**WERA 1022 Publications**

**October 1, 20018 – September 30, 2019**

**Publications**

Aboutalebi, M., Torres-Rua, A., Allen, L. Spatial and Temporal Analysis of Precipitation and Effective Rainfall using Gauge Observations, Satellite, and Gridded Climate Data for Agricultural Water Management in the Upper Colorado River Basin. Remote Sensing, Remote Sensing in Agriculture and Vegetation, December 2018.

Andales, A.A. 2019. Irrigation scheduling using a water balance model and soil moisture sensors. In: *Proceedings of the 31st Annual Central Plains Irrigation Conference*, Kearney, NE, February 26-27, 2019, pp 11-16. (<https://www.ksre.k-state.edu/irrigate/oow/p19/Andales19.pdf>)

Andales, A.A. and Ham, J. 2018. Subsurface Wireless Networks for Soil Moisture Sensing and Irrigation Water Management. In: *Colorado Water* (Mokry, M. ed.), vol. 35(6): 40, Colorado Water Center, Colorado State University, Fort Collins, CO. (<http://www.cwi.colostate.edu/Media/img/newsletters/2018/CW_35_6.pdf>)

Andales, A.A., Simmons, L.H., Bartolo, M.E. 2019. Determination of consumptive water use of grass hay in the Arkansas Valley of Colorado (2018). Completion report to the Colorado Water Conservation Board and Colorado Water Institute. 13 pp.

Barnaby, J.Y., A.M. Mcclung, J.S. Rohila, C.G. Henry, L.H. Ziska, R. C. Sicher. 2018. Physiological and metabolic response to reduced soil water availability in rice: Relationship of stress adaption and grain production. Accepted for publication in Frontiers in Plant Science.

Brar, D., W.L. Kranz, T. Lo, S. Irmak and D.L. Martin. 2019. Conservation of energy using variable frequency drive for center pivot irrigation: Systems equipped with corner watering attachments. *Transactions of the ASABE* Vol. 62(5): 1395-1408. https://doi.org/10.13031/trans.13312 .

Bryant, C.J., L. J. Krutz, L. Falconer, J.T. Irby, C.G. Henry, H.C. Pringle III, M.E. Henry, D.P. Roach, D.M. Pickelmann, R.L. Atwill and C. W. Wood. 2017. Irrigation Water Management Practices that Reduce Water Requirements for Mid-South Furrow Irrigated Soybean. Crop, Forage and Turfgrass Management Volume 3. doi:10.2134/cftm2017.04.0025

Conger, S. L. D. 2018. New Resources Available from the Irrigation Association. Louisiana Irrigation Association Newsletter, Winter 2018 Ed.

Conger, S. L. D. 2019. Irrigation Basics: A Louisiana Word Game. Louisiana Irrigation Association Newsletter, Spring 2019 Ed.

Conger, S. L. D. 2019. It’s Raining! What to Do? Louisiana Irrigation Association Newsletter, Summer 2019 Ed.

Conger, S. L. D., B. Williamson, and K. Dean. 2019. “How to Install a Tube Style Sensor in

Conger, S. L. D., K. Dean, D. McMahon, A. Hamm, and A. DeSoto.2019. “How to Install Volumetric Water Content Sensors and Telemetric Logger,” Available at: <https://www.youtube.com/watch?v=SC1-rfmV5F4>, Accessed on Oct 9, 2019.

Conger, S. L. D., R. Sheffield, T. J. Koske. 2018. Introduction to Landscape Irrigation in Louisiana. Rewritten and republished LSU AgCenter Publication 3062.

Datta S, Taghvaeian S, Ochsner TE, Moriasi D, Gowda P, Steiner JL (2018) Performance assessment of five different soil moisture sensors under irrigated field conditions in Oklahoma. Sensors, 18 (11), 3786. <https://doi.org/10.3390/s18113786>

Ferrarezi, R. S. 2019. Citrus Nursery Guide. Chapter 8: Stock Plant and Tree Production: b) Irrigation and Fertilization, **EDIS Publication**, UF/IFAS Extension, Horticultural Sciences Department, #HS1333. URL: <https://edis.ifas.ufl.edu/hs1333>

Ferrarezi, R. S.; Hernandez, Y. V.; Stephens, J. 2019. Environmental parameters inside the citrus under protective screen system for fresh grapefruit production. **Florida Society of Horticultural Science**, 2019 Annual Conference (Abstr.). Maitland/FL, United States.

Ferrarezi, R. S.; Meadows, T.; Stephens, J.; James, T.H.; Eckman, M.; Macan, N. P.; Grosser, J. W.; Alferez, F.; Gast, T. 2019. Accelerated production of citrus nursery liners using automated ebb-and-flow subirrigation. **American Society of Horticultural Science**, 2019 Annual Conference (Abstr.). Las Vegas/NV, United States.

Ferrarezi, R. S.; Thomason, K. A.; Ritenour, M. A.; Wright, A. L. 2019. High-density grapefruit production in open hydroponics system. **American Society of Horticultural Science**, 2019 Annual Conference (Abstr.). Las Vegas/NV, United States.

G.D. Spencer, L.J. Krutz, L.L. Falconer, W.B. Henry, C.G. Henry, E.J. Larson, H.C. Pringle III,C.J. Bryant, R.L. Atwill. 2019. Irrigation Water Management Technologies for Furrow Irrigated Corn that Decrease Water Use and Improve Yield and On-Farm Profitability. Agronomy Journal 5(1). doi:10.2134/cftm2018.12.0100

Henry, C. G. G. M.Sarzi Sartori, J. P. Gaspar, E. Marchesan, S. M. Hirsh, A. P. Horton, L. Espinoza and H. James. 2018. Deep Tillage and Gypsum Amendments on Fully, Deficit Irrigated, and Dryland Soybean. Agronomy Journal 110 (2). doi:10.2134/agronj2015.11.0567

Irmak, S., A.T. Mohammed and W.L. Kranz. 2019. Grain yield, crop and basal evapotranspiration, production functions and water productivity response of drought-tolerant and non-drought-tolerant maize hybrids under different irrigation levels, population densities and environments: Part II. In south-central and northeast Nebraska’s transition zone and sub-humid environments. *Applied Engineering in Agriculture* 35(1):83-102. https://doi.org/10.13031/aea.12871.

Irmak, S., and M. Kukal. 2019. Disk-till vs. no-till maize grass- and alfalfa-reference single (normal) and basal crop coefficients. *Agricultural Water Management* 226:105815. <https://doi.org/10.1016/j.agwat.2019.105815>.

Irmak, S., M.S. Kukal, A.T. Mohammed and K. Djaman. 2019. Disk-till vs. no-till maize evapotranspiration, microclimate, grain yield, production functions and water productivity. *Agricultural Water Management* 26(5):177-195. <https://doi.org/10.1016/j.agwat.2019.02.006>.

Jinyoung Y. Barnaby, Anna M. McClung, Jai S. Rohila, Chris G. Henry, Lewis H. Ziska, Richard C. Sicher. 2018. Intraspecific variation in leaf metabolite profiles for rice cultivars subjected to different irrigation levels: Relationship to stress adaptation and yield performance. Submitted to the Frontiers of Plant Science.

Jones, A.S., Andales, A.A., Chávez, J.L., McGovern, C.L., Smith, G.E.B., David, O., Fletcher, S.J. 2019. Use of Predictive Weather Uncertainties in an Irrigation Scheduling Tool - Part I: A Review of Metrics and Adjoint Methods. *Journal of the American Water Resources Association* 1-14. <https://doi.org/10.1111/1752-1688.12810>.

Jones, A.S., Andales, A.A., Chávez, J.L., McGovern, C.L., Smith, G.E.B., David, O., Fletcher, S.J. 2019. Use of Predictive Weather Uncertainties in an Irrigation Scheduling Tool - Part II: An Application of Metrics and Adjoints. *Journal of the American Water Resources Association* 1-11. <https://doi.org/10.1111/1752-1688.12806>.

Kadyampakeni, D.; Morgan, K.; M. Zekri; Ferrarezi, R. S.; Schumann, A. W.; Obreza, T.A. 2018. Irrigation management of citrus trees. p.49-52. In: Rogers, M. E.; Dewdney, M. M.; Vashisth, T. (Ed.). **Citrus Production Guide**. Lake Alfred, FL: UF/IFAS, 168 p. URL: <http://www.crec.ifas.ufl.edu/extension/pest/PDF/2017/Irrigation_Management.pdf>

Kandiah, R. and Sritharan, S. 2019. Detecting Evapotranspiration Changes in California between 2006 and 2015 Using Self Organizing Maps. 2019 World Environmental & Water Resources Congress. Pittsburgh, PA. May 19–23, 2019 (Poster)

Knapp, T., K. Kovacs, Q. Huang, C. Henry, R. Nayga, J. Popp, B. Dixon. 2018. “Willingness to pay for irrigation water when groundwater is scarce.” Agricultural Water Management, 195: 133-141.

Kukal, M., and S. Irmak. 2019. Irrigation-limited yield gaps: Trends and variability in the United States post-1950. *Environmental Research Communications* 1:061005. <https://doi.org/10.1088/2515-7620/ab2aee>.

Kukal, M.S., and S. Irmak. 2019. Characterization of water use and efficiency dynamics across four C3 and C4 row crops under optimal growth conditions. *Agricultural Water Management* 227:105840. <https://doi.org/10.1016/j.agwat.2019.105840>.

Many updates to <http://irrigation.wsu.edu> and to Irrigation Scheduler Mobile available online at: <http://weather.wsu.edu/ism>

Mohamed, A.Z., R.T. Peters, X. Zhu, and A. Sarwar. 2019. Adjusting Irrigation Uniformity Coefficients for Unimportant Variability on a Small Scale. Ag. Water Management. 213 (2019):1078-1083 (Moneim is my Ph.D. student and this manuscript was my idea and prepared under my close supervision.)

Mohammed, A.T., S. Irmak, W.L. Kranz, S. van Donk and C.D. Yonts. 2019. Grain yield, crop and basal evapotranspiration, production functions and water productivity response of drought-tolerant and non-drought-tolerant maize hybrids under different irrigation levels, and population densities: Part I. In western Nebraska’s semi-arid environments. *Applied Engineering in Agriculture* 35(1):65-81. ISSN 0883-8542. <https://doi.org/10.13031/aea.12870>

Parajuli, K., Jones, S. B., Tarboton, D. G., Flerchinger, G. N., Hipps, L. E., Allen, L., Seyfried, M. S. Estimating actual evapotranspiration from stony-soils in montane ecosystems. Agricultural and Forest Meteorology, 265 DOI: <https://doi.org/10.1016/j.agrformet.2018.11.019>

Peters, R.T., 2019. Irrigation Scheduler Mobile: User’s Manual. Available online at: <http://irrigation.wsu.edu/Content/Fact-Sheets/ISMManual_IA.pdf>

Rudnick, D., S. Irmak, C. West, I. Kisekka, T.H. Marek, J.P. Schneekloth, D. Mitchell, D. McCallister, V. Sharma, K. Djaman, J. Aguilar, J.L. Chávez, M.E. Schipanski, D.H. Rogers, and A. Schlegel. 2019. Deficit irrigation management of maize in the High Plains Aquifer region: A Review. *J. American Water Resources Association* 55(1):38–55. doi.org/10.1111/1752-1688.12723.

Salam, A., M.C. Vuran and S. Irmak. 2019. Di-Sense: In situ real-time permittivity estimation and soil moisture sensing using wireless underground communications. *Computer Networks* 151:31-41. <https://doi.org/10.1016/j.comnet.2019.01.001>.

Sandhu, R., and S. Irmak. 2019. Assessment of AquaCrop model in simulating maize canopy cover, soil-water, evapotranspiration, yield and water productivity for different planting dates and densities under irrigated and rainfed conditions. *Agricultural Water Management* 224, 105753. <https://doi.org/10.1016/j.agwat.2019.105753>.

Sandhu, R., and S. Irmak. 2019. Performance of AquaCrop model in simulating maize growth, yield, and evapotranspiration under rainfed, limited and full irrigation. *Agricultural Water Management* 223:105687. <https://doi.org/10.1016/j.agwat.2019.105687>.

Sharma, V and A. Nelson. 2019. Soil moisture sensors for Irrigation scheduling. University of Minnesota crop news. <https://blog-crop-news.extension.umn.edu/2019/04/soil-moisture-sensors-for-irrigation.html>

Sharma, V. 2018. Predicting the last irrigation for corn and soybeans in central Minnesota. University of Minnesota crop news. <https://blog-crop-news.extension.umn.edu/2018/08/predicting-last-irrigation-for-corn-and.html>

Sharma, V. 2019. Basic of irrigation scheduling. University of Minnesota Extension. <https://extension.umn.edu/irrigation/basics-irrigation-scheduling>

Sharma, V. 2019. Check the application uniformity of your center pivot irrigation system. University of Minnesota crop news. <https://blog-crop-news.extension.umn.edu/2019/02/check-application-uniformity-of-you.html>

Sharma, V. 2019. Soil moisture sensors for irrigation scheduling. University of Minnesota Extension. <https://extension.umn.edu/irrigation/soil-moisture-sensors-irrigation-scheduling>

Sharma, V. 2019. Soil water basics for Irrigation scheduling. University of Minnesota crop news. <https://blog-crop-news.extension.umn.edu/2019/01/soil-water-basics-for-irrigation.html>

Sharma, V., and S. Irmak. 2019. Spatio-temporal magnitudes and trends of cover-crop evapotranspiration in Nebraska, Iowa and Kansas. *J. Irrigation and Drainage Engineering* 145(2): 04018040. doi:10.1061/(ASCE)IR.1943-4774.0001367.

Slurry,” Available at: <https://www.youtube.com/watch?v=0-VOBIFoaQA&t=190s>, Accessed on Oct 9, 2019.

Subedi, A., Chávez, J.L., and Andales, A.A. 2019. Hourly alfalfa evapotranspiration estimation using variable bulk surface resistance. *Journal of Irrigation and Drainage Engineering* 145(10):04019023. DOI: 10.1061/(ASCE)IR.1943-4774.0001413

Taghvaeian S (2019) Making sense out of soil moisture sensors. Irrigation Today, 4(1): 14-18. Available online at <http://www.modernpubsonline.com/0A406ys/ITSummer2019/index.html>

Vuran, M.C., A. Salam, R. Wong and S. Irmak. 2019. Internet of underground things in precision agriculture: Architecture and technology aspects. *Ad Hoc Networks* 81:160-173. <https://doi.org/10.1016/j.adhoc.2018.07.017>.

Zhu, Y., S. Irmak, A.J. Jhala, M.C. Vuran, and A. Diotto. 2019. Time-domain and frequency-domain reflectometry type soil moisture sensor performance and soil temperature effect in fine- and coarse-textured soils. *Applied Engineering in Agriculture* 35(2):117-134. https://doi.org/10.13031/aea.12908.