



United States Department of Agriculture
Natural Resources Conservation Service

Water Quantity Enhancement Activity – WQT04 – Regional Weather Networks for Irrigation Scheduling



Regional Weather Networks for Irrigation Scheduling

Crop evapotranspiration (crop ET) information from a regional weather network is utilized as a part of the irrigation water management plan for irrigation scheduling. Water use is planned and adjustments in application rates and timing are made using the regional weather network data.

Land Use Applicability

This enhancement is applicable on cropland and pastureland

Benefits

The use of data from regional weather networks can improve a farmer's estimate of evapotranspiration from irrigated crops. This information combined with local rainfall data and monitoring of soil moisture can significantly improve the accuracy of irrigation timing and application rates. Benefits include reduced aquifer depletion, and reduced runoff and deep percolation, both of which reduce movement of agrichemicals from farm fields to aquifers, lakes, and streams.

Criteria for Regional Weather Networks for Irrigation Scheduling

This enhancement requires subscription to a regional weather network that supplies crop ET values for irrigation scheduling. The crop ET information from the network must be used as part of the irrigation water management plan to match water application rates and timing to the needs of the crops and soils.

Documentation Requirements

- Documentation of subscription to a regional weather network.
- An irrigation water management plan showing the use of the crop ET data from a weather network in irrigation scheduling.



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Additional guidance for irrigation scheduling:

Irrigation scheduling is the implementation of an Irrigation Water Management (IWM) plan. An IWM plan establishes a framework for determining how much irrigation water to apply and when to apply it. An objective of IWM is to provide adequate irrigation water to meet crop needs, while minimizing losses to surface and/or ground water that could impact water quality.

Regional weather networks can be used in conjunction with other efforts to decide and/or predict when and how much to irrigate. Those intended for the agricultural sector, like the AgriMet system in the Pacific Northwest, provide crop water use estimates (crop evapotranspiration, or ETc) that are utilized as part of an IWM plan's decision making framework.

For more specific information on Agrimet, IWM plans, and recordkeeping that demonstrates implementation, refer to:

AGRIMET, *The Pacific Northwest Cooperative Agricultural Weather Network*.
<http://www.usbr.gov/pn/agrimet/>

NRCS National Engineering Handbook, Part 652, *Chapter 10 – Irrigation Guide*, Idaho Supplement #6. (available in Field Office).

NRCS General Manual, 450-GM, Idaho Amendment #20, ID407.10(c). (available in Field Office).

University of Idaho Cooperative Extension, *Idaho Drought Resources*.
<http://www.uiweb.uidaho.edu/extension/drought/>