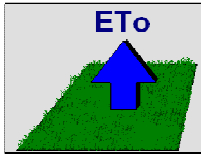


Handout Nr. 5



ETo Calculator

ETo calculator is a software developed by the Land and Water Division of FAO. Its main function is to calculate Reference evapotranspiration (ETo) according to FAO standards.

ETo represents the evapotranspiration rate from a reference surface, not short of water. A large uniform grass field is considered worldwide as the reference surface. The reference crop completely covers the soil, is kept short, well watered and is actively growing under optimal agronomic conditions. The ETo calculator assesses ETo from meteorological data by means of the FAO Penman-Monteith equation. This method has been selected by FAO as the reference because it closely approximates grass ETo at the location evaluated, is physically based, and explicitly incorporates both physiological and aerodynamic parameters.

The program can handle daily, ten-day and monthly climatic data. The data can be given in a wide variety of units and data specified in commonly used climatic parameters can be processed. When data for some weather variables are missing, procedures are used for estimating missing climatic data from temperature data or from specific climatic conditions according to methodologies outlined in the Irrigation and Drainage Paper No 56.: "Crop Evapotranspiration". Even where the dataset contains only maximum and minimum air temperature, it is still possible to obtain reasonable estimates for ten-day or monthly ETo. By selecting appropriate lower and upper limits for meteorological data, the program applies a quality check when specifying or importing data. Specified and derived climatic data, including ETo, can be exported in text files compatible with AquaCrop or plotted in various ways specified by the user.

ETo calculator is meant as a practical tool to help agro-meteorologists, agronomists, and irrigation engineers to carry out standard calculations for ETo, to be later used in crop water use studies.



The ETo Calculator is a public domain software, and an installation disk (1.5 Mb) and a software copy of the Reference Manual can be freely downloaded. If the ETo calculator software is correctly installed, it occupies less than 2 Mb on disk.

<http://www.fao.org/nr/water/eto.html>

Reference: FAO. 2009. ETo Calculator
Land and Water Digital Media Series Nr. 36.
FAO, Rome, Italy