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From Pinot to Cabernet: The Future of Good Wine with Climate Change.

ABSTRACT: Winegrapes (*Vitis vinifera* ssp. *vinifera*) are one of the world's most lucrative and important crops, and also one of the most responsive to climate, with some researchers suggesting terroir equates to climate. A major way this climate sensitivity is exhibited is through phenology---especially the timing of flowering, veraison and harvest---with winegrape harvest dates serving as temperature proxies they are often so tightly related. I will give an overview of work in my lab discussing (1) exploiting the phenological hyperdiversity of winegrapes to better understand what other plant traits may covary with phenological responses to climate, and (2) our efforts using long-term harvest records from across France with reconstructions of temperature and drought to examine the drivers of early harvest over the previous centuries and more recently. I will show how suggest climate change may have fundamentally altered the drivers of early winegrape harvests across France, but also highlight how differences in how varieties respond to climate may provide some buffering from dramatic changes in winegrape regions, given proper advanced management.