INFRAVINI – Thematic Spatial Data Infrastructure for Vineyard Climate Change Management

Lino Oliveira

Geospatial World Forum 2021, SDG & Circular Economy
20-22 October 2021 | Amsterdam, The Netherlands
• RATIONALE
  • Problem, Motivation, Opportunity

• SPATIAL DATA INFRASTRUCTURE
  • Thematic SDI for Vineyard Climate Change Management

• CASE STUDY
  • Douro Valley

• FINAL NOTES
Rationale
Adapting to climate change is one of the biggest challenges for the wine sector.

- Temporally, adaptation strategies and policies must deal with potential impacts, both short and long term;
- Location-based, and context-specific adaptations are essential in decision making.
Rationale

Motivation

• Develop an instrument capable of supporting winegrowers to become more resilient to climate change.

  • Each wine region has unique contexts (terroirs);
  
  • Essential to identify and prioritize climate change adaptation initiatives;
    • Knowledge and understanding of contextual factors, and their interaction with the regional climate.
  
  • The quality and updating of the information available is a major factor in decision making.
Rationale

**Opportunity**

- The creation of a Thematic Spatial Data Infrastructure (SDI) for Supporting Vineyard Climate Change Management.
  - Allow to gather and make available relevant geospatial data on climate change;
  - Include climatic and agronomic indicators, allowing the analysis and normalization of local sensory and forecast climate information;
  - Provide an observatory that monitors both the impact of meteorological variability and the impact of climate change.
Spatial Data Infrastructure
Spatial Data Infrastructure (SDI)

Vineyard Climate Change Management

Monitor both the impact of meteorological variability and the impact of climate change
Case Study
Case Study

- Douro wine region in the northern Portugal, classified as UNESCO world heritage site.
Case Study

- It uses and provides interoperable thematic information from different sources.
Case Study
Case Study

- Information collected continuously from the wine-growing area.
  - Soil moisture probes, sensors, weather stations.
Case Study

ESTAÇÃO CAMBRES

Últimas Leituras

Séries Temporais

Validade

Data: 01/10/2021

Data: 10/10/2021

Grafos gráficos

ESTAÇÃO CAMBRES

Últimas Leituras

Séries Temporais

Validade

Data: 01/10/2021

Data: 10/10/2021

Grafos gráficos
Case Study

- Spatial-based climate information (factual and forecast).

**Historical Climate**
(1950-2015)

**Future Climate**
(2051-2080)
RCP 4.5
Case Study
Case Study

The INFRAVINI platform provides an understanding of contextual factors, and their interaction with the regional climate.

- Key to identifying and prioritizing climate change adaptation initiatives.

Innovative services and products
Case Study
Final Notes
Final Notes

• INFRAVINI aims to contribute to making the European wine industries more resilient to climate change.

• Help minimizing costs and risks through improved management and monitoring of production (quality and quantity of the final product).
Final Notes

**Lead Promoter**
Spatial Data Infrastructure development

**Co-Promoter**
Scientific research in the field of climate change and their implication in viticulture

**Co-Promoter**
Scientific research and technological development in geospatial systems and standards

**Co-Promoter**
Assessment of the consequences of climate change on viticulture in the Douro Wine Region
Thank You!

Lino Oliveira (lino.oliveira@inesctec.pt)

https://infrawini.pt

Co-Promotion R&D Project supported by: