

Soledad CIMIS Station

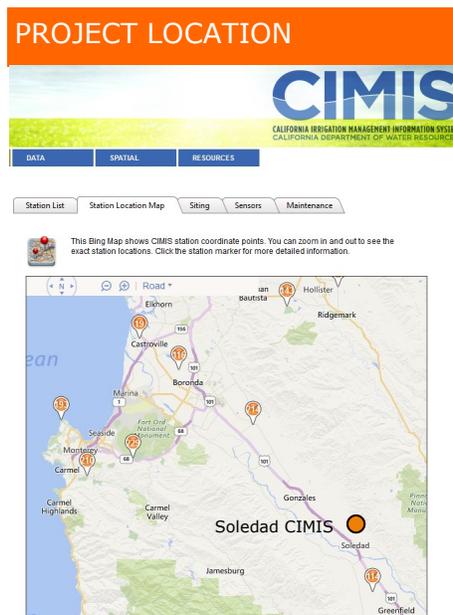
Description

CIMIS stations provide meteorological data including wind speed, temperature, solar radiation and other parameters used for calculating reference Evapotranspiration (ET_0). The Soledad CIMIS Station will provide localized ET_0 to help growers determine crop water needs for farms representing approximately 60,000 acres of irrigated agriculture in Salinas Valley between Gonzalez and Greenfield. ET_0 in combination with crop coefficients can be used to estimate field (soil and plant) water loss and crop water demands, which augments growers' ability to determine irrigation water application amounts and timing.

Significance

As the importance of conserving water and avoiding nitrate leaching below the root zone has escalated, growers are increasingly concerned with precision irrigation practices. Growers can have increased confidence in ET data when a weather station is located in close proximity to their fields and measures the actual conditions where they are farming, especially in windy areas like the Salinas Valley. Multiple benefits for the region and the individual grower can be gained from precise irrigation to match crop needs, which include:

- avoiding the need to over-apply fertilizer due to leaching,
- reducing irrigation runoff,
- reducing contamination of groundwater with nitrate,
- reducing groundwater use and slowing aquifer depletion,
- cost savings,
- avoiding plant stress from under or over watering,
- and aiding with regulatory requirements.



The Soledad CIMIS station, located between the Salinas and Arroyo Seco stations, monitors local climate from atop irrigated fescue grass covering 2 acres of land. Data is sent on an hourly basis to the CIMIS website, where ET_0 data can be accessed: www.cimis.water.ca.gov/

Decision Support Tools

CIMIS ET_0 data is incorporated into decision support tools, such as CropManage, for use by growers and irrigators. CropManage quickly estimates water needs for vegetables and berries. Growers can also use CropManage to track water and nutrient applications.



Partnerships

DOLE provided the land for the CIMIS station as well as ongoing maintenance of the grass. University of California Cooperative Extension (UCCE) provided the CropManage model for utilizing reference ET to calculate crop water needs and irrigation timing. The Resource Conservation District of Monterey County (RCDMC) provided the conceptual design and oversaw the management and construction of the project. The engineering and construction contractor was Irrigation Design and Construction (IDC). The California Department of Water Resources installed the weather station and provides data on the CIMIS website. The project was funded by SWRCB Prop 84 grant # 12-414-553.

Prop 84 Grant Funding

State Water Resources Control Board's Proposition 84 Agricultural Water Quality grant paid for the engineering design and construction of the irrigation system, planting of the fescue grass, and the CIMIS weather station. Professional services match was provided by NRCS and UCCE.

Capital Costs \$113,000

Land: \$30,000



FOR MORE INFORMATION

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