

All data were calculated with two different complex agro meteorological models, which were developed at the agro meteorological research center at Braunschweig.

All different soil temperatures and the frost depth are derived from the model AMBETI. This model calculates the heat and water balance between air, canopy and soil. More details of the model are listed under

http://www.dwd.de/bvbw/generator/DWDWWW/Content/Oeffentlichkeit/KU/KU5/Braunschweig/Aufgabenspektrum/Agrar_Modelle/Bestands_Bodenklima,templateId=raw,property=publicationFile.pdf/Bestands_Bodenklima.pdf

All other elements concerning soil moisture and evapotranspiration are calculated by the model AMBAV, which uses the Penman – Monteith formula. More details of the model are listed under

http://link.springer.com/chapter/10.1007/978-1-4020-4479-3_2#page-1

Both model calculations are based on hourly meteorological input data as well as realistic assumptions on plant development stages and root densities. The calculations are made for the locations of DWD weather stations, whose measurement data are input to the model.

Gaps in the input data sets were filled by data from adjacent stations. Special parameters like global radiation are derived from measured sunshine duration at the location.