MED-GOLD DASHBOARD

for wine sector users

WINE SECTOR & CLIMATE CHANGE

Grape and wine production is heavily affected by weather and climate. Climate change is causing extreme weather events, heatwaves and droughts, which have become a big challenge in recent years for grape growers and wine producers. As the climate continues to change in the future, anticipating such events is key for the adaptation of the wine sector.

Climate variability and climate change pose diverse challenges in the decision-making processes of wine producers, such as in defining long-term strategies, and in viticulture, oenological and stock management. Climate services, particularly predictions of climate variables and bioclimatic indices, can help in these decisions.

Read more on Climate Services for the Grape and Wine Sector *in the MED-GOLD infosheet.*

MED-GOLD DASHBOARD FOR THE WINE SECTOR

The MED-GOLD dashboard is an easy-to-use visualisation tool for the wine sector, which provides access to information on past climate and predictions of future climate at different time scales. The tool has been co-developed with users to ensure that it addresses their needs and expectations.

You can access the dashboard on the MED-GOLD website, and by visiting: dashboard.med-gold.eu

ABOUT MED-GOLD

MED-GOLD is a 4-year European project on "Turning climate-related information into added value for traditional MEDiterranean Grape, OLive and Durum wheat food systems". MED-GOLD aims to make European agriculture and food systems more resilient, sustainable and efficient in the face of climate change by using climate services to minimize climate-driven risks and costs.

MED-GOLD

HOW TO USE THE MED-GOLD DASHBOARD

1 Select the 🍷 sector icon

2 Timescale

- **Historical Climate**: past and near-present information
- **Seasonal Forecast**: predictions for the next months
- **Long-Term Projections**: future scenarios for the 21st century

3 Location (search by geographic coordinates, city or country)

4 Type of variables

- **Climate variables:** temperature & precipitation data
- **Bioclimatic indicators:** indicators taking into account the climate and phenology of the vine, e.g. growing season temperature
- **Wine risk indicators**: risk of diseases or heat damage

5 Variable of interest (hover over each variable for explanation)

6 Time period of interest

7 Other options/filters that change according to selected timescale, *e.g. region of interest, forecast skill, greenhouse gas emission scenario*

8 Export data

USE CASE 1

You are a viticulturist. It's February, and you need to decide how much stock of plant protection products to buy this season. Rainy and warm springs can favour pest outbreaks in vines.

*Is this spring going to be particularly dry or wet?*

1. Start by selecting the "Seasonal Forecast" timescale, to check if this spring will be **wetter than normal**, **normal** or **drier than normal** in your area.
2. In bioclimatic variables, choose spring rain (SprR).
3. Select the current year.
4. Set the current month as the forecast Starting Date, which refers to the month when the forecast is issued.
5. Type in the geographical coordinates or the location of your cultivation site.

RISK OF PESTS & DISEASES?

To better assess the risk of pests and diseases, you can also look at the temperature forecast in "Climate" variables alongside the spring rain information.

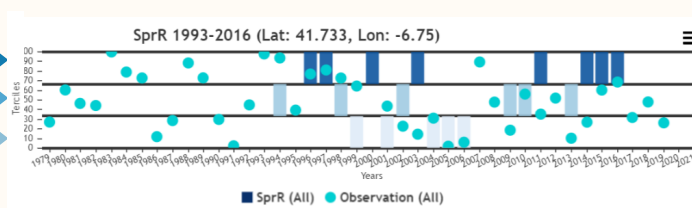### HOW ACCURATE IS THE PREDICTION?

Turn on the "Skill" filter option to hide areas where the prediction is not reliable enough for decision-making.
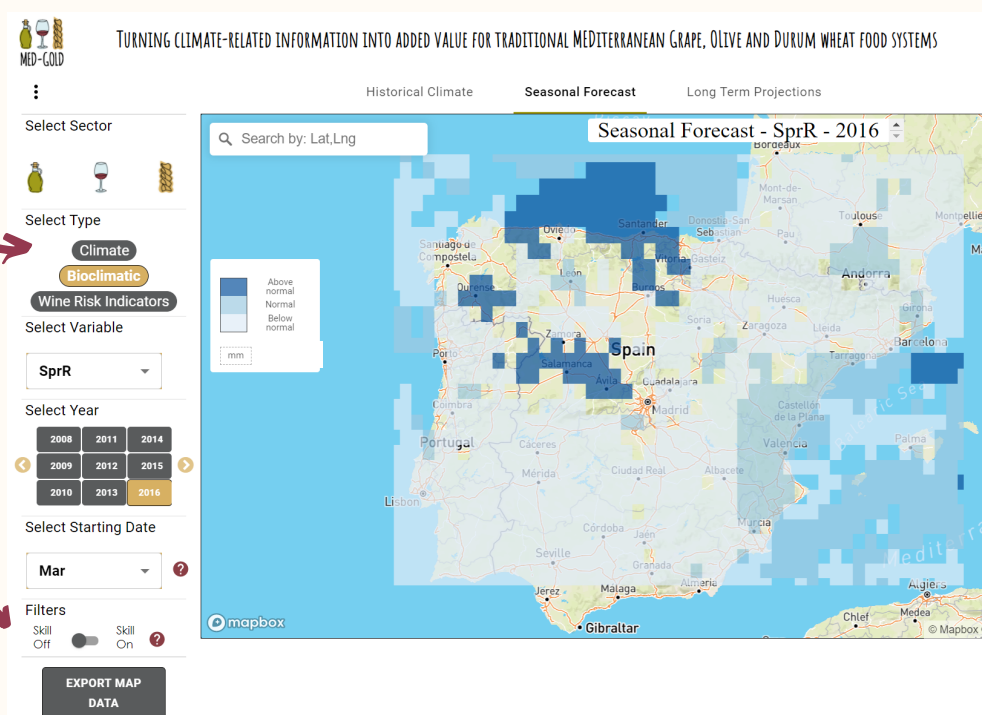
Wetter than normal
(upper tercile, 66.7-100)

Normal
(medium tercile, 33.3-66.7)

Drier than normal
(lower tercile, 0-33.3)

HOW WELL WAS SPRING RAIN PREDICTED IN THE PAST?

By clicking on the map, a chart will appear where circles correspond to values of spring rain observed in past years, and squares show model predictions (*above normal, normal and below normal terciles*).

You can export the map and graph, discuss with the procurement department, and plan the purchase of plant protection products based on the seasonal forecasts and the prediction accuracy in your area in the past.

USE CASE 2

Your wine company is concerned about the impact that climate change will have on your top-selling iconic wine. The grape variety used has an optimal growth of 16-19°C. If your vineyard sees higher temperatures in the future, you will need to look for alternative sites to maintain your production.

Is the quality of your iconic wine threatened by future climate change?

1. First, select the "Long-term Projections" timescale.
2. In the location box, type in the name of the closest village to the vineyard
3. Select the growing season temperature (GST) from the bioclimatic indicators.
4. Then, select the time frame for which to see future temperatures (e.g. 2031-2060)
5. Finally, choose an emission scenario (e.g. intermediate greenhouse gas emissions)
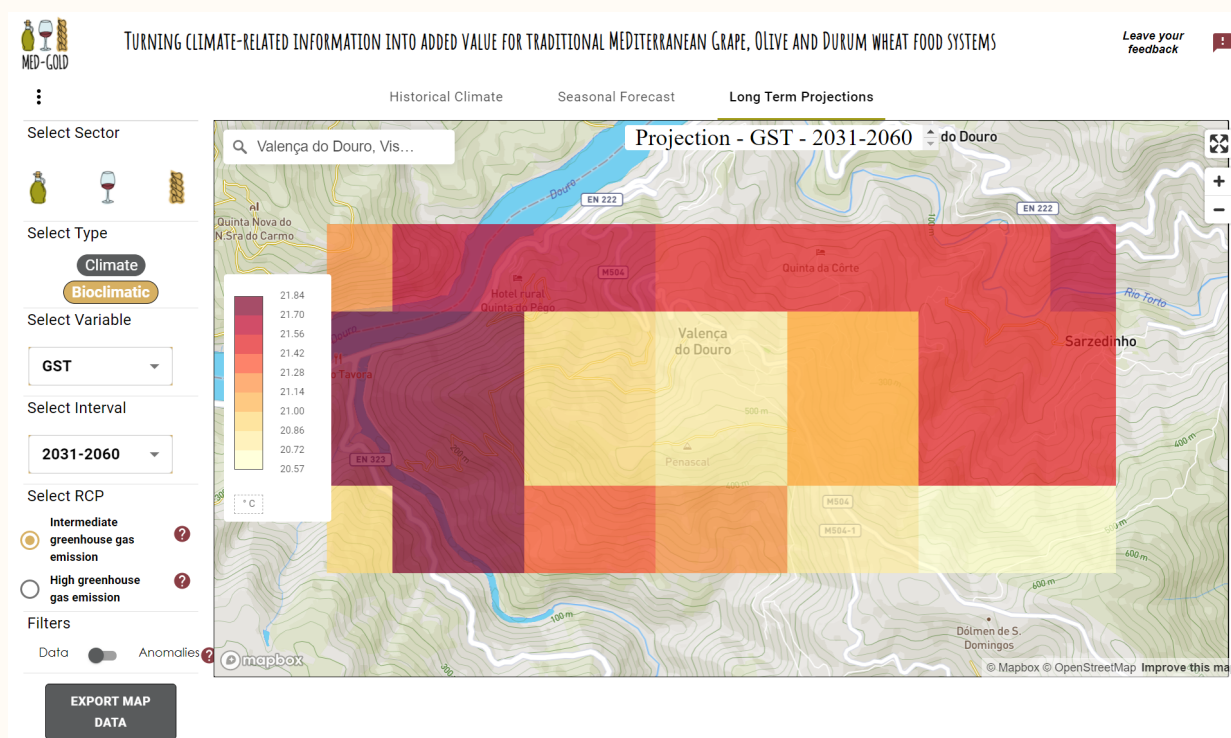
In this situation, the average growing season temperature in the area is expected to be above 20 degrees Celsius, which is outside the range of your grape variety.

You can export the data from the map as a .csv table and use Excel to find other geographical areas with more suitable temperatures to produce your top-selling wine in the future.

💡 DID YOU KNOW?

Greenhouse gas emissions (e.g. CO_2) are expected to rise in the future, increasing the global temperatures. Scientists have defined different *scenarios* of how the emissions will change, known as the Representative Concentration Pathways (RCPs). The intermediate (RCP4.5) and high (RCP8.5) emission scenarios are available to select in the MED-GOLD dashboard, corresponding to a global temperature increase of 1.1-2.6°C and 2.6-4.8°C, respectively.