

Minutes
WCC-202
Climatic Data Applications in Irrigation Scheduling and Water Conservation
Reno, NV
May 29-30, 2002

Attendance

Alam, Mahbub (malam@ksu.edu) - Kansas State University
Gay, Lloyd (lgay@ag.arizona.edu) - University of Arizona
Henggeler, Joe (HenggelerJ@missouri.edu) - University of Missouri
Howell, Terry (tahowell@ag.gov) - USDA/ARS
Jacobs, Jacobs (jjj@uwyo.edu) - University of Wyoming
Martin, Ed (edmartin@ag.arizona.edu) - University of Arizona
Palmer, Peter (ppalmer@pn.usbr.gov) - Bureau of Reclamation
Sammis, Ted (tsammis@nmsu.edu) - New Mexico State University
Spofford, Tom (tspofford@wcc.nrcs.usda.gov) - USDA/NRCS

Joe Henggeler opened the meeting by stating that Ted Sammis was still chairman of WCC-202 and turned the meeting over to Ted. The meeting registration fee, based on costs & attendees, was calculated to be \$35 each (later adjusted to \$20).

Old Business

Members

Some of members are not on the current list. Jim Jacobs will straighten this out. Joe Henggeler will send Jim Jacobs the updated list. The announcement e-mail list is still very big; it needs to be parsed down. Joe Henggeler will do this.

The procedure to get on the WCC-202 list is to complete the Appendix E electronically through the National Information Management and Support System (NIMSS) at <http://www.lgu.umd.edu/menu.cfm>. Check with personnel at your Ag Experiment Station office for procedures and authorization. If you are a researcher, you will be familiar with the lingo. If you're not a researcher, Jim Jacobs's secretary Kathleen (KathBert@uwyo.edu) will help with the CRIS codes. A copy will automatically be e-mailed to Jim via NIMSS. Congratulations, now you are a member of WCC-202!

Web sites

The Web site of the Western directors is located at Colorado State University. All multistate research activities are on the NIMSS. This website is updated electronically from forms submitted by Jim Jacobs. The data needed from members is only:

- accomplishments
- publications
- impacts

Ted Sammis will continue to use the NMSU website for the WCC-202 tools and activities <<http://weather.nmsu.edu/WCC/>>. The state reports are to be sent electronically to Jim Jacobs (copy to Ted Sammis). Jim Jacobs will compile and send on report to NIMSS <http://www.lgu.umd.edu>. Report should be brief—deal with the accomplishments, publications, and impact. The minutes of the WCC meetings must include a list of participants and official actions to take place. All members, if they have not yet done so, will send Jim Jacobs a list of accomplishments and publications for 2001.

Budget

Ted Sammis: Does WCC-202 get a budget? Jim Jacobs: no money is being set aside for our project, although there's a slot for budget amount on the WCC forms.

Objectives and Outcomes of WCC-202

It was asked if the original objectives & outcomes could be altered.

Jim Jacobs: Changes can be made, if they are minor changes. If the changes are more drastic, the question will have to be looked into.

Objective 1 (Coordinate the development of delivery methods for the dissemination of climate based irrigation scheduling)

-- Ted Sammis: site at NMSU up and running; lots of data along these lines

There was discussion on:

Which method works the best? Is it the same across the US? Are there regional differences?

WCC-202 should develop surveys and establish focus groups to get this answer.

Ed Martin: can we get info on who is accessing irrigation scheduling Web sites?

Tom Spofford: newspaper is fast.

Mahbub Alam: Kansas also using newspapers.

Ed Martin: Arizona sends out with fax, e-mail or mail.

Terry Howell: when consultants receive this service they deliver on to additional farmers.

Ted Sammis: we need a committee to evaluate what is the best scheduling dissemination method to use.

A questionnaire should be developed.

Do we want to use graphs, tables, iso-lines, etc. to present information?

The questionnaire should go to farmers and consultants and other users.

The questionnaire should be brief, be kept to one page or even a 3X5 card.

Jim Jacobs will ask Tom Marek to be on this committee. Committee will include: Ted Sammis, Tom Spofford, Mahbub Alam, and Tom Marek. Marek's address is: t-marek@tamu.edu

Joe Henggeler: Can we get info from the USDA Ag Statistics 5-year irrigation survey? Ed Martin will interact with the USDA in this regard.

Tools to instruct in KC use exist. NMSU and Utah State University both have Internet modules on the fundamentals of Irrigation Scheduling.

Terry Howell: extension conducts meetings with farmers to teach these methods; they also instruct on website free.

Peter Palmer: They include some explanation on "how to" and then additionally link to other related sites.

Ed Martin will ask Four-Corners group what sort of tools do they want to view to help learn. Did the Las Cruces meeting on irrigation scheduling post the talks on the web? Ted Sammis will check to see if the talks are on line.

Large national weather networking project will not be done unless federal funding is there. The Climate Initiative fund may come about. Kelly Redman is leading climate networking. NCDC won't change their existing method of formatting data.

It was suggested that the word "coordinate" be changed to "participate in" in the objective description.

Objective 2 (Coordinate the identification of existing climate-based irrigation scheduling methods or tools)

All members of the committee are asked to provide information regarding their state's method of calculating ET.

Data needed are (1) methodology used and (2) graphical comparison of the results (using actual daily weather from their state) to the standardized Penman-Monteith method. The comparison should include pan data, if available. The pan comparison is in deference to those regions still using pan data.

Objective 3 (Coordinate the acceptance of standardized reference evapotranspiration equation)

Terry Howell and Tom Spofford reported:

- Two reference equations developed (short and tall) which are not necessarily grass or alfalfa
- Not the same as FAO 056
- This report is currently being reviewed
- CIMIS will be going to the 24-hour
- info FAO 56 ET_o is at: <http://www.kimberly.uidaho.edu/water/fao56/index.html>
- info on the report is at ASCE-EWRI's site: <http://www.kimberly.uidaho.edu/water/asceewri/>
- FAO 56 (with 24-hour method) is about the same as standardized P-M

Ed Martin will head up a fact sheet dealing with ET methods, water use & crop coefficients.

Jim Jacobs will disseminate a task list to all members.

Objective 4 (Coordinate the identification and documentation of crop coefficients used in irrigation scheduling and the method by which coefficients are moved forward in time [accumulated heat units, % crop cover, time, etc.]

Manual 70 is being revised (in two years it will be ready to send out). Handbook of Hydrology is a good resource but expensive.

Terry Howell: crop models are often using incorrect coefficients.

-EPIC is able to choose a Penman-Monteith method.

Ed Martin: will contact California counterparts to help them get involved.

Data on the Internet on rainfall amounts based on Doppler radar appears to work well in the Midwest, but has problems in other parts of the country. Is also influenced by the presence of hail.

Joe Henggeler: investigate use of Doppler rainfall as a method of scheduling

Ted Sammis: talk to WCC-102 about Doppler

Ted Sammis: send out a spreadsheet for each of us to do KC re-calculations

Ted Sammis: contact Dan Smeal

Colorado has a system of 400 volunteers collecting rainfall data.

Texas has program called Agri-Partners; four full-time employees measure items like efficiency of irrigation systems.

Washington state has temperature-based KCs (publication X B 10925 by Larry Jamo).

The Hobo Company makes inexpensive data loggers. Ed Martin will contact Hobo and Adcon about our committee since they manufacture products associated with our committee. Campbell Scientific is already involved with the committee.

Peter Palmer was elected secretary of the WCC-202.

Proposed that the 2003 WCC-202 meeting be held in the Kansas City, Missouri area with target dates of May 13 and 14, 2003 (Tuesday and Wednesday).

State Reports: Washington & northwest

Peter Palmer:

Their program started in northwest has been in place since 1983.

Primary purpose is to provide ET for irrigation scheduling.

Six additional new stations were installed this spring.

Stakeholders are happy with program (Bonneville Power Authority is a key stakeholder).

Look at graphical values to locate out-liers & the remove before posting.
Happy with the CR-10.
Information is generated every day; updated at 5:30 a.m.
The start date is keyed in, and then full cover and termination date calculated.
Emergence date info from local expert .
Use Kimberly-Penman; provide daily, 4-day, 7-day, 14-day & seasonal water use.
Have a daily forecast .
Alfalfa max & alfalfa mean (.85 of max) used to handle cut.
Historic ET for each site, each year available.
You click on the box location to get info on site, including photos from cardinal directions.
Other information and links to irrigation sites provided.
Testimonies that they have reduced power consumption & increased yields for potato farmers.
Have a PowerPoint presentation.
Oregon has some laws on water meters being installed.
They have 20,000 hits per month during peak use.
Unique users are 600 to 700 per month.

State Reports: Kansas

Mahbub Alam:

10 stations using Penman-Monteith and 24 stations using the Kincaid-Heerman.
The ground water districts aren't managing the stations, so KSU now assuming the role.
KSU has 2 demonstration programs, now combined into one called the Mobiler Irrigation Lab (MIL).
MIL geared to pivot irrigation.
MIL has 9 computers in their trailer-based lab.
Their irrigation scheduling program is called **KanSched**.
It provides graphic and tabular info.
There is one site to get weather data; it has to be entered manually.

May 30

Tom Spofford: IA now has 28 ag-related and 1 turf-related paper proposals for their Nov, 2002 meeting.

State Reports: Arizona

Lloyd Gay: Presented an excellent paper outlining the fact that a good estimate of maximum plant water use at full canopy is 0.5 of clear day solar radiation when converted to units of mm/day.

Ed Martin: Reported on AZ updated version of **AZSched**, which will be out soon.

State Reports: Missouri

Joe Henggeler showed how automatic Woodruff Irrigation charts could be generated from the Internet. Woodruff users have made 16 bu/acre more corn then non-users in the last 2 years.

State Reports: Texas

Terry Howell reported on the High Plains PET Network.

They have data on their website.

Their primary delivery method is fax. Three or four computers involved in faxing. 400 faxes per night are sent.

Recently, a questionnaire was sent out; Tom Marek was heavily involved with this.

The phone costs can be prohibitive. They charge no fees to users.

Cotton, corn, soybean, and sorghum are included with 4 planting dates for each.

There are some insect models included. People seem to like getting the fax. Jim Jacobs will contact Tom Marek.

Ted Sammis: Move the meeting be adjourned.

Joe Henggeler: Seconded, and motion passed.

Group tour of Western Regional Climatic Center with hosting by Kelly Redman.

Ted Sammis & Joe Henggeler, in post-meeting discussion: we need to initiate a 4-H Irrigation Scheduling Project.

Joe Henggeler will look into this.