

**Irrigation Model: CROPWAT**

<b>Description</b>	CROPWAT is a DOS or Windows based decision support system designed as a tool to help agro-meteorologists, agronomists, and irrigation engineers carry out standard calculations for evapotranspiration and crop water use studies, particularly the design and management of irrigation schemes. It allows the development of recommendations for improved irrigation practices, the planning of irrigation schedules under varying water supply conditions, and the assessment of production under rainfed conditions or deficit irrigation.
<b>Appropriate Use</b>	As a tool for testing the efficiency of different irrigation strategies (e.g., irrigation scheduling, improved irrigation efficiency) under climate change. Does not have the capacity of simulating the direct effects of rising atmospheric carbon dioxide concentrations on crop water use.
<b>Scope</b>	All locations; agricultural sector; site-specific.
<b>Key Output</b>	Reference evapotranspiration, crop water requirements, and crop irrigation requirements.
<b>Key Input</b>	Climatic and crop data (CLIMWAT database, included with the program) for calculations of crop water requirements and irrigation requirements. The development of irrigation schedules and the valuation of rainfed and irrigation practices are based on a daily soil-water balance using various options for water supply and irrigation management conditions.
<b>Ease of Use</b>	Relatively easy to use for qualified experts with appropriate background.
<b>Training Required</b>	Intended for use by agricultural professionals because it requires background and training in agricultural modeling. Using the manual, an expert can learn how to use this tool within 1-2 days.
<b>Training Available</b>	No formal training currently offered beyond the training manual.
<b>Computer Requirements</b>	PC supporting DOS or Windows. CROPWAT version 5.7, issued in 1992, is written in BASIC and runs in the DOS environment. CROPWAT for Windows contains a CROPWAT version in Visual Basic to operate in the Windows environment.
<b>Documentation</b>	CROPWAT for Windows and its manual are available in Acrobat format and can be downloaded from FAO's FTP server (ftp.fao.org) as CRW2W2.ZIP and CRW4W_MN.ZIP, respectively.
<b>Applications</b>	The CROPWAT database contains data for six continental regions and 144 countries. It has been used to develop irrigation schedules under various management conditions to evaluate rainfed production and drought effects and efficiency of irrigation practices.
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<b>Cost</b>	No cost to obtain model documentation or software.
<b>References</b>	FAO. 1992. CROPWAT — A Computer Program for Irrigation Planning and Management. FAO Irrigation and Drainage Paper No. 46. Food and Agriculture Organization, Rome.