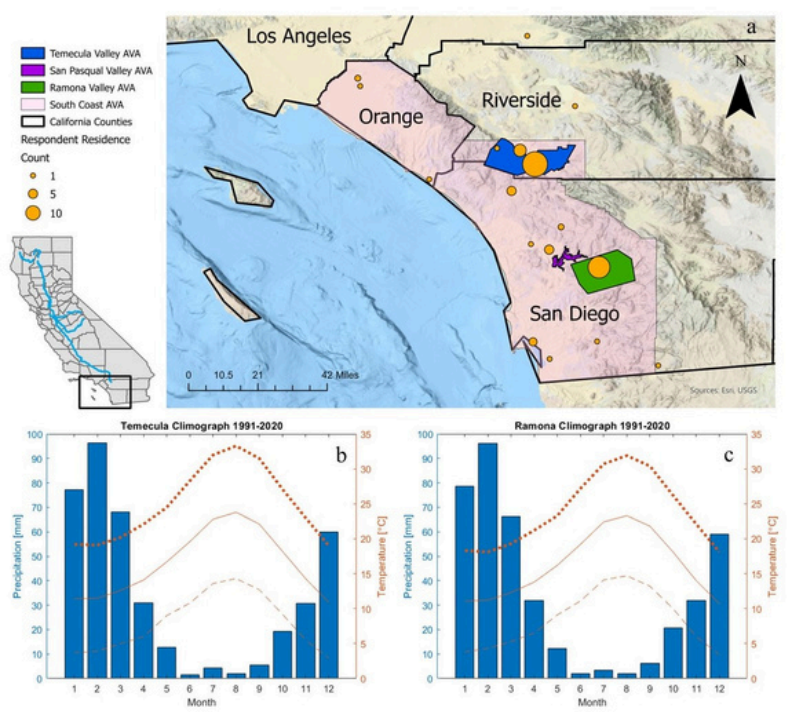
SDSU

WINEGROWER PERCEPTIONS OF CLIMATE CHANGE IMPACTS AND ADAPTIVE CAPACITY IN SOUTHERN CALIFORNIA, USA

Major findings form a 2022 survey conducted by researchers at San Diego State University, exploring the perceptions and adaptive responses of winegrowers across the Southern California region (see adjacent map for a detailed breakdown of the study area).



Study region with climographs for Temecula and Ramona (annual precipitation & temperature from 1991-2020)

Regional significance and challenges:

This region is a key producer of high-quality wines, but is faced with increasing temperatures and reduced rainfall which pose threats to winegrape production

Growers' perception and observations:

A significant portion of growers surveyed have observed climate changes in the past decade:

- 73% observed fewer rainfall events
- 63% reported more frequent heat events
- Changes in vineyard phenology include earlier bud burst (32%) and harvest dates (41%)

Adaptation practices and preparedness:

Many growers are adopting short-term adaptive practices like canopy management, while fewer growers are taking long-term measures such as planting drought and heat-tolerant varieties

- Growers who perceive negative impacts of climate change are more likely to implement adaptive strategies and feel more prepared for climate challenges

Resource and support gaps:

A substantial number of growers feel they lack the necessary support (34%) and resources (52%) to effectively address climate challenges

Call for collaborative efforts!

This study highlights the need for participatory science and enhanced collaboration among growers, academics, and government to build capacity and share knowledge for better adaptation

Winegrowers respond to escalating climate extremes

This study shows that Southern California winegrowers are increasingly noticing climate shifts, leading to earlier vineyard events like bud break and harvests. There's a pressing need for long-term strategies and collaborative efforts to bolster the resilience of wine production against rapid climate change.

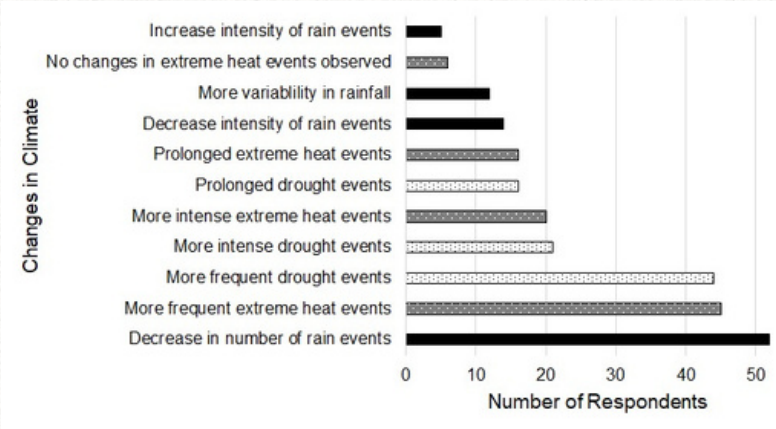


Figure 1. Perceptions of Changes in Climate. These are all the changes that were listed by 5 or more survey respondents over the last 10 years. They have been coded so that dark shading represents changes in rainfall, medium shading represents changes in temperature, and light shading represents changes in drought.

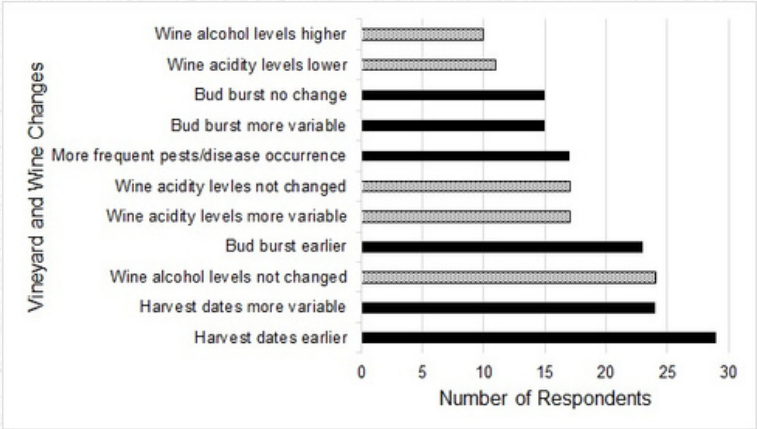


Figure 2. Perceptions of Changes in Wine Characteristics and Vineyard Plants. These are all the changes that were listed by 10 or more survey respondents over the last 10 years. They have been color coded so that the dotted bars represent changes in wine characteristics and the solid bars represent changes in vines and vineyard characteristics.

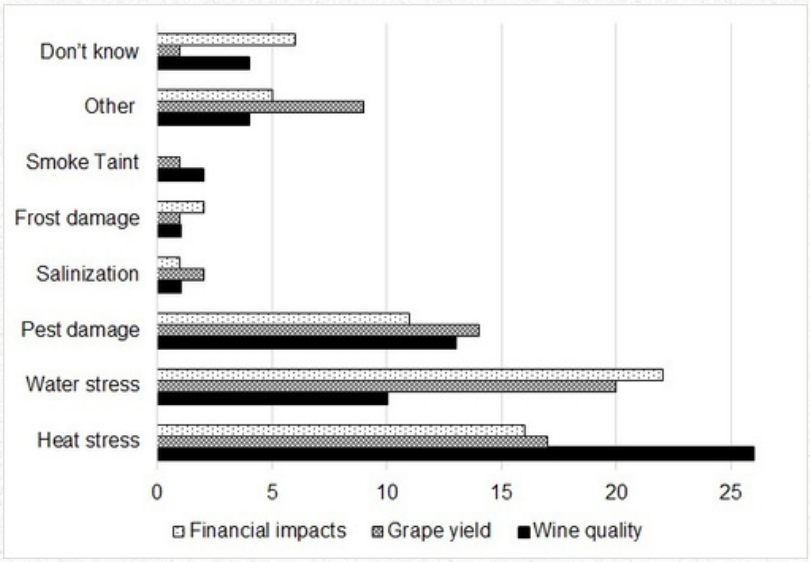


Figure 3. Perceptions of the greatest stressors on wine production. These have been broken down into financial impacts (light shading), grape yield (medium shading), and wine quality (dark shading).

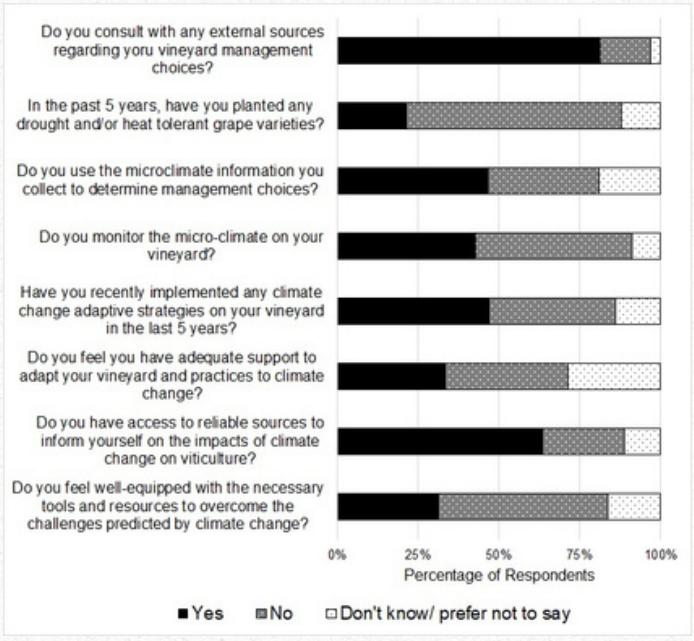


Figure 4. Perceived adaptive capacity. These questions were yes/no questions answered by survey respondents. 'Yes' is indicated by dark shading, 'No' by medium shading, and 'Don't know/prefer not to say' by light shading.

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