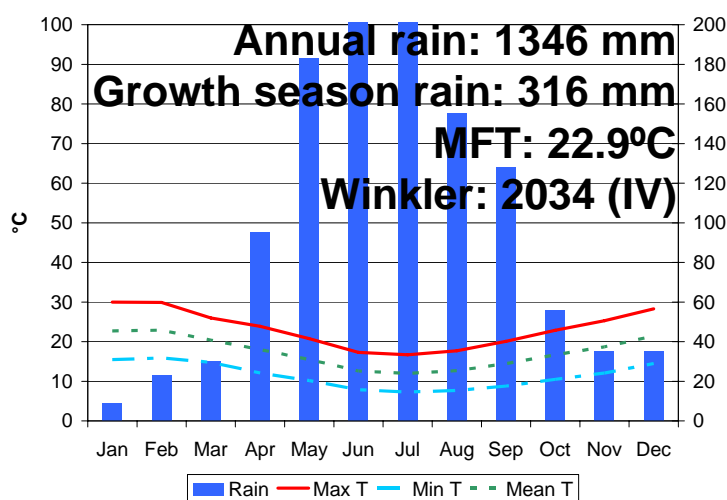
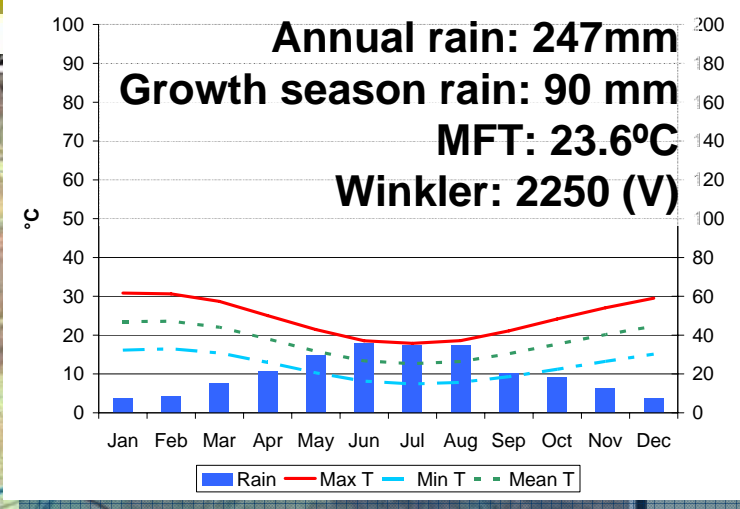


Vinelink March 2007

Elgin

- Late ripening zone due to altitude, proximity to coast
 - Varying mesoclimates and soils (Ferruginous gravel soils, structured duplex soils)
 - Bokkeveld shale and sandstone
 - Vineyards trellised to optimise sunlight interception and protect against wind
 - Particularly Sauvignon blanc and Pinot noir
 - Modest alcohol levels, high natural acidity
 - Sauvignon blanc have "gooseberry, green fig and nettle characteristics"
 - Pinot noir has "berry and earthy notes"
 - Well known Riesling noble late harvest
- 

Nuy and Slanghoek



Significant variation in the amount of rainfall. Warm temperate to arid type climates

Worcester

- All vineyards trellised, generally large trellises
- Irrigation necessary
- Traditionally Brandy production
- Dessert and fortified wines from Muscat
- Now wide varietal mix, dominated by Chenin blanc and Colombar



Conclusions

- Terroir becoming increasingly important
- System of geographical indications is dynamic
 - Based on best available information
- Increasing awareness of diversity of wine growing environments
 - Single vineyards
 - Terroir-specific wines?
- Viticultural terroirs a research focus

