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Scuola Universitaria Superiore Pavia

Italian viticulture and climate change

EGU General Assembly 2022
CL3.2.5 – Impact of climate change on agriculture
Thursday, 26 May 2022

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Abstract link:

This presentation participates in OSPP
EGU
Outstanding Student Poster & PICO Contest

Pour a glass...

Correlation between
bioclimatic indices and **grape yield**

Understand the portion of yield variability that is explained by bioclimatic indices

Help winegrowers face the challenges of climate change

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Data and Methodology

Time period: **1980-2019** (39 years)

Bioclimatic indices: **E-OBS**

Yield data: **ISTAT**

Aggregation at NUTS 2 scale

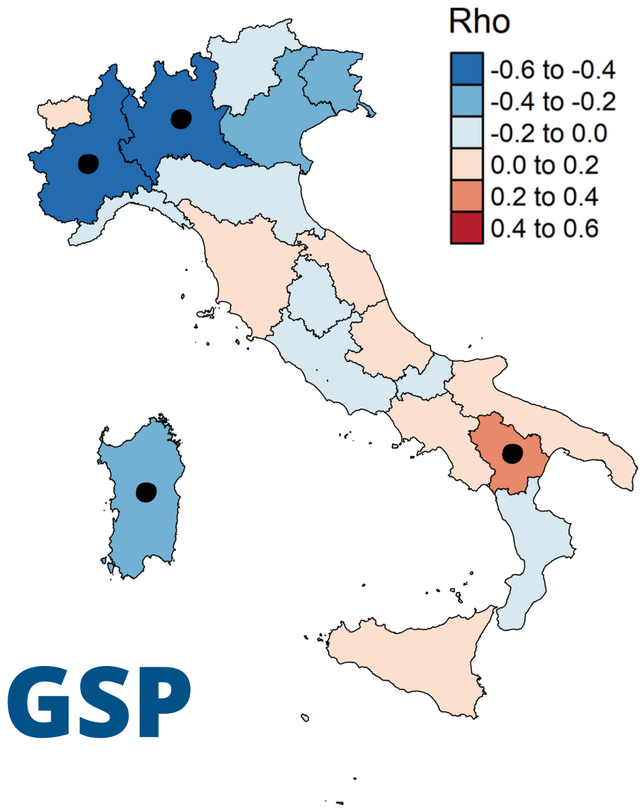
In vino veritas

GSP: sum of precipitation from April to September

GSP

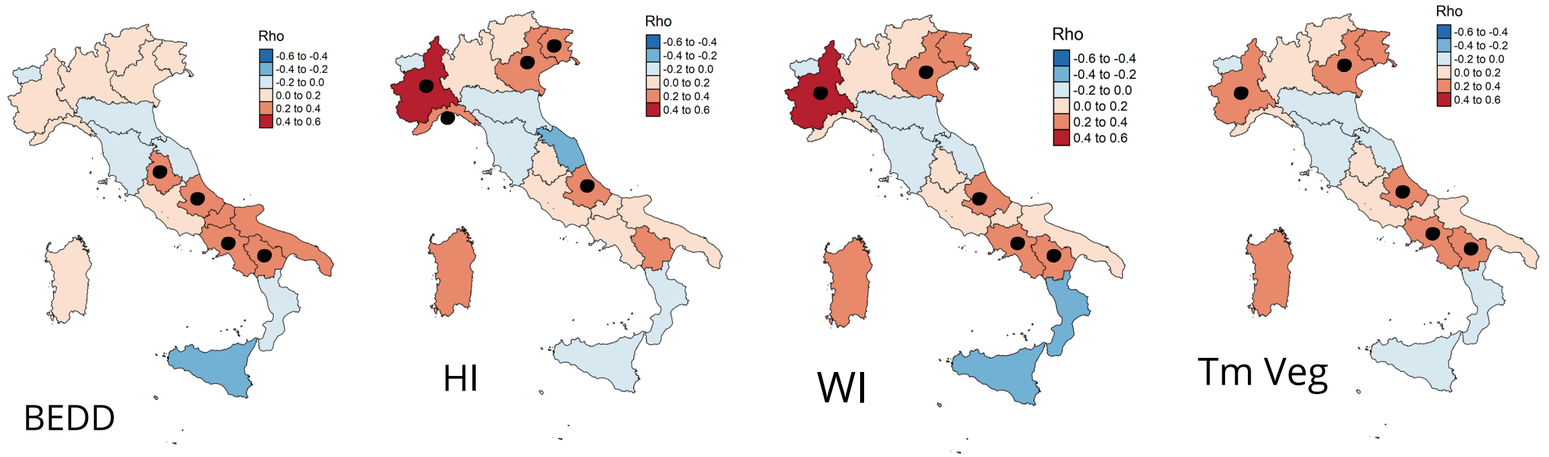
Region	Rho
Basilicata	0.29
Lombardia	-0.51
Piemonte	-0.42
Sardegna	-0.37

p <= 0.10



A wet growing season can trigger fungus infection that causes a reduction in yield

In vino veritas



Work in progress **multi-regression analysis**

BEDD: Biologically Effective Degree Days

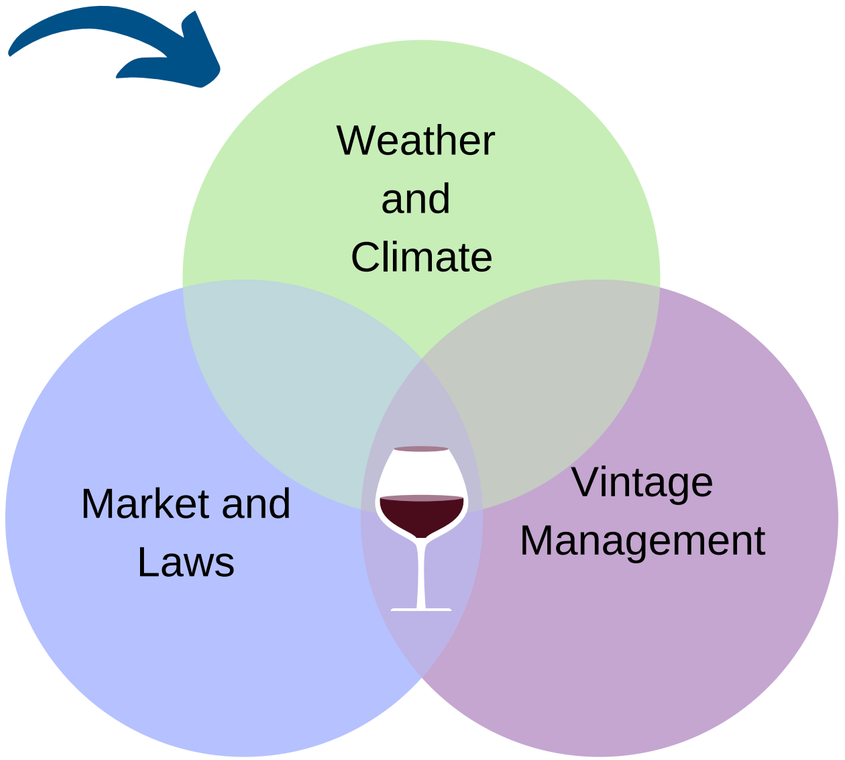
HI: Heliothermic Huglin index

Tm Veg: mean temperature during the vegetative period

(from 1st April to 31st October)

WI: Winkler degree days

Discussion



One for the road

- **Bioclimatic indices** and **grape yield**
- Importance of high-quality data and metadata
- Ongoing work:
  - local scale
  - high-resolution model

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Thank you for your attention!

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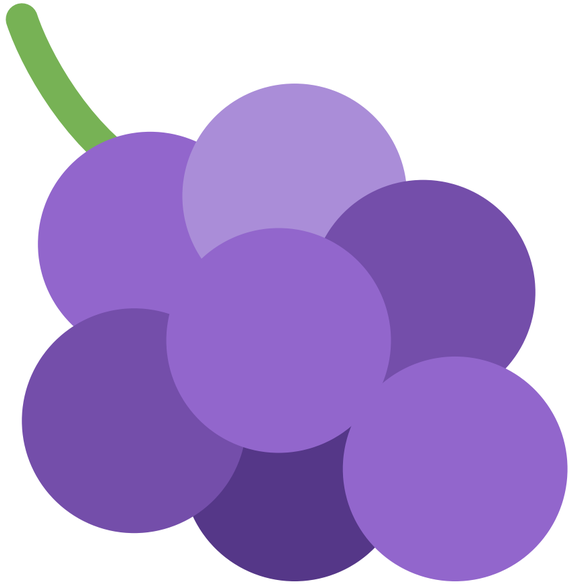
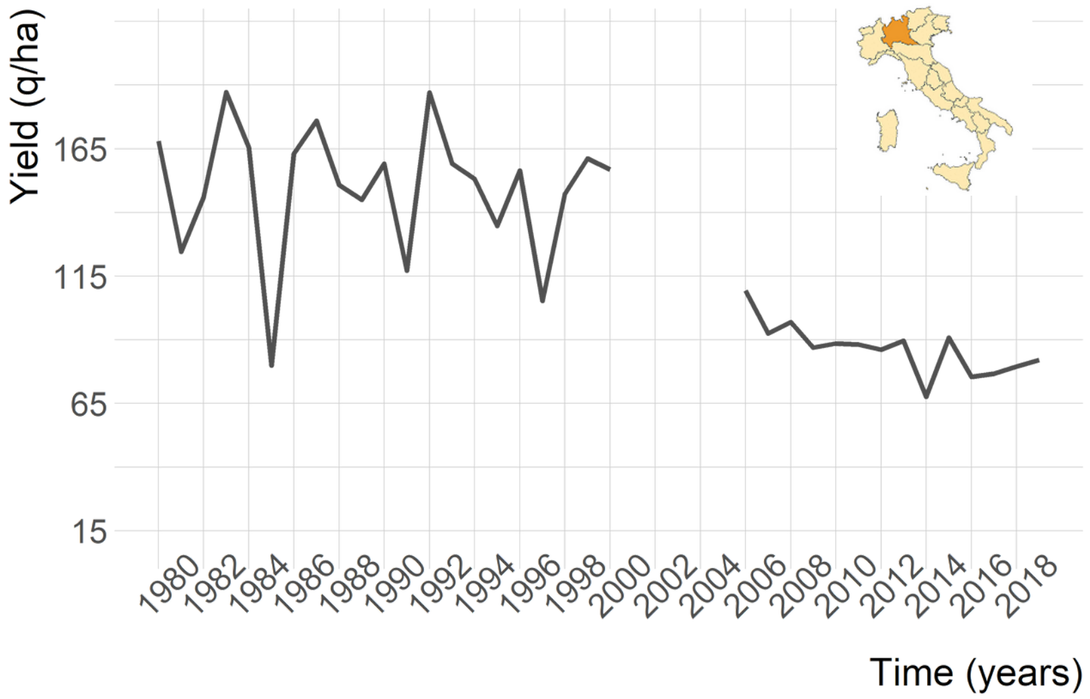
Bonus slides



Areas above 1300 m s.l.a. are excluded from the analysis

There are no vineyards in Italy above this altitude, besides some tiny parcels in the Sila National Park, Calabria and South Tyrol

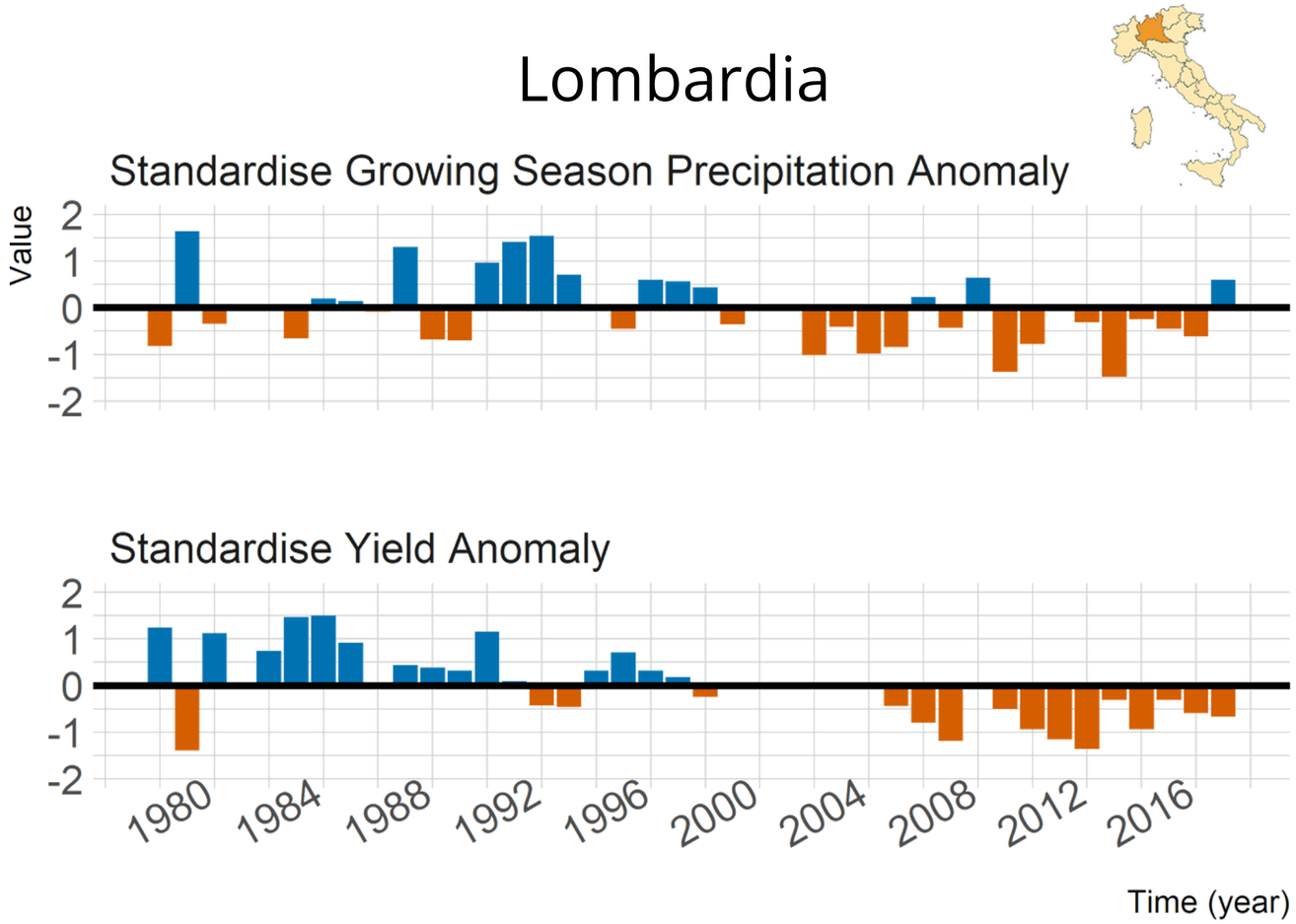
Data and Methodology



ISTAT yield data have a gap between 2000 and 2005, as shown in the plot for Lombardia

The anomalies were computed considering the series split in two (1980-2000 and 2006-2019)

Data and Methodology



For all the time series the standardized anomalies were computed

Want to know more? write to me:

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IUSS Personal Profile

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