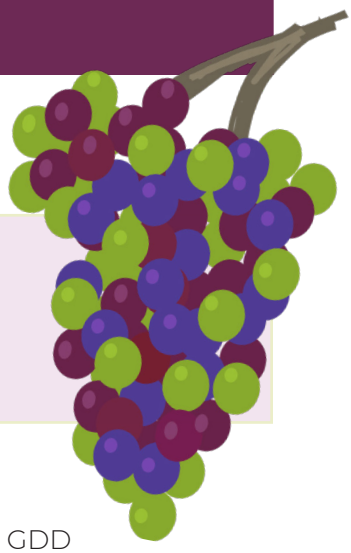
GDD of winegrape phenology in the Okanagan Valley

A series of factsheets on the variations in GDD (growing degree days) across space, time and varieties

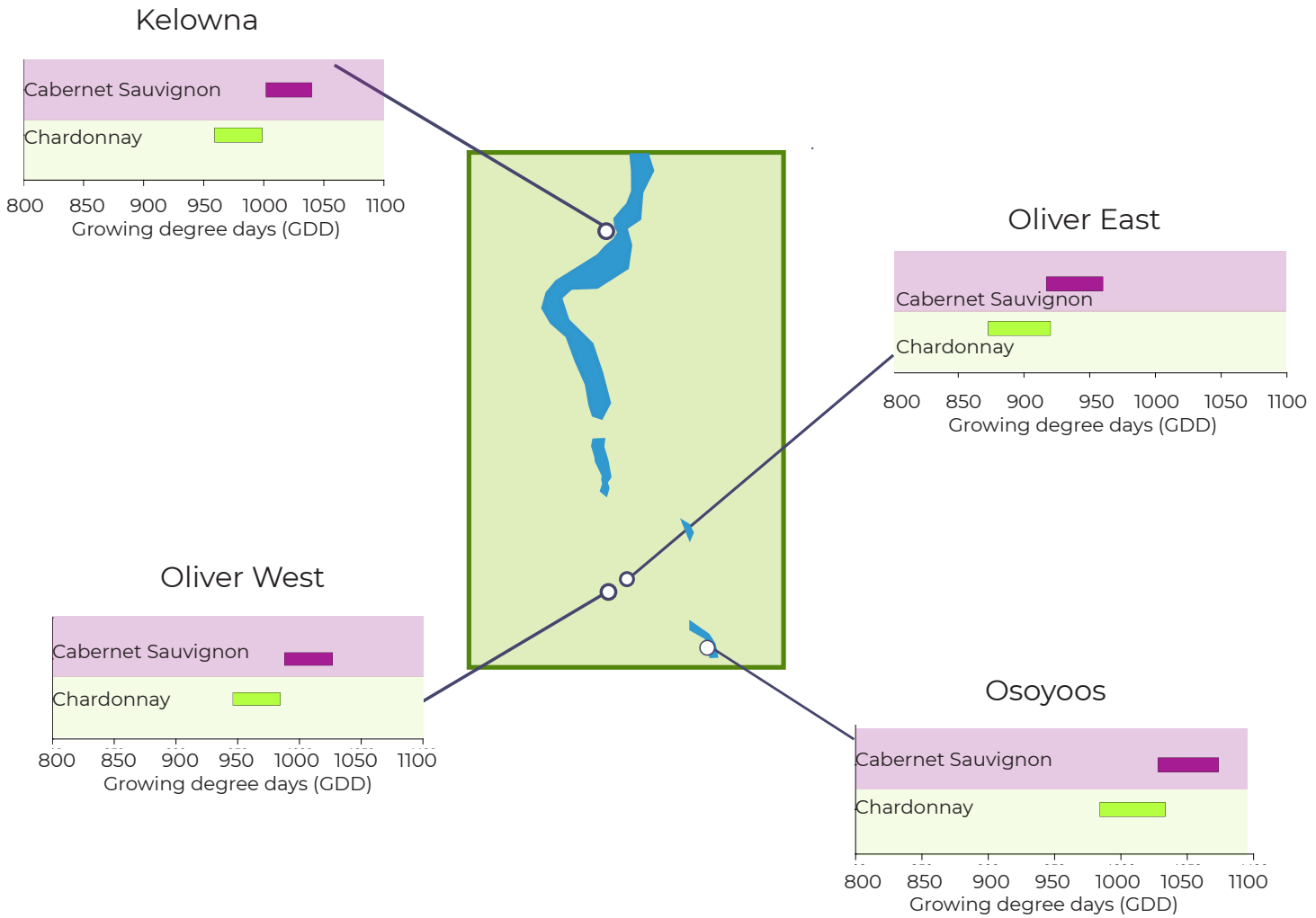


Veraison

GDD until veraison: GDD (base temperature of 10°C) from flowering until 50% veraison (Eichorn-Lorenz stage 35). Using historical phenology data across 18 years (2001-2018), we built models that separated out variation due to vineyard and variety, and tested whether GDD has changed over time.

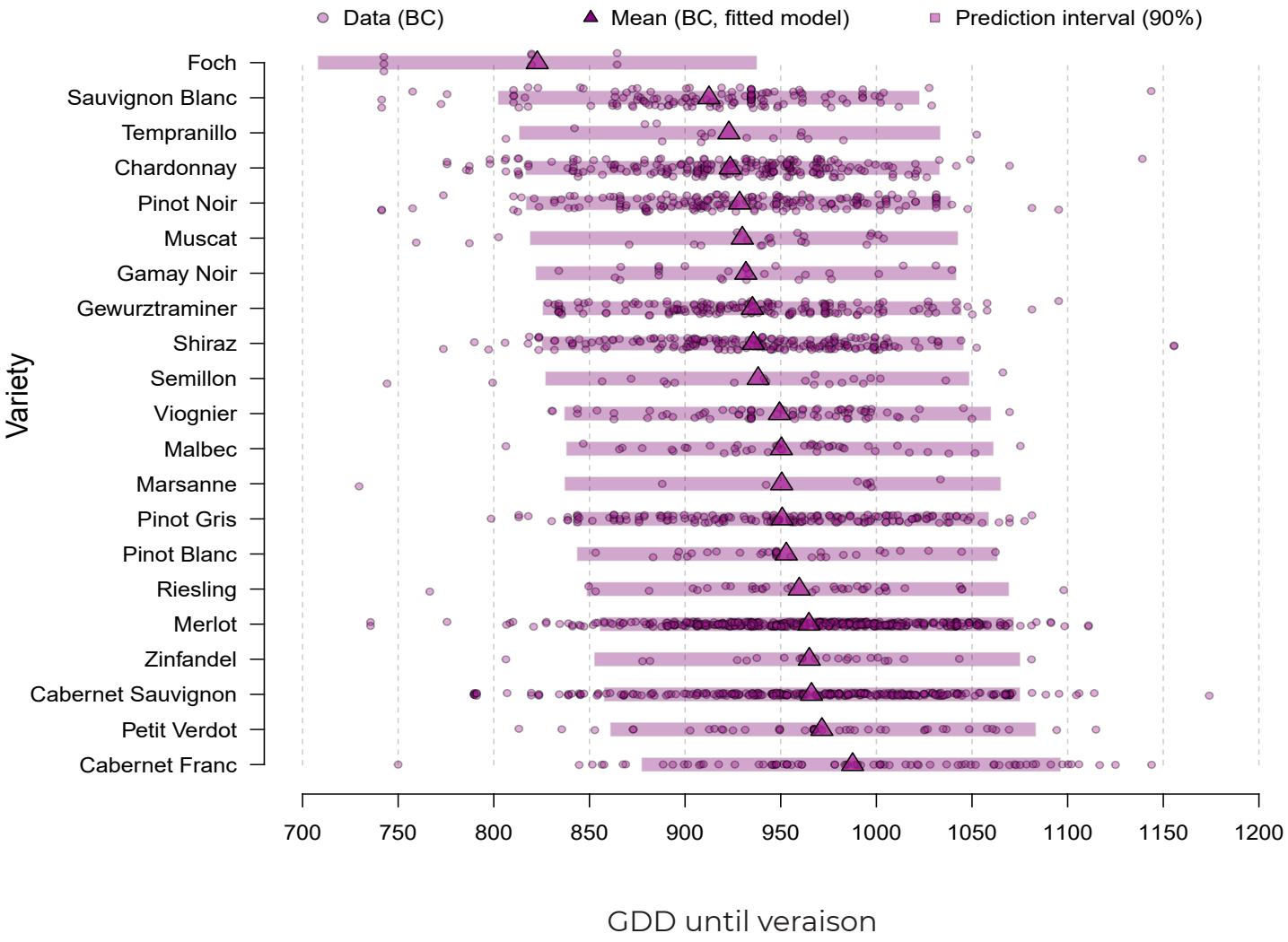
Differences across the Okanagan Valley

GDD for veraison varies across the Valley with lower GDD in the Oliver East to the highest GDD in the south (Osoyoos).



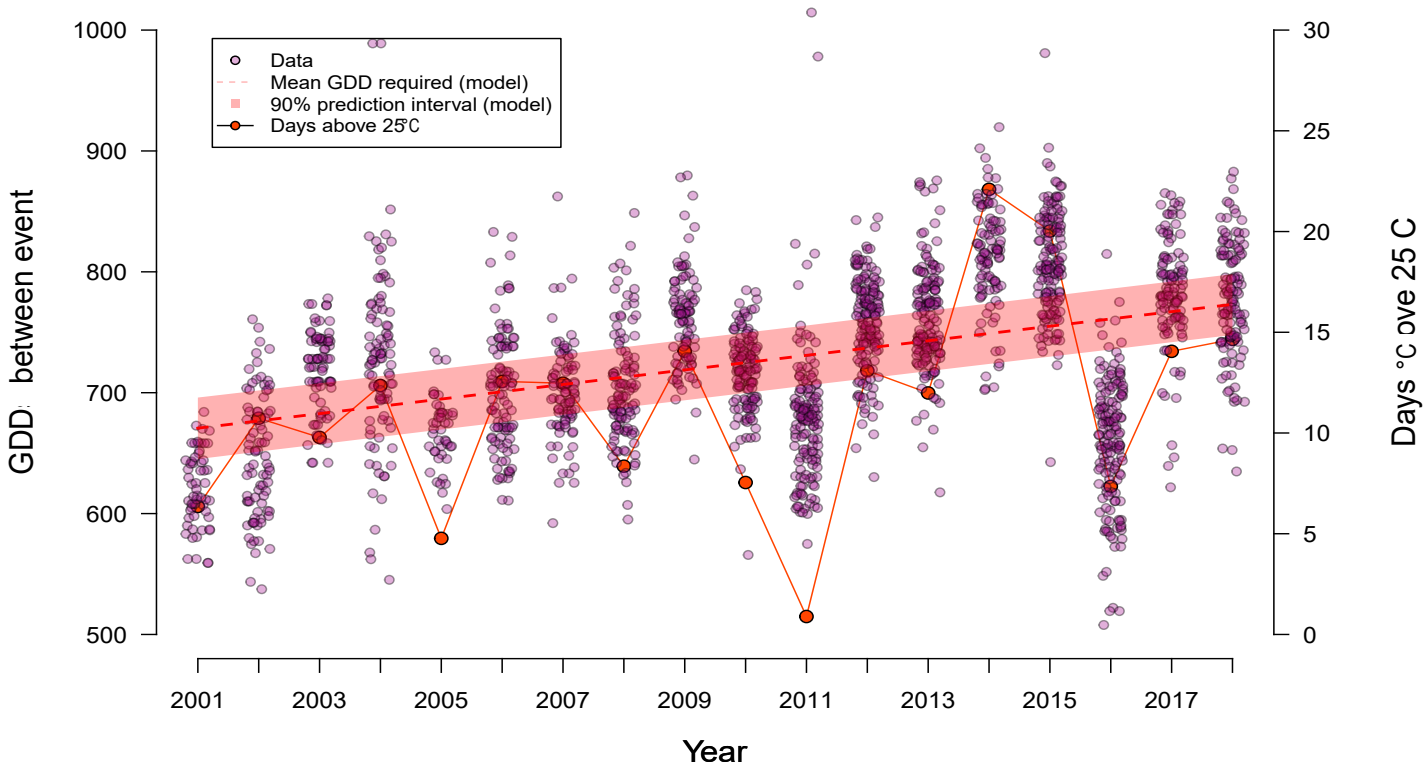
Variations in GDD across varieties

GDD from flowering to veraison range from Foch, needing far fewer GDD for veraison than any other variety, to Cabernet Franc, requiring the most. Below we show modeled estimates for each variety (sorted by low to high GDD). Averages (triangle) and variation (90% interval) are shown with the data overlaid (dots).



Veraison GDD trends over time

GDD from flowering to veraison (datapoints shown as purple dots) vary by year, with a trend towards requiring more GDD in recent years (model fit shown in red). This trend may be associated with more hot days; days above 25 °C during the flowering to veriason period (red dots with solid line).



Project Information

We analysed historical phenology data for vineyards spanning different companies and locations to compile historical trends and inform growers' decision making. Data for this project was generously donated by Arterra Wines Canada, Quails' Gate Winery and Sebastian Farms.

For further information please visit stateofwine.org

Acknowledgments

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