

Temperature impact on viticulture phenological stages in Croatia under present climate condition

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Swiss - Croatian
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Operativni program
**KONKURENTNOST
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REPUBLIKA HRVATSKA

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OKOLIŠA I ENERGETIKE



Europska unija
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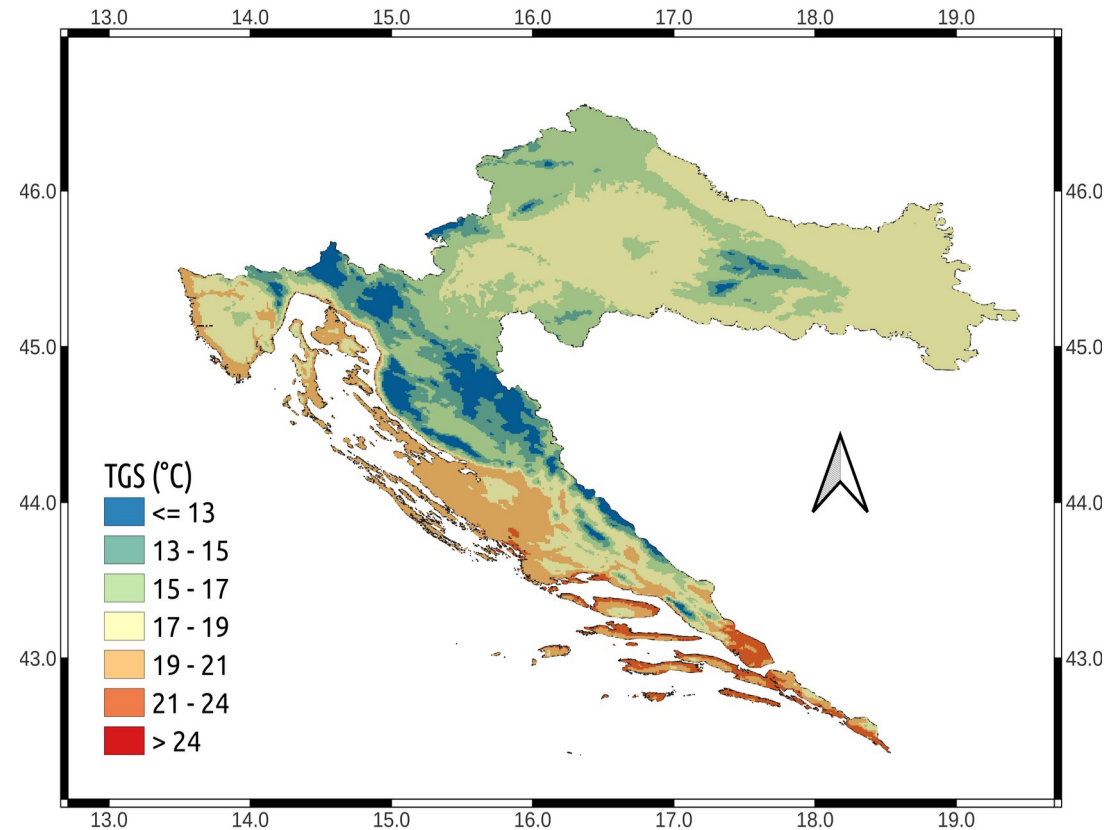
EUROPSKI STRUKTURNI
I INVESTICIJSKI FONDOVI



FOND ZA ZAŠTITU OKOLIŠA I
ENERGETSKU UČINKOVITOST

WINE PRODUCTION IN CROATIA

The total vineyard area → 18126 ha
Production → 84603 t of grapevine
Wine production → 660 000 hL
17th largest wine producer in Europe



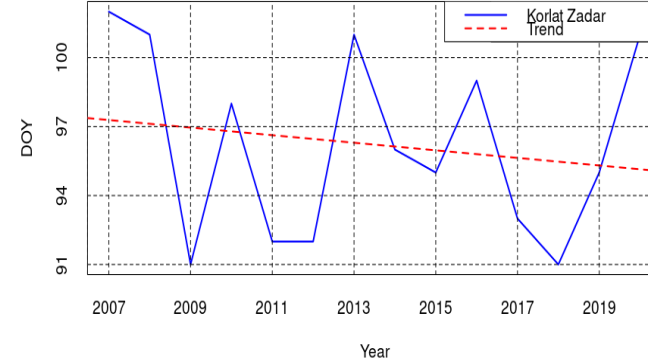
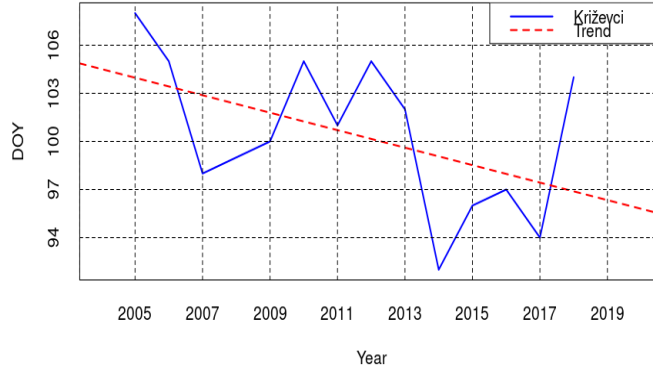
Growing season temperature (April 1 – October 31) in period 1991-2020

GRAŠEVINA

MERLOT



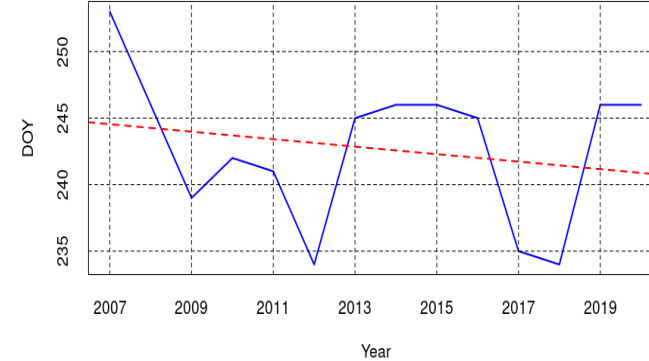
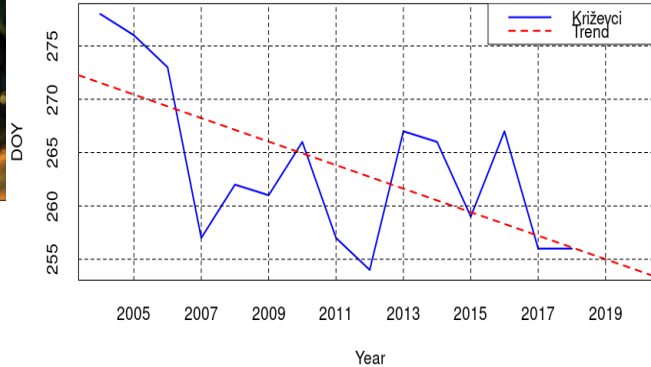
BUDBURST



- Trend of earlier budburst
- Early spring frost danger



HARVEST

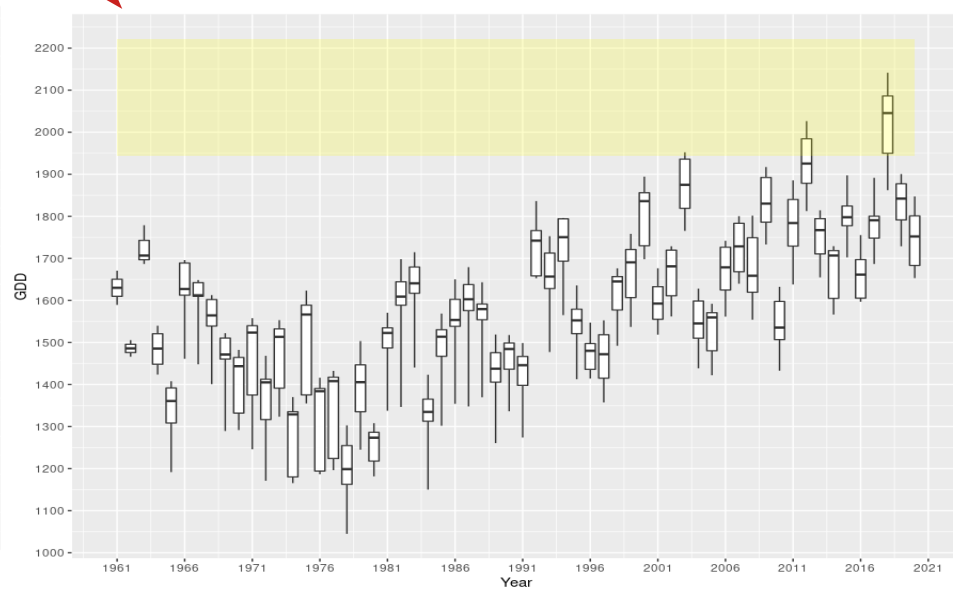
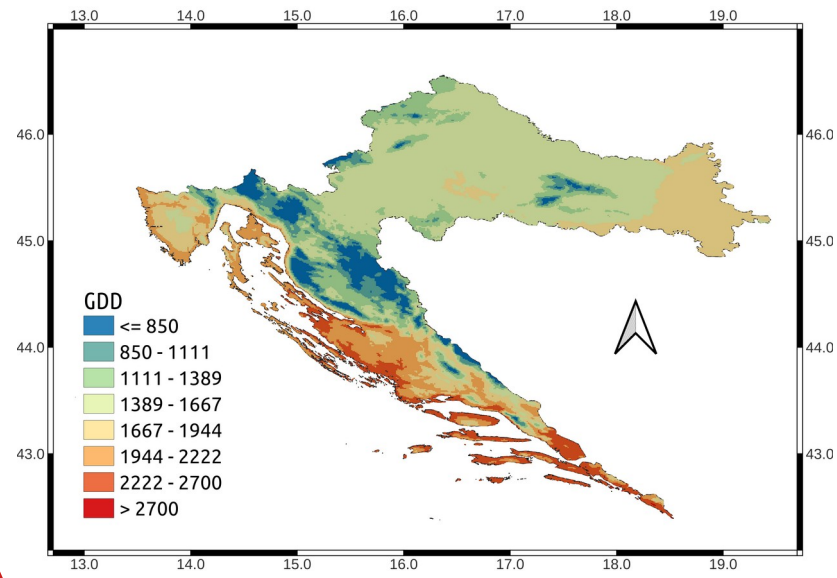
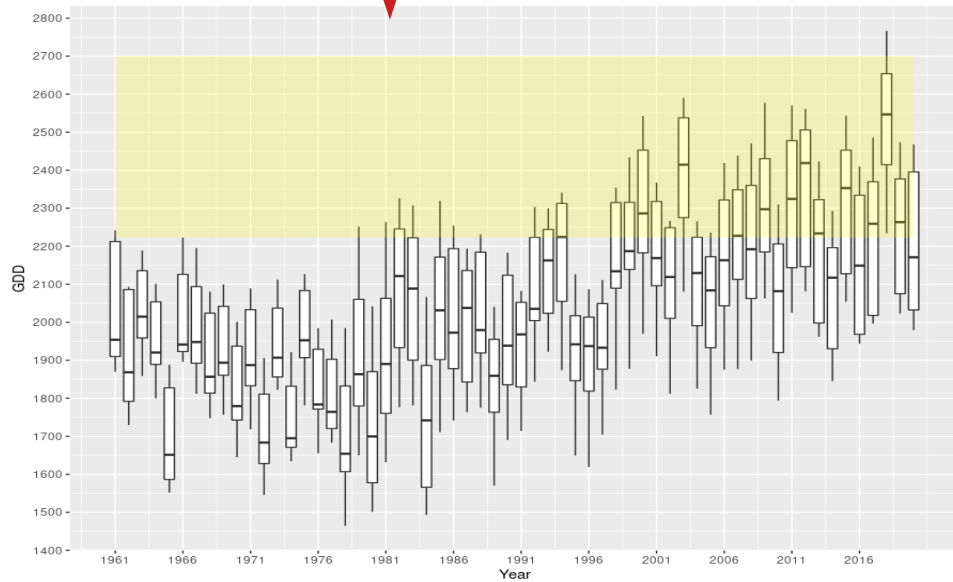
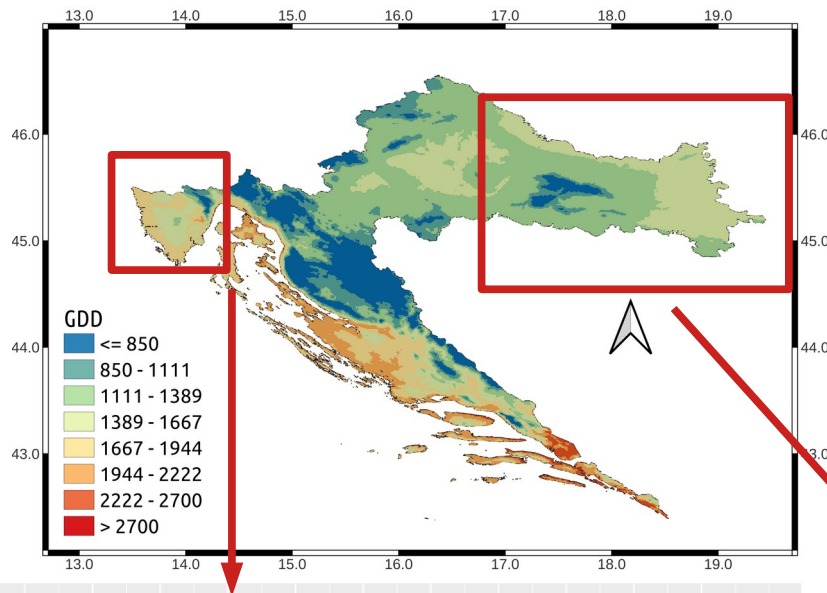


- The end stage maturation in the hot period
- Changes in crop quality

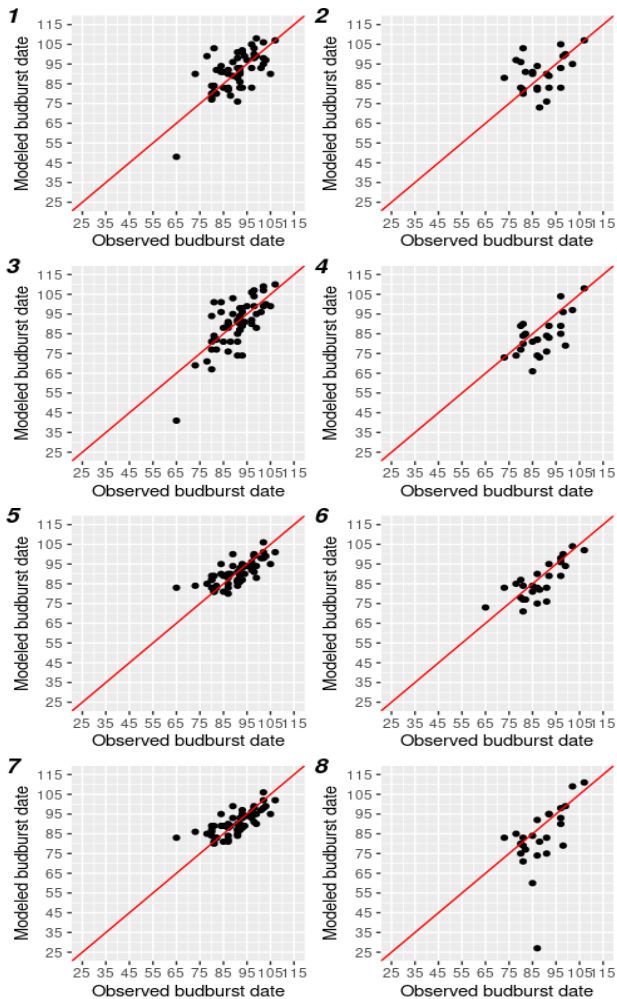
The trend is more pronounced for: Domestic varieties

Harvest and Budburst

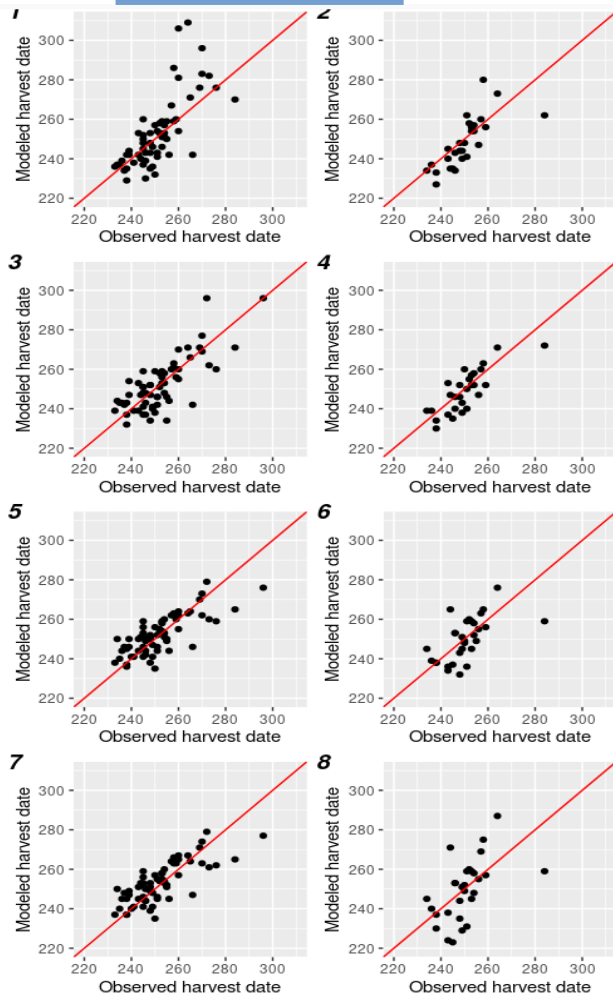
GROWING DEGREE DAY (GDD)



BUDBURST



HARVEST



CHARDONNAY

M	BUDBURST		HARVEST	
	Rcv	RMSE	Rcv	RMSE
1	0.63	8.13	0.73	12.55
2	0.34	9.87	0.74	8.54
3	0.73	8.32	0.77	8.65
4	0.63	9.12	0.80	6.54
5	0.72	5.75	0.77	7.86
6	0.78	6.41	0.59	9.21
7	0.73	5.66	0.78	7.81
8	0.52	14.97	0.54	12.82

CONCLUSION

- ALL MODELS SHOW GOOD RESULTS
- TEMPERATURE IS AN INDICATOR FOR THE START OF PHENOLOGICAL PHASES
- FUTURE TEMPERATURE CHANGE COULD INDICATE SIGNIFICANT CHANGES IN GRAPEVINE PRODUCTION