

Renaming SA's wine Districts to match climate change

By Dave March CWM

www.wine.co.za 31st October 2017

'Climate change may ruin wine production', screamed the UK Independent newspaper in March of 2016. Caroline Mortimer found, 'new research suggesting increasing heat and delayed harvests mean more crops will fail'. Quotes said that you may doubt climate change is happening, but you won't find a winemaker who agrees with you.

A battery of research has shown that average temperatures globally increased by nearly 1°C in the 20th century. In wine growing regions a study in 2005 (Climate Change & Global Wine Quality), found an average increase of the same but in the last 50 years, Spain, Portugal, California, Washington and Southern France increased by 1.5°C in the last 40 years.

Good news, possibly, for cooler marginal climates, like England, Scandinavia, Southern New Zealand, Canada et al, who may now consider planting varieties previously thought impossible to ripen.

Along with increasing heat comes abnormal rainfall patterns and unusual spring weather. Hence destructive hail during bud break in Champagne and Beaujolais, late frost in Burgundy and drought in the Western Cape, and it is likely the frequency of such extreme climatic events (hail, flooding etc) will increase. Also earlier harvesting; in the 1940's the normal harvest date in Châteauneuf du Pape was 26th September, in 2010 it was the 5th September, the Institute for Climate Economics reports that Alsace in 1970 harvested on 16th October, in 2010 it was the 21st September and said other regions are also nearly one month earlier. Consider SA's 2015 and 2016 harvest dates for confirmation.

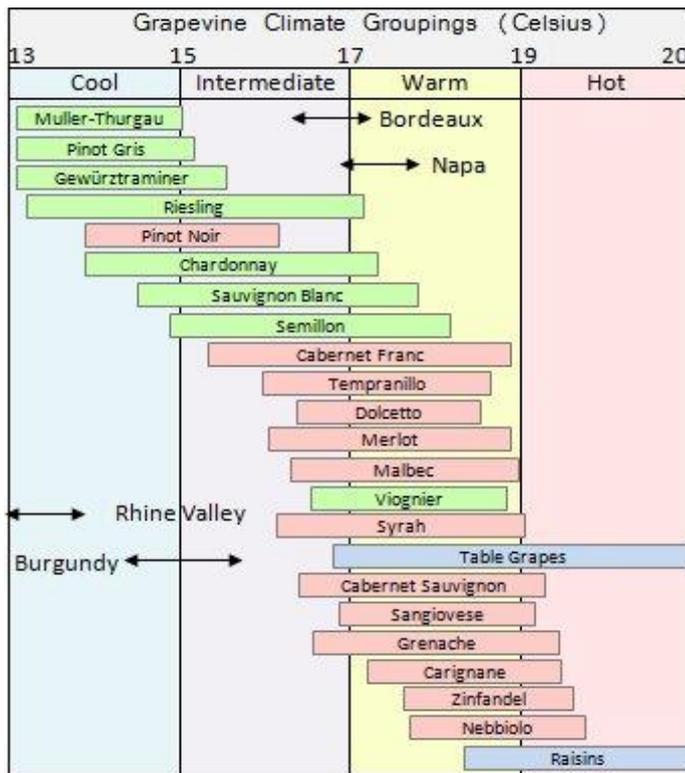
For established warm wine producing regions increasingly will come a need to use later ripening varieties, prune to delay bud break, change trellising methods or alter irrigation patterns, or just move to a cooler site. The effect of climate, after all, 'has a greater impact on vine development and fruit composition compared to soil and grapevine variety' (The Impact of Climate Change on Viticulture and Wine Quality).

Traditional wine growing regions, such as Bordeaux, have always tapered variety to climate. The warmer soils and positions favour Cabernet, the cooler Merlot. But, says Dr Gregory Jones (Climate Change; observations & general implications for viticulture & wine production 2007), 'by 2049 Bordeaux will have reached the upper temperature limits for red varieties', and whites will be impossible.

It appears that cooler regions are warming faster than warm regions. Already in England there is less hybrid planting and more Pinot Noir and the like as ripening becomes easier.

Worryingly for many, Leeuwen and Darriet (The Impact of Climate Change on Viticulture and Wine Quality, 2016) say, 'in the long run, it might be necessary to use nonlocal varieties'. So much for typicity, Imagine Viognier in Barolo or Zinfandel in Burgundy.

More manipulation of vine growing patterns, canopy management and watering may make typicity a thing of the past (if it isn't already for 90% of our wines). The search will be, and already is, for cooler spots – possibly increasingly less economic- using altitude, aspect, nearby water and wind as moderators.



According to Benjamin Lewin MW (Wine Myths and Realities, 2010), Burgundy's Chardonnay and Pinot Noir, the Loire's Sauvignon Blanc, the Mosel's Riesling and Chianti's Sangiovese are at their optimum average ripening temperature now, in less than 10 years it will be too warm for them. Bordeaux and Barolo are already too warm. Dr Jones; 'rising temperatures could end up shrinking Northern California's prime vineyards by half over the next 30 years'.

Looking at South Africa's wine regions,

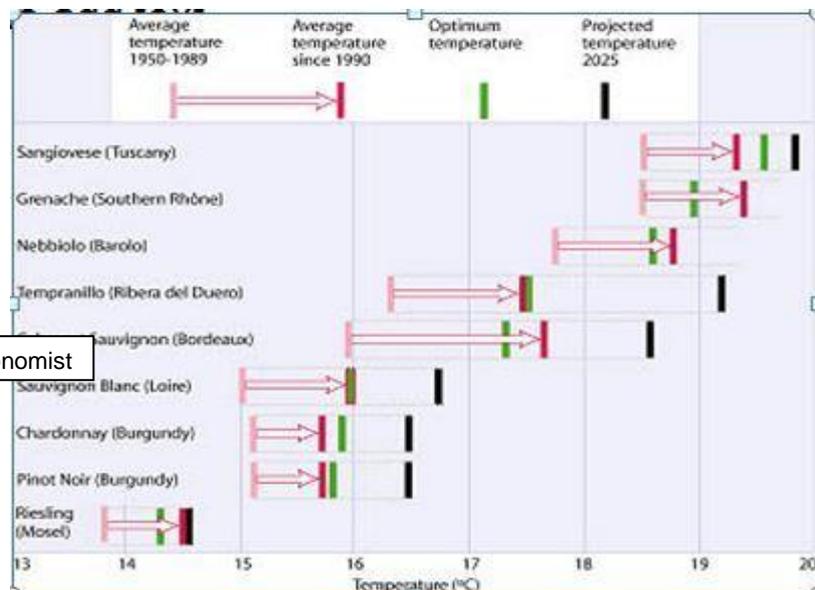
Dr Gregory Jones

maybe we need warmer. For

to change the labels now if things are only going to get warmer. For example, we call Elgin a 'cool' climate, favouring Sauvignon, Chardonnay and Riesling. It has an average daily summer temperature of around 19.7°C. One look at Dr Jones' chart (rep. on GuildSomm) might ring alarm bells if it weren't for the additional benefits of aspect, altitude, proximity to coast and a big diurnal drop. If this was the UK, Elgin would be called a warm region. The 400 vineyards of England expect a high average of 18°C all summer, so 19.7°C is not 'cool'.

Stellenbosch is generally typical of our wine regions, at 21°C summer average, (19.3° between October and March) with many days over 28°C. Many consider this mid-range warm. In Belgium

Wineeconomist



this would be hot. In Tulbach, the average is 24.3°C, with many days over 30°C which in Scotland would see a public holiday called on humanitarian grounds. Of course, SA terms are relative – it being a warm climate country, so Elgin is really a cool climate in a warm country and Tulbach a warm to hot climate in a warm country. Considering northern Europe, Elgin should be called warm, Stellenbosch hot and Tulbach Hell's Kitchen. According to the Wine Economist (see chart), by 2025 only two regions will have a variety that is within its optimum heat range – and they are in Europe. More worrying, though, is perusing Dr Jones' summations where Stellenbosch's average isn't even on the chart! Our glorious Cabernet Sauvignon and most whites should be unthinkable, so thank the Lord for the Mountains, Ocean and Cape Doctor.