



Business Adaptation to Climate Change

Roland Wahlquist

June 2013

Agenda



- **What we had observed**
 - **Our tipping point**
 - **Adaptation**
 - **Vineyard classification**
 - **Vineyard management**
 - **Varieties**
 - **Winemaking**
-

What we had observed

- Water shortages, esp 2007 vintage
 - Earlier vintages
 - Hotter, shorter vintages – pressure on refrigeration, waste water treatment
 - Increased sunburn
 - Higher alcohols
 - Increased colour in whites
 - Decreased colour in reds
 - Lower acidity
 - Higher phenolic levels
-



The big one..... Smoke Taint!

- Unheard of before 2003
- Significant fruit losses in 2003, 2007 and 2009
- Often just prior to harvest after the money has been spent and there is little time for alternate plans
- Insidious, difficult to quantify
- Now Brown Brothers No 1 agricultural risk factor



What is going on??

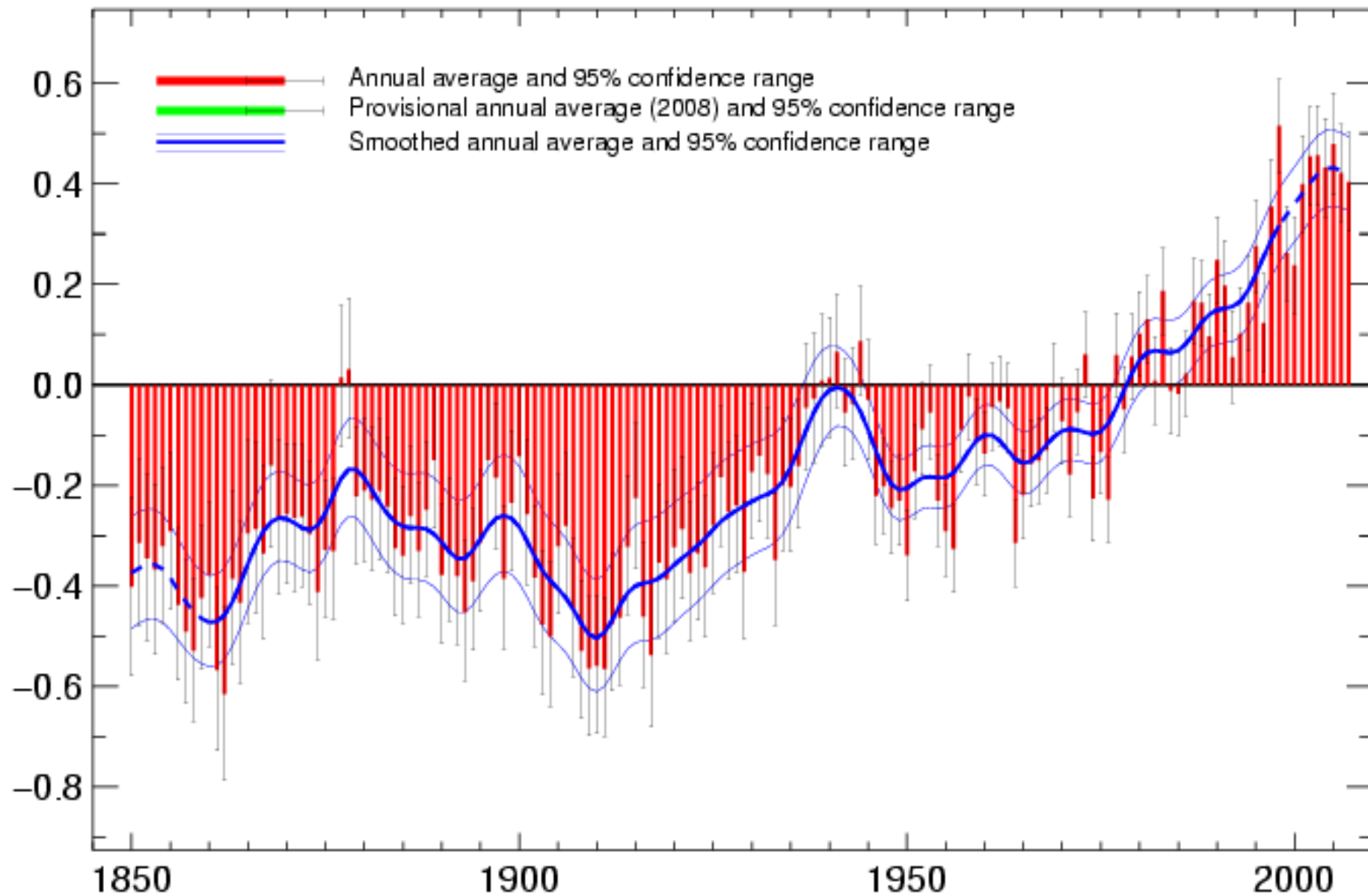


Presentation from Graeme
Anderson, DPI, in 2008 to the
company's Board and Senior
Management Team

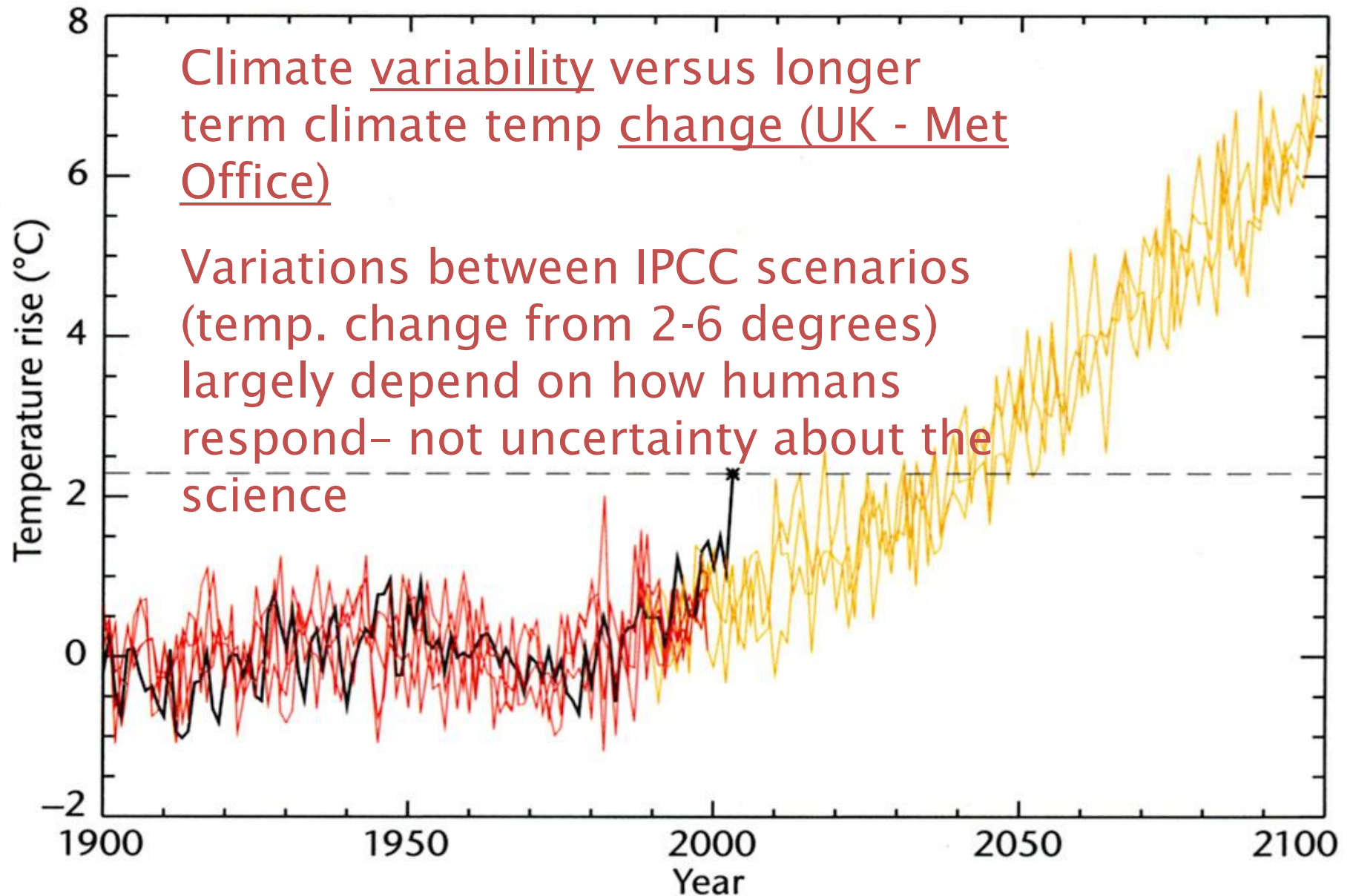
Global average temperature 1850–2007

Based on Brohan et al. 2006

Anomaly (°C) wrt 1961–90



European warming predicted by the Hadley Centre model



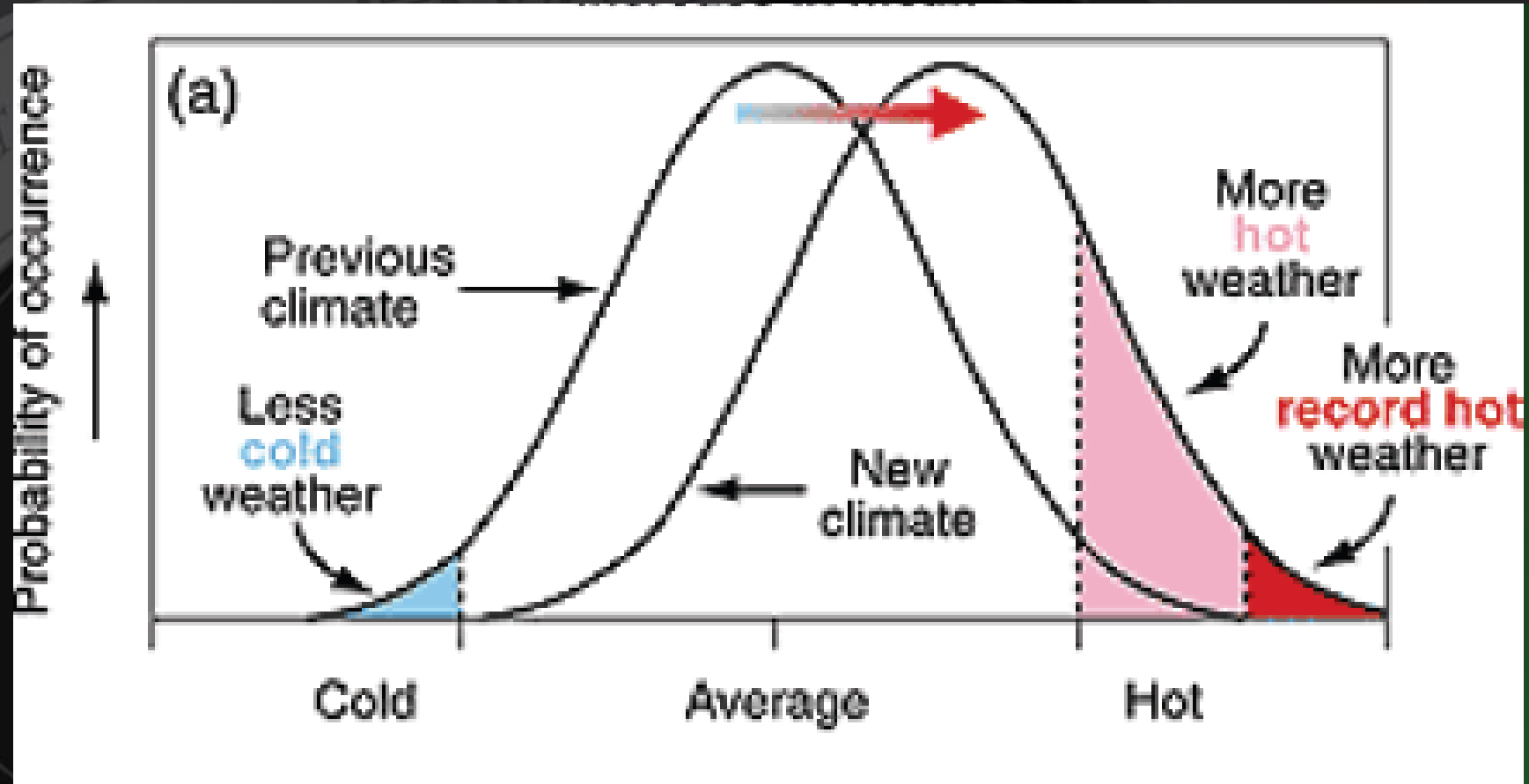
Our Tipping Point

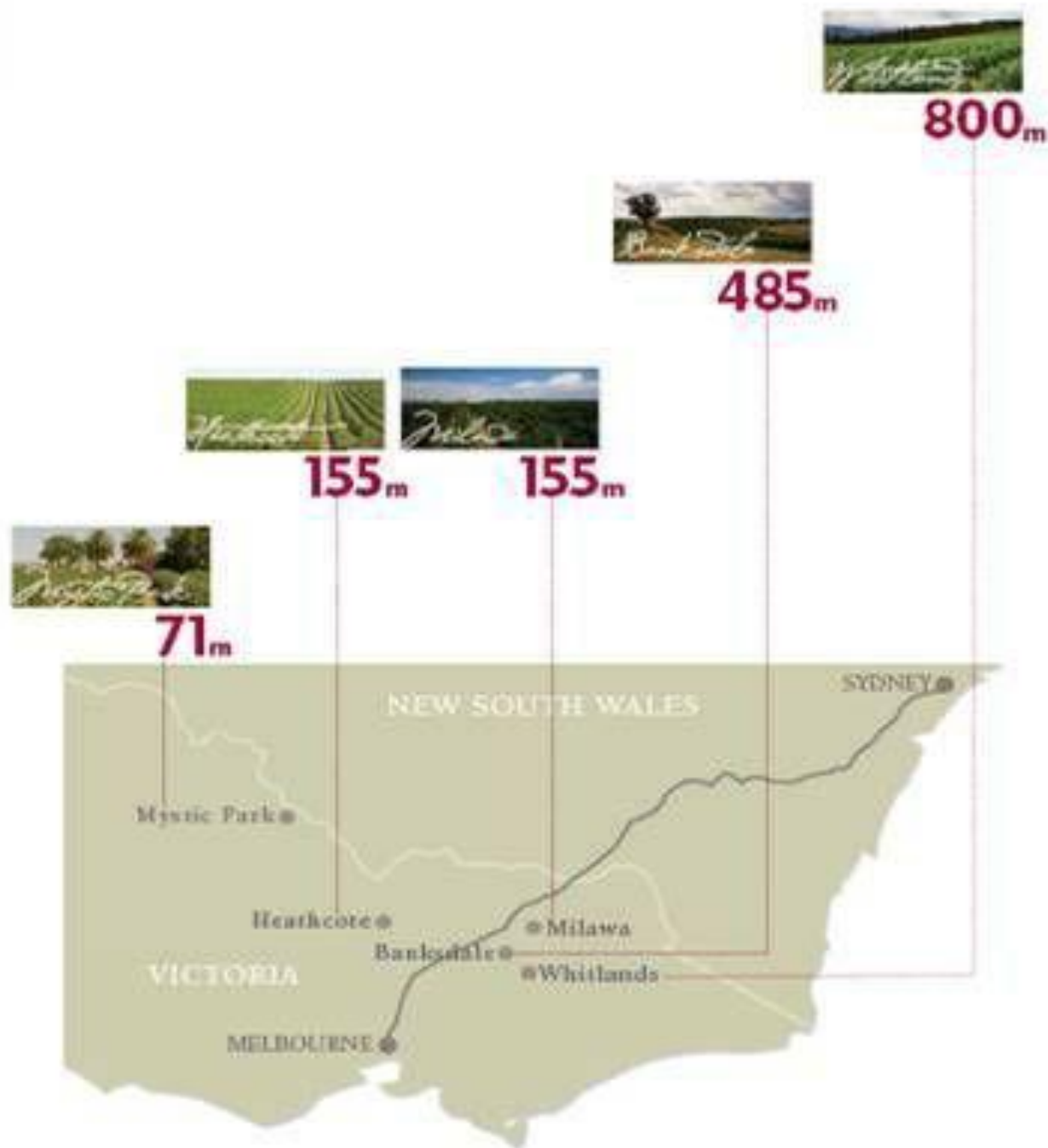


- Convincing data that this is not cyclical, it is a fundamental change
- We need to accept that this is happening, and plan accordingly

MILAWA • AUSTRALIA

Increased average temperature scenario





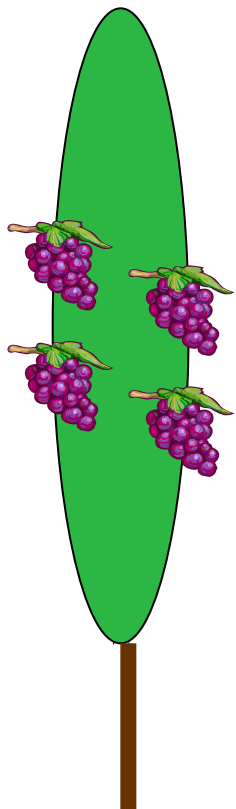
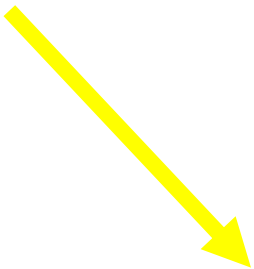
Vineyard Reclassification



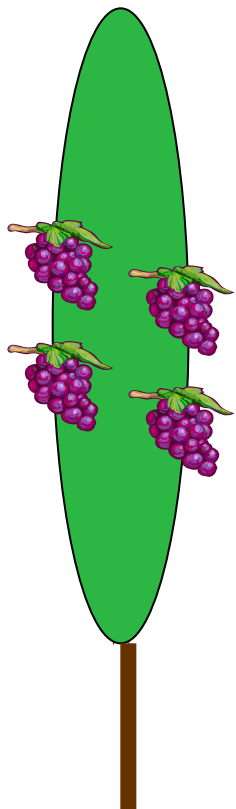
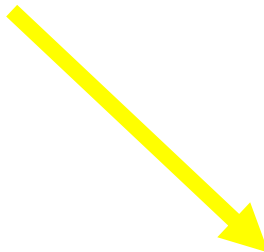
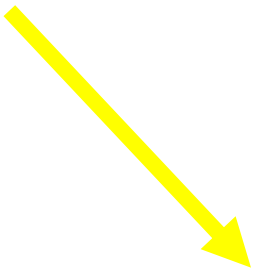
Vineyard	Current MJT	New MJT
Mystic Park	23.5	25.5
Milawa	22.8	24.8
Heathcote	22.3	24.3
Banksdale	20.6	22.6
Whitlands	19.0	21.0

Water use efficiency

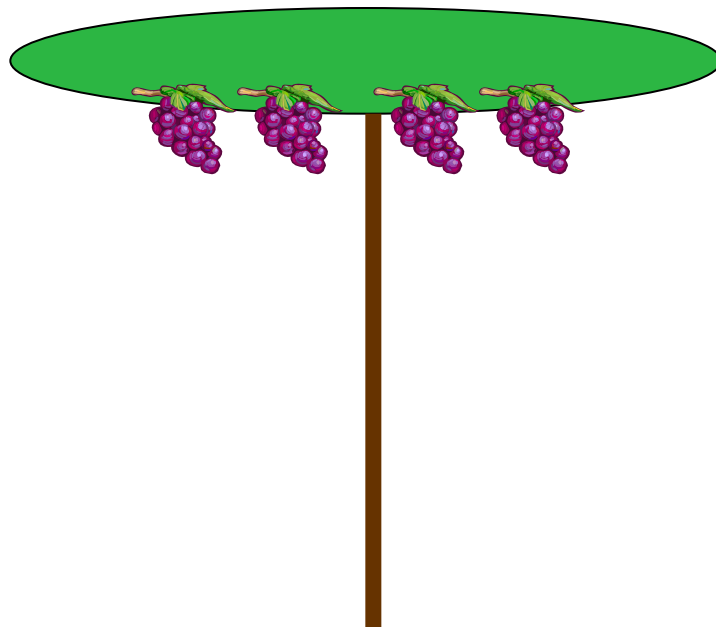




Vertical



Vertical



Horizontal

New Varieties

- From Portugal, Spain and Italy
- From the CSIRO breeding program



Winery Adaptation



- Increased peak load capacity – crushing, fermentation, refrigeration, clarification, waste water management
- Reverse osmosis for alcohol reduction

BROWN BROTHERS
MILAWA • AUSTRALIA

In Summary



- The planning horizons are long, so start now
 - Look for the opportunities. It is not all bad news
 - Adaptability will win
-

