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CIMIS

California Irrigation Management Information System

CIMIS data use on the rise: New users welcomed

Evapotranspiration (ET) is evaporation plus transpiration from a given surface. Reference evapotranspiration is ET from well-watered grass (ETo) or alfalfa (ETr) surfaces. CIMIS uses weather data measured over well-watered grass surfaces to calculate ETo using the Modified Penman equation adjusted for local conditions. A user needs to calculate the actual ET for a specific crop (ETc) using a crop factor known as crop coefficient (Kc). Tabulated values of Kc are available from different sources for most crops growing in California.

The primary use of CIMIS ETo data is for planning, design, and operation of irrigation systems. In planning an irrigation system, one needs to know the total water demand and available supplies. CIMIS ETo helps the grower to determine what the total demand will be and to design the system accordingly. Irrigation system design, in turn, involves determining the sizes of the different components for diverting, delivering, and applying water into the field.

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In the operation of irrigation systems, CIMIS ETo is essential for irrigation scheduling purposes. A water budget method can be used to determine when to irrigate and how much water to apply. Applying the right amount of water at the right time saves water, money, energy, and manpower for systems that are over-irrigating. It also improves the quality of water by reducing contamination from pesticides, herbicides, and other chemicals. For systems that are under-irrigating, however, it increases the quantity and quality of crop yield and aesthetic values of landscapes.

CIMIS ETo data can also be used in water balance analyses, stream runoff estimation, weather forecasting, water rights issues, and other related disciplines. For example, in designing water storage facilities such as reservoirs and ponds, estimates of evaporation losses from free water surfaces and transpiration losses from surrounding plants are required. Existing correlations between these losses and CIMIS ETo can be used to quantify the losses.

These are just a few of the many uses of the CIMIS ETo data. Although the number of CIMIS data users has been increasing steadily over the years, many irrigators are still not making use of this free resource. We believe the reason for this is lack of appropriate information. CIMIS is doing its best to educate as many users as possible through its outreach activities and different publications.

For more CIMIS information...

CIMIS information is published quarterly in the CATI *Update* newsletter. Articles are provided by the California Department of Water Resources, CIMIS program staff.

For more information about CIMIS or its programs, contact any of the following representatives at these offices:

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lf you are unable to reach a CIMIS representative near you, call the CIMIS Helpline at 1-800-922-4647.

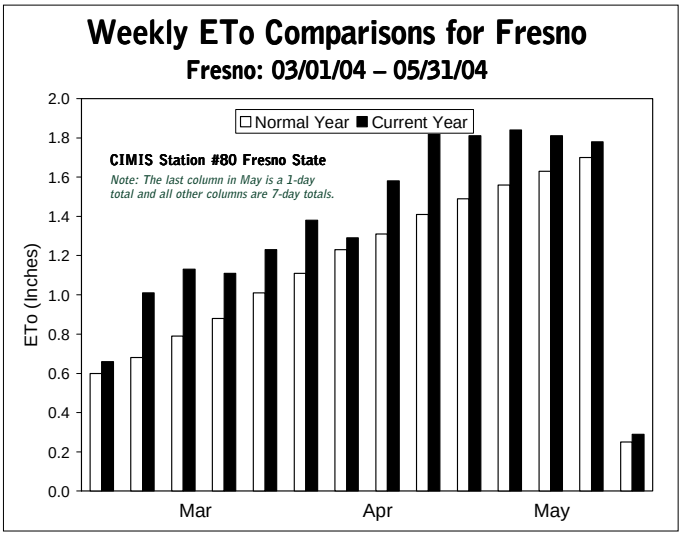

Chart shows ETo variation from normal over last three months.