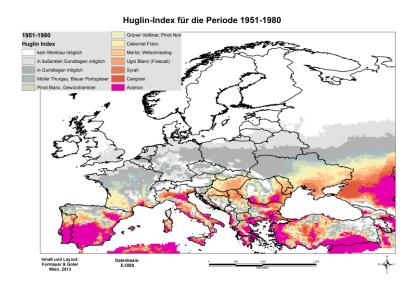
## Climate change and it's effects on wine production

## Part 1: Global analysis

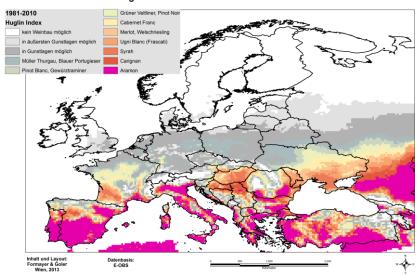
The Fifth Assessment Report on climate change by the IPCC does not question if there will be a climate change because this is already happening. The report considers the effects on the global system and how we can limit the effects. The goal is to limit the temperature increase by +2°C. As of today this goal can only be achieved when political measures get into immediate effect and in addition CO2 will be pumped out of the atmosphere. Realistically we have to adapt to temperature increases of 3° - 4°C within the next 50 years.

There are very interesting scientific studies how the climate change will influence the wine production worldwide and in specific regions and countries. Several parameters are considered like the feasibility for wine production (Huglin-Index), the feasibility of planting different varietals, and the change of summer and winter temperatures. We can look back at the developments of the last 60 years and compare this information with the developments of wine production.

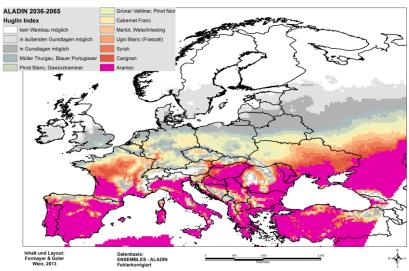
The following diagrams have been published by Dr. Formayer in his study "The effects of climate change on wine production in Austria and Europe" (Studien zum Klimawandel 2013). The data are from the periods 1951 - 1980, 1981 - 2010 and the scenarios are calculated for the periods of 2036 - 2065 and 2071 - 2110.



## Huglin-Index für die Periode 1981-2010



Huglin-Index - ALADIN Szenario - für die Periode 2036-2065



Huglin-Index - ALADIN Szenario - für die Periode 2071-2100

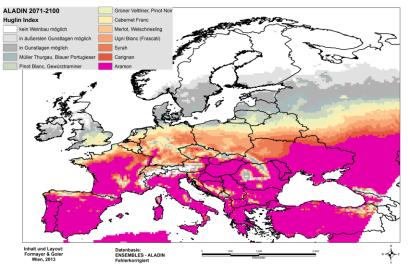


Figure: Effects on climate change in regards to the wine production (Dr. Formayer, 2013)

• Page 2

The first two diagrams highlight that temperature changes in the last decades have already effected wine production in Europe. In 1950 only in the South of France it was possible to produce wine, today wine production is possible in all of France. Within the next decades wine production will be possible further North up to Southern England and the Danish border.

The Southern limit is more difficult to forecast. It will be mainly a question of the availability of water, and this will decide if countries like Spain and Italy will still be able to produce wine or if these regions will become deserts. Coastal mountainous areas have more possibilities than plain areas and the inland.

Which countries will profit from the climate change in regards to wine production? Obviously these are Germany, Poland and the Ukraine.

Vomp, April 2014

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