

[Agriculture and water management services](#)



Farming is highly dependent on weather. Temperature and precipitation are key factors for agriculture, influencing crop growth and water availability. Water management is closely-related to agriculture as water demand depends on its availability and actions directed to water management.

Summary

Agriculture and water management are two closely-related sectors. Fulfillment of the water demand for irrigation depends on water availability, which directly depends on climate, and applied water management actions. When taking decisions for matching water supply and demand at all times, water managers need to consider the seasonal variability of climate.

Examples of management practices that can be advised by seasonal predictions are the concentration of the highest hydroelectric power production in wet periods, when water supply is the highest, and decreasing hydropower production during water-scarce periods when water supply for other demands is more threatened. Seasonal climate predictions can also be useful for reservoir management, including dam operation. In agriculture, seasonal predictions can support farmer's decisions on the timing of management practices. Moreover, having information on time forecasts beyond the traditional 10-day window, allows forecasting the price of agricultural commodities, gives hints for storage and marketing of agricultural products, and assists in logistical decisions dealing with regional shortfalls and excess product availability.

When looking specifically at the wine sector, global changes affecting the suitability of particular areas for

wine production can lead to substantial economic consequences. Again, seasonal predictions can help anticipate these effects. Alternative adaptation strategies to reduced water availability are, for instance, the investment in new varieties that can give similar flavors with altered climate tolerances, marketing in anticipation to build consumer interest in new varieties, or changing management actions to reduce water demands.

MED GOLD promo video - Grape and wine sector

Objectives

There are three strategic services for the agriculture and water management sector:

1. Crop management with seasonal predictions
2. Grape sustainability with climate projections
3. Water management decisions with seasonal predictions.

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

Source URL (retrieved on 17 jul 2024 - 20:38): <https://www.bsc.es/ca/research-development/research-areas/climate-prediction/agriculture-and-water-management-services>