



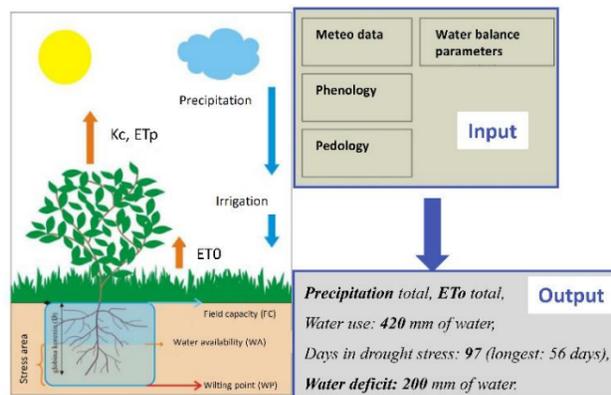
Plants Water Balance & Irrigation Model

IRRIFIB Model – What is this?

The IRRIFIB agrometeorological model simulates the water balance of different agricultural plants during the growing season and enables the assessment of their water consumption needs, taking into account the water-retaining properties of the soil, phenological phases of the plant, root depth and atmospheric conditions. It was developed through years of practical tests in cooperation with Slovenian producers.



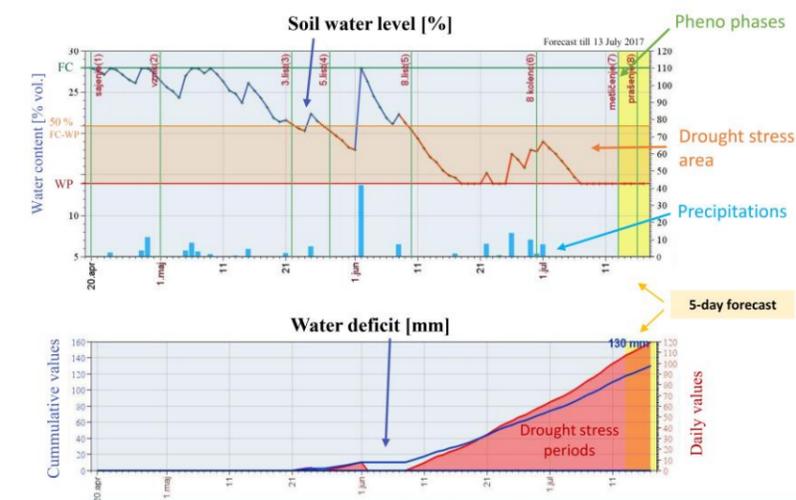
The model requires input data



The model requires meteorological, pedological and phenology data. Evapotranspiration is calculated using meteorological data according to the Penman-Monteith method. Pedological data at the selected location, i.e. field capacity and wilting point, help determine the available water content in the area of the plant roots. The dates of phenological phases, type of observed plant and its root depth is required to determine corresponding coefficients of the plant, which is carried out in cooperation with the user for each observed plant separately.

What can I expect from the IRRIFIB model?

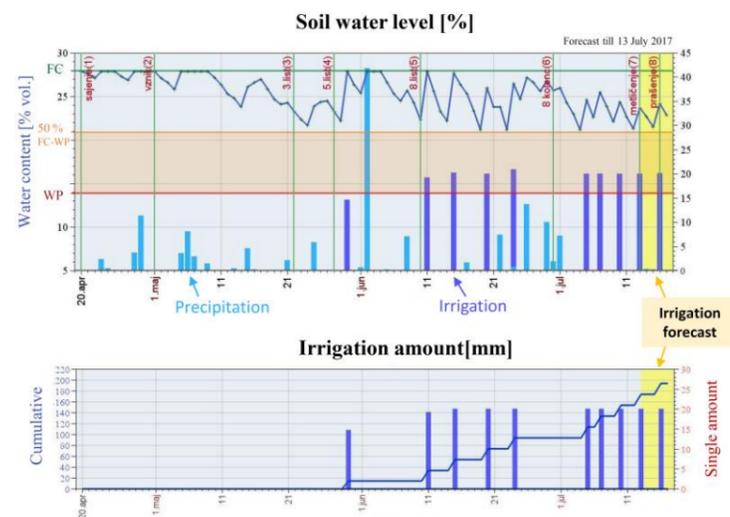
The model uses a module for non-irrigated and a module for irrigated agricultural plants. The module for non-irrigated plants calculates the plant water balance, the quantitative water deficit and its duration, which represents a drought stress period. The module for irrigated plants then evaluates the water deficit as the amount of water to be added to the plant for its optimal supply.



Water balance and the periods of drought stress of non-irrigated corn on good water-retentive soils with a 5-day forecast, 20 April - 17 July 2017, Krško polje

»To irrigate or not to irrigate?«

When the predicted values of weather variables are included in the module for irrigated plants, the model provides also the irrigation forecast, which is the calculated amount of water for irrigation for the following 5 days, taking into account the method of irrigation at the user's location (furrow or drip).



Water balance of furrow-irrigated corn on good water-retentive soils with a 5-day irrigation forecast, 20 April - 17 July 2017, Krško polje

How can I access the irrigation forecast?

Plant water balance with irrigation forecasts are calculated for a specific location to which soil properties are linked, and for selected agricultural plants observed by the user and regularly reported for on their phenological development. For this reason, the model calculations are not publicly available. Instead, the user who communicates the input data on pedology, phenology and possibly the irrigation type, accesses them via the assigned web link. For better understanding of the model, Slovenian Environment Agency organises workshops for the users.



What about Sundays, holidays or vacations?

The modeled plant water balance with irrigation forecast is updated daily, regardless of the special days of the year.

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