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CALIFORNIA IRRIGATION MANAGEMENT INFORMATION SYSTEM

Station Siting

CIMIS





CIMIS (California Irrigation Management Information System) is an integrated network of 145 automated weather stations located throughout California. Irrigation information and weather data is provided free of charge by the Water Use and Efficiency Branch of the California Department of Water Resources.

CIMIS helps agricultural growers and landscape supervisors manage their water resources more efficiently. CIMIS supplies the data used to determine when to irrigate and how much water to apply. Efficient use of water resources benefits Californians by saving water, energy, and money.

Siting Information

The CIMIS station site selection, the placement of the station equipment, and the local environment, will affect the accuracy and reliability of the ETo calculated for that area. Buildings or trees too close to a station affect wind speed data. The absence of healthy green grass under a station affects net radiation, temperature, and humidity. Bare soil, instead of cropped land around the weather station, will increase temperatures, and decrease humidity.

Consistent CIMIS station siting ensures that any differences in data between stations are caused by the weather, not by site-specific differences. A station should be located within the area that the station is meant to represent and should be typical of the largest surrounding area possible.

The ideal site for a station is at least 20 acres of well-maintained, cool-season perennial grass. Station equipment is located in the center of the area and the grass is well irrigated and mowed to a height of three inches to six inches.

DWR uses a set of guidelines to find potential sites for a CIMIS weather station.

Regional and Local Criteria

- Site within the region it is meant to represent.
- Avoid transitional area between two distinct climates (unless attempting to characterize that transitional area).
- Avoid topographic depressions. The temperature is frequently higher during the day and lower at night when compared to readings on level ground.
- Avoid high points.
- Commit to long-term consistency of land use in and around the site.

Surrounding Environment Criteria

- Avoid wind obstructions within 100 yards of the site.
- Avoid linear obstructions (windbreaks, buildings) within 150 yards perpendicular to the direction of the prevailing wind.
- Avoid placing a station in a field where there are frequent rotations of crops, because the field will have bare soil between crops.
- Avoid abrupt crop/vegetation changes (i.e. pasture to row crops) within 50 yards of site or 100 yards upwind of site.
- Avoid roads within 50 yards of the site. Unpaved roads should be no closer than 100 yards upwind of the site.

- Avoid small rivers within 100 yards of the site and larger rivers within 200 yards of the site. Lakes should be no closer than 1,000 yards of the site.
- Avoid areas exposed to extensive or frequent applications of agricultural chemicals (to decrease degradation of sensors).

Other General/Desirable Criteria

- Site should be in the vicinity of dwellings to reduce risk of vandalism.
- The station may be enclosed in a 10 yards by 10 yards livestock-tight five-foot fence where necessary. Enclosure material should not significantly affect wind movement, reflect on or shade any instruments.
- Site should have unrestricted access to maintenance seven days a week. There should be vehicle access to the site (except when wet).
- The station enclosure should be close to existing telephone lines (within 150 yards) or have reliable cellular telephone coverage.
- There should be local personnel (private or public) available to help maintain the site to meet DWR's requirements.
- Site should be flood irrigated where possible. Sprinkler irrigation spray, blown by the wind, can drop into the rain gauges, generating false precipitation data.



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