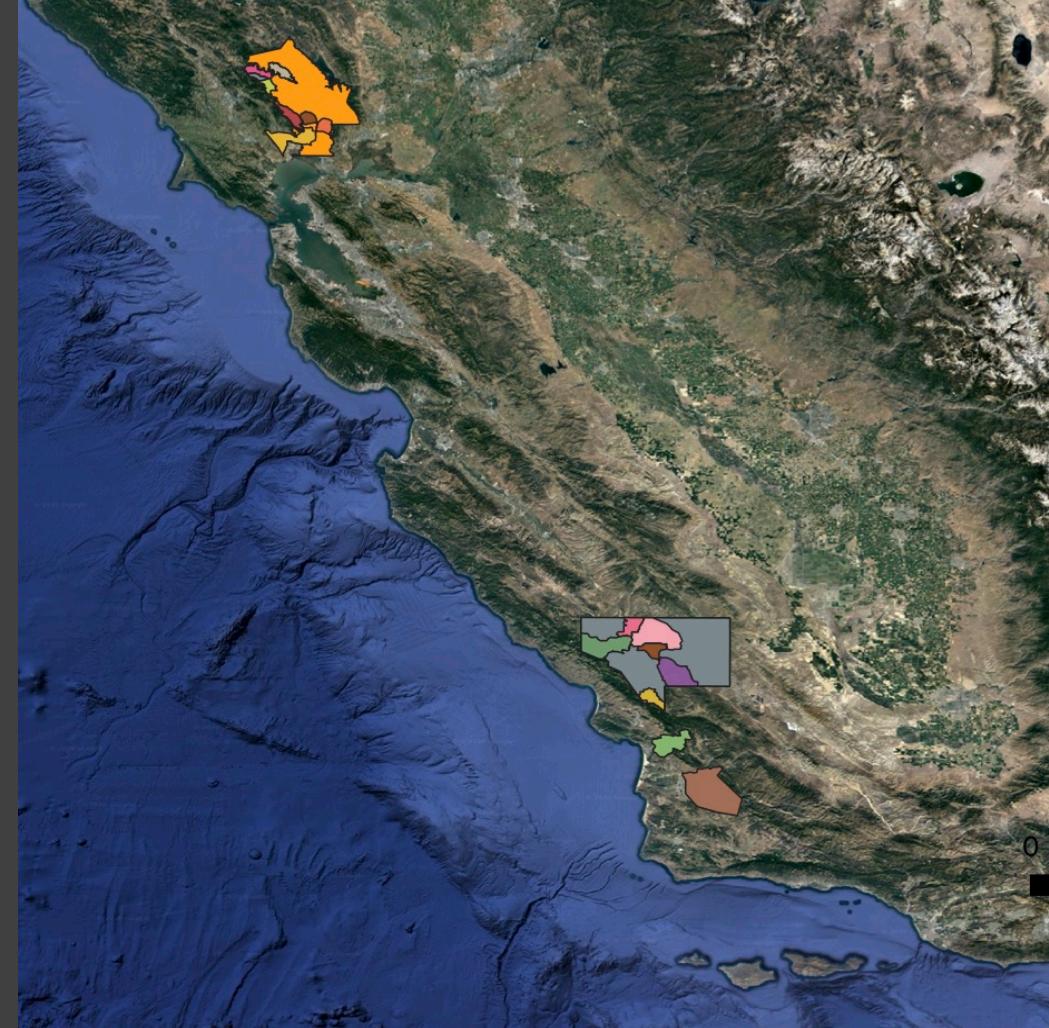


Napa Valley and **Paso Robles** are the most lucrative wine regions in the US.

Organized by **AVAs** (American Viticulture Areas) based on grape and regional characteristics.

However, **Climate change** (see appendix 1) is threatening these regions

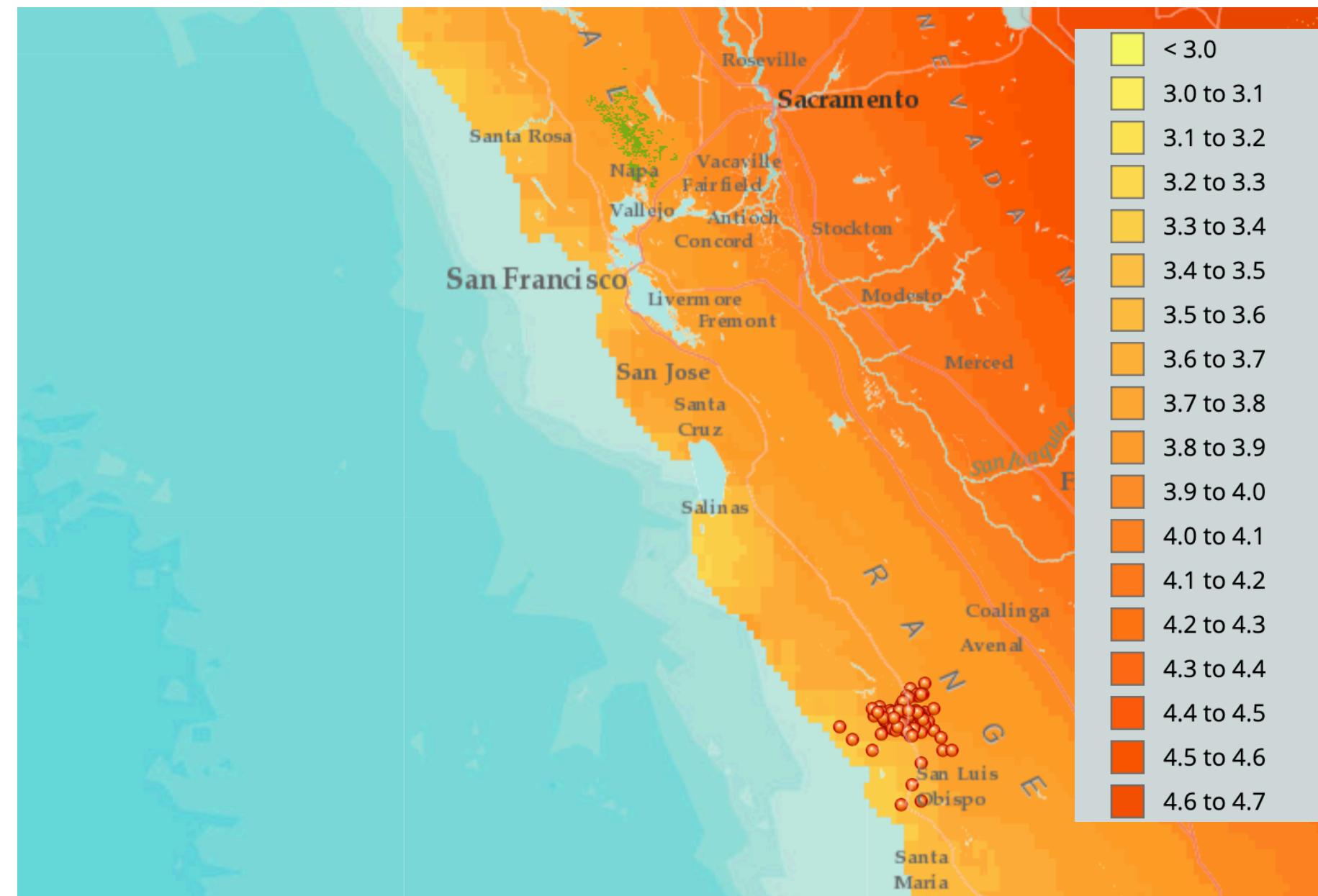
PROBLEM: **AVAs** crafted in the 1960s lack this info and may not be sustainable.



By: Colleen Young

SUPPORTING DATA

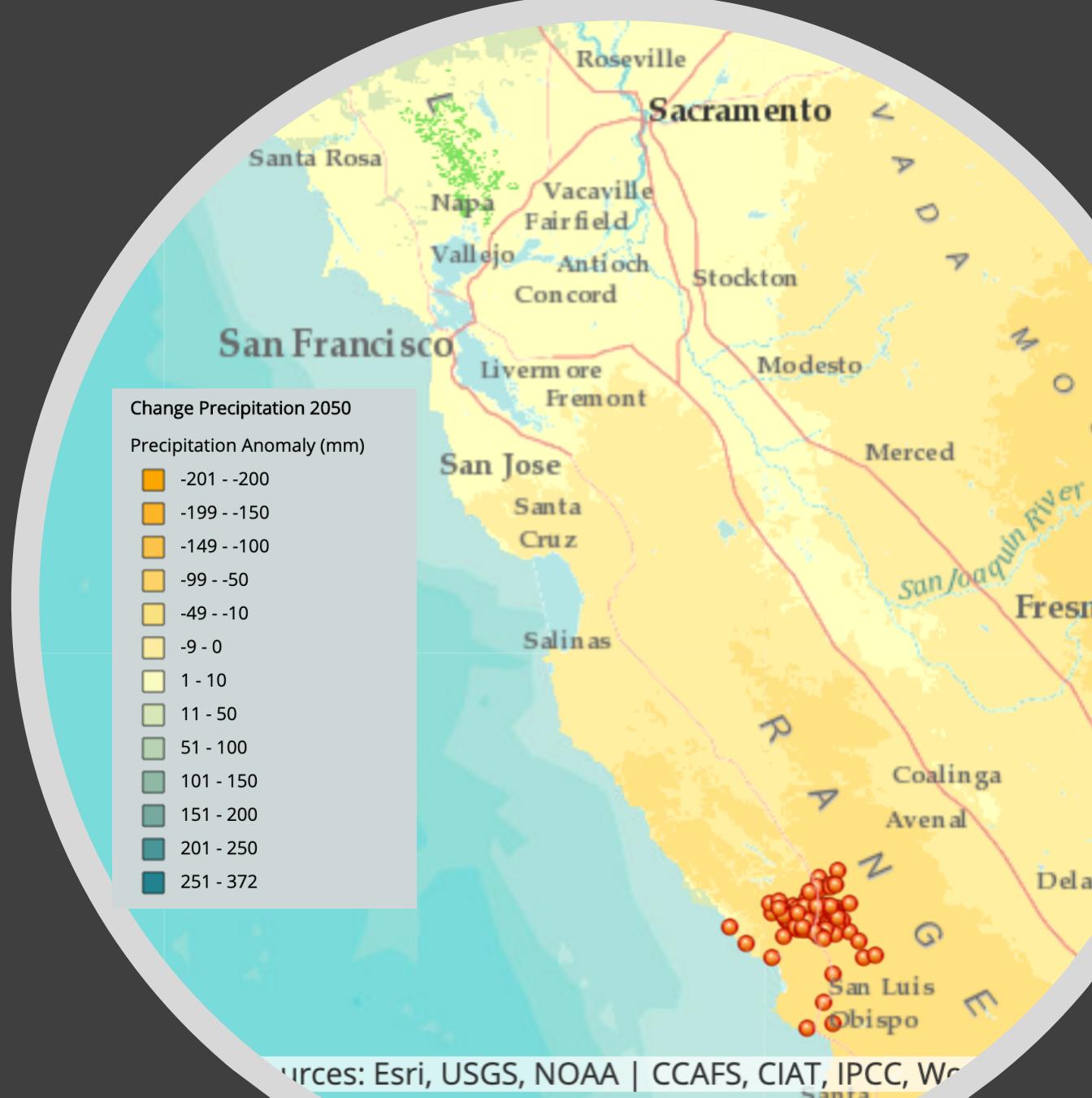
Both Napa Valley and Paso Robles have projected increasing temperature in 2050 (see appendix 2 & 3)



Napa Valley has increasing precipitation (+1-10 mm).

Paso Robles has decreasing precipitation (-50-100 mm)

But both have seasonal changes as well
(see appendix 4 and 5).



SUPPORTING DATA

Napa Valley has significantly higher fire risk, with increased proximity to historical fires and old redwood forests, resulting in increased historical fire perimeters.

Paso Robles has had far fewer fires in the past 20 years, even though they have less precipitation and higher temps.



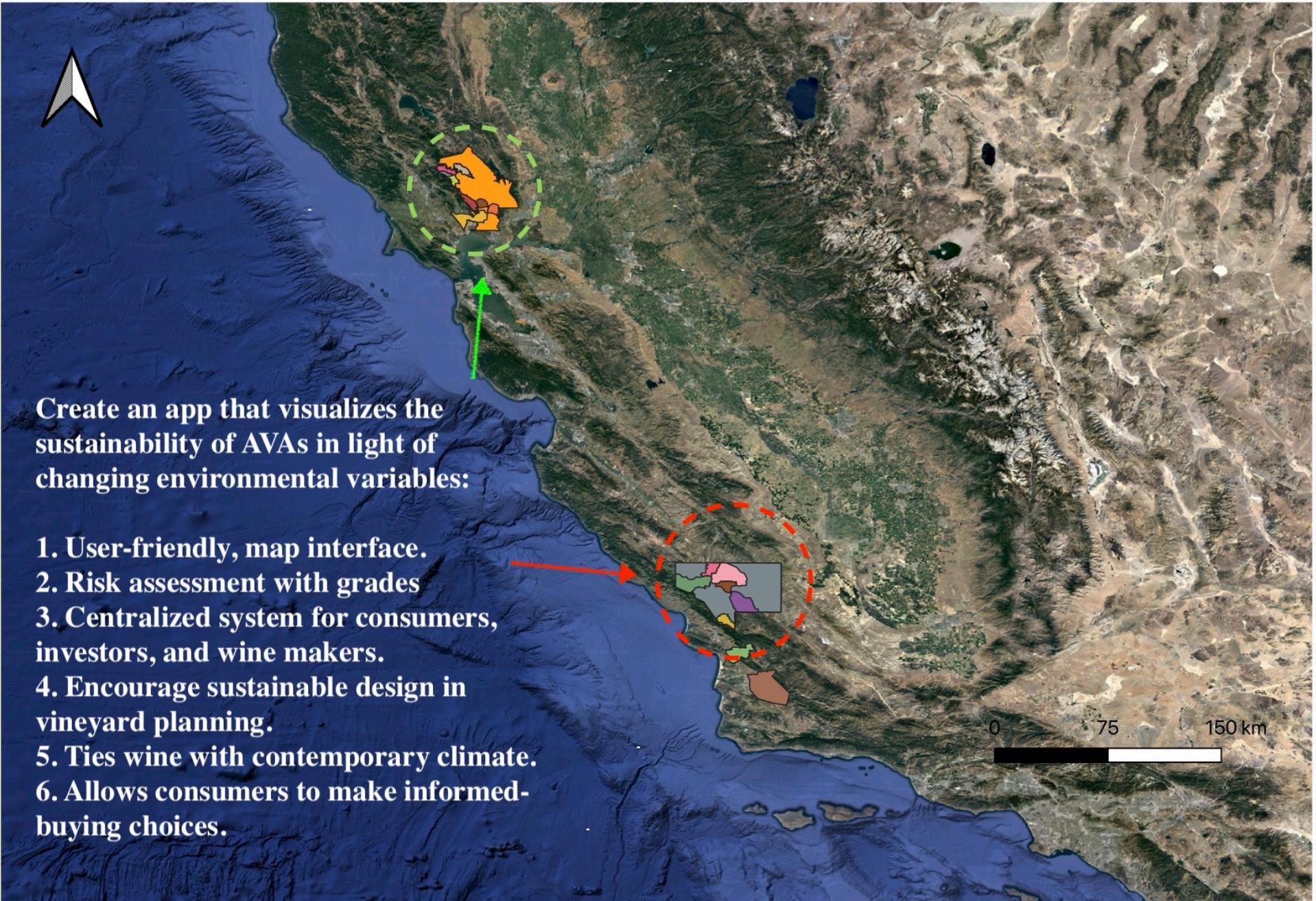
SOLUTION

Code regions

from green to red based on the degree of risk of crop failure and yield loss within their AVAs.

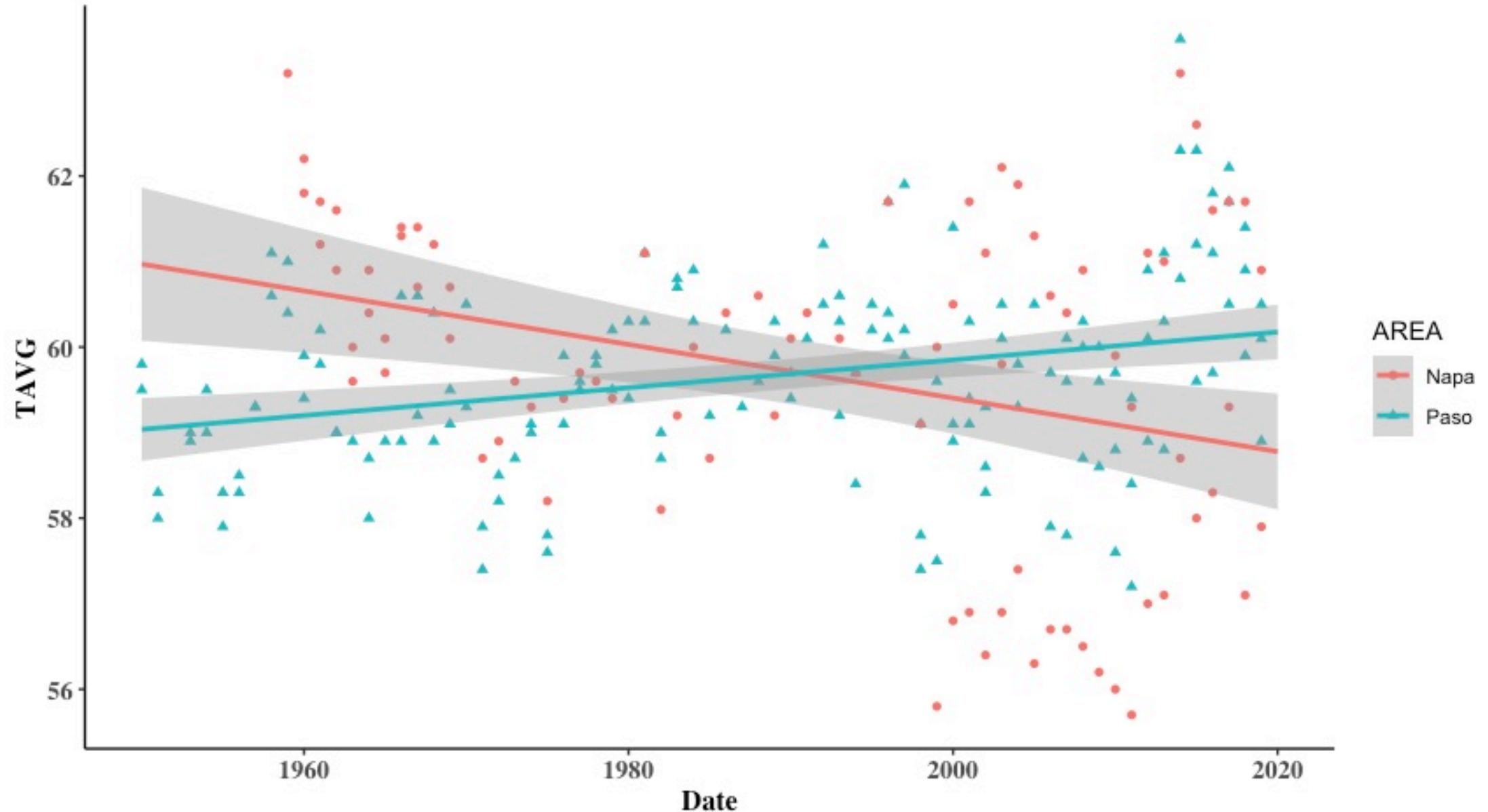
Sustainable AVAs

Take trends from 1950-1975 as baseline to assess today's AVAs and develop risk coding system.



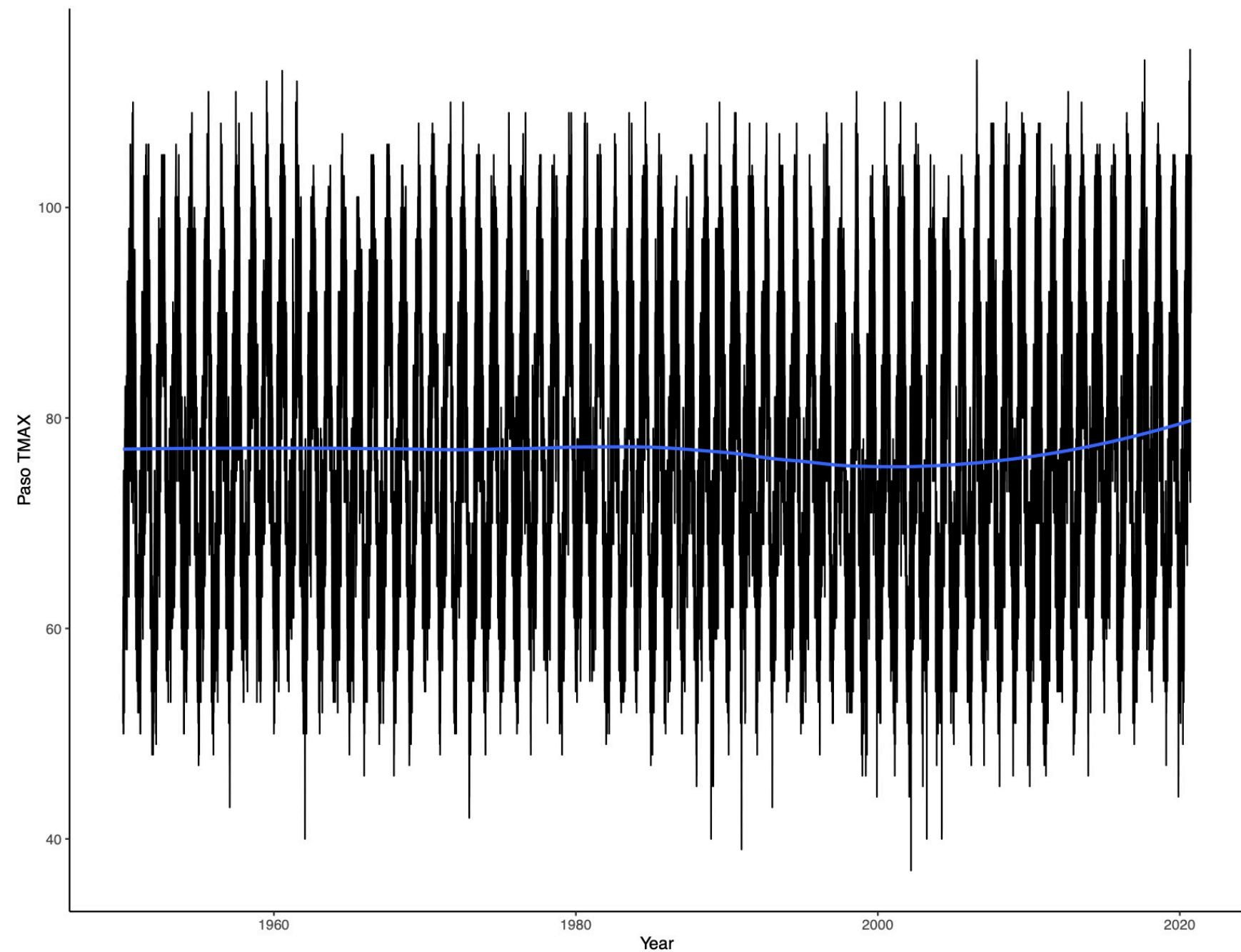
APPENDIX

Appendix 1



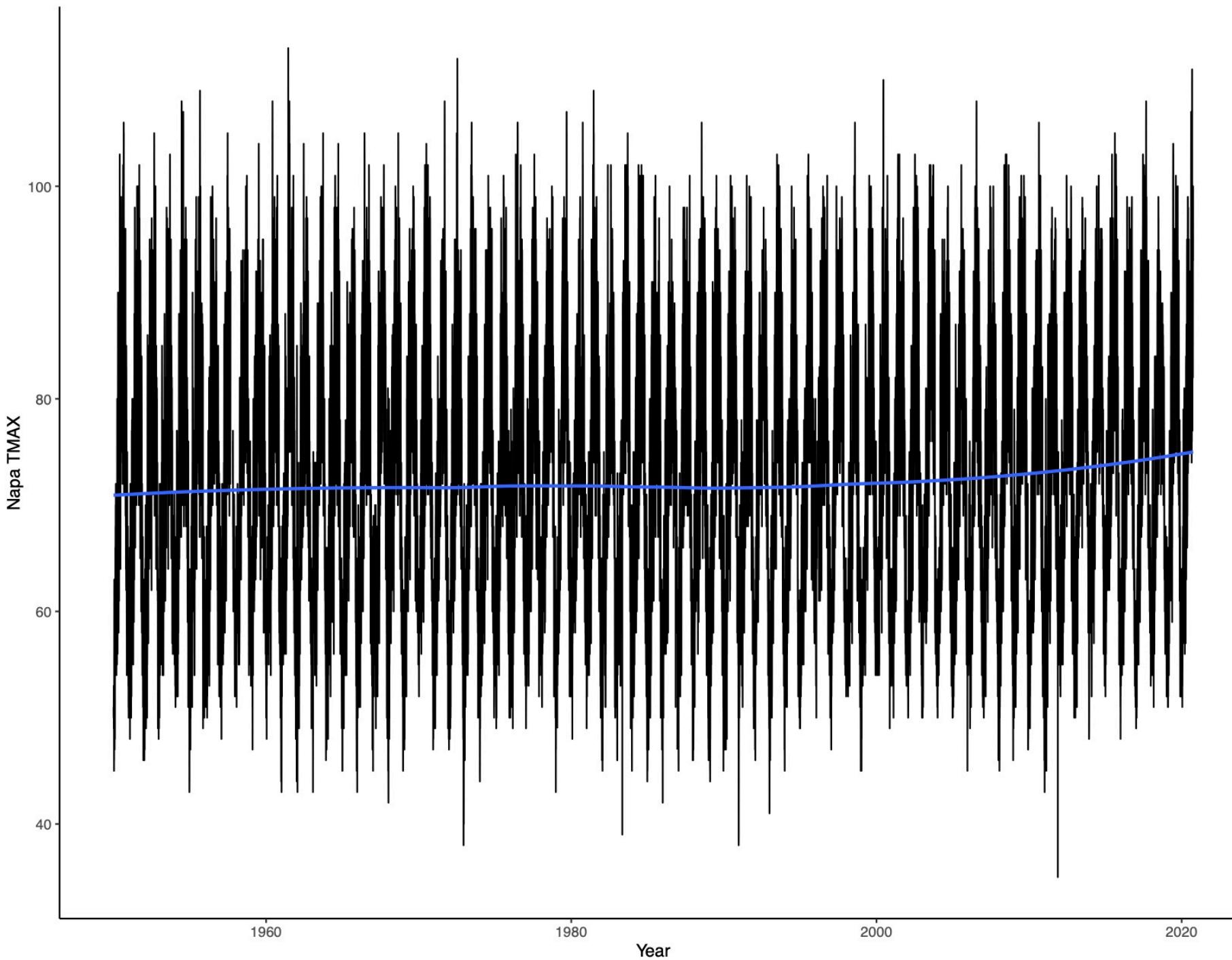
Appendix 2

Paso Robles daily time series
of 160,000 data to assess
changing max temperature
trends. Loess regression line
indicates increasing
temperature in recent years.



Appendix 3

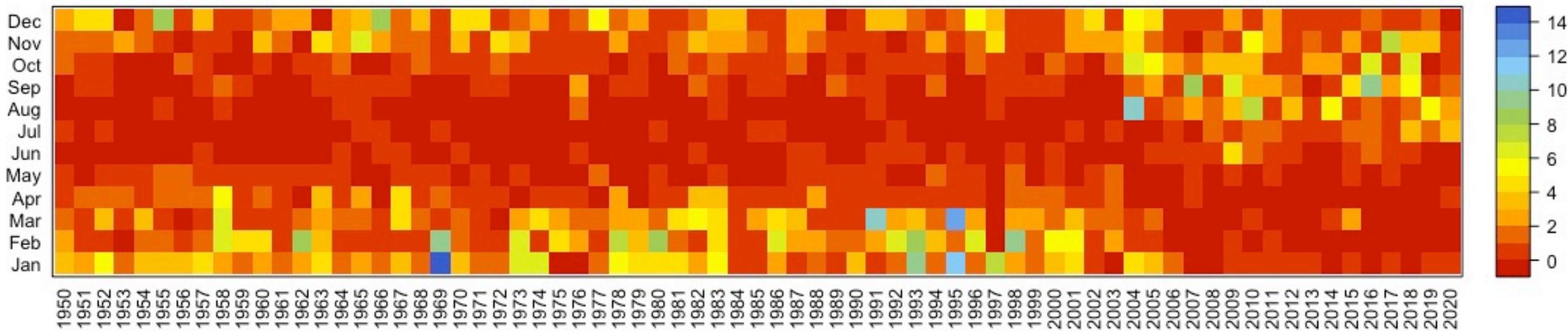
**Napa Valley daily time series
of 160,000 data to assess
changing max temperature
trends. Loess regression line
indicates increasing
temperature in recent years.**



Appendix 4

Paso robles monthly time series of 13,333 data to assess changing seasonal precipitation trends.
Seasonality is changing for paso with significantly drier winter-spring months, resulting in less soil hydration in summer months.

Monthly precipitation at Paso, [mm/month]



Appendix 5

**Napa Valley monthly time series of 13,333 data to
assess changing seasonal precipitation trends.
Seasonality is remaining roughly the same for Napa.**

