Peer-Reviewed Publications

"Lifting" In Situ Soil Moisture Measurements with Machine Learning: A Multi-Depth Analysis of USCRN profiles and an Application for AMSR-E Satellite Validation with ECONet Sensors – ***Coopersmith***, Cosh, Bell, and, Boyles. Advances in Water Resources. October, 2016. 10.1016/j.advwatres.2016.10.007

Deploying Temporary Networks for Upscaling of Sparse Network Stations – ***Coopersmith***, *Cosh, Bell, Kelly, Hall, Palecki, and Temimi*. Int'l Journal of Applied Earth Obs. and Geoinformation. July, 2016. doi: 10.1016/j.jag.2016.07.013.

Comparison of In Situ Soil Moisture Measurements: An Examination of the Neutron and Dielectric Measurements within the Illinois Climate Network – ***Coopersmith***, *Cosh, and Jacobs.* Journal of Atmospheric and Oceanic Tech. June, 2016. doi: 10.1175/JTECH-D-16-0029.1.

Multi-Profile Analysis of Soil Moisture within the U.S Climate Reference Network – ***Coopersmith****, Cosh, Bell, and Crow*. Vadose Zone Journal, Oct. 2015. doi: 10.2136/vzj2015.01.0016.

Comparing AMSR-E Soil Moisture Estimates to the Extended Record of the U.S. Climate Reference Network (USCRN) – ***Coopersmith****, Cosh, Bindlish, and Bell*. Advances in Water Res., Sept. 2015. doi: 10.1016/j.advwatres.2015.09.003.

Evaluation of the 2012 Drought with a Newly Established National Soil Monitoring Network – *Bell, Leeper, Palecki,* ***Coopersmith****, Wilson, Bilotta, and Embler*. Vadose Zone Journal, Aug. 2015. doi:10.2136/vzj2015.02.0023

Soil Moisture Model Calibration and Validation: An ARS Watershed on the South Fork of the Iowa River – ***Coopersmith****, Cosh, Petersen, Prueger, and Niemeier*. Journal of Hydrometeorology, March, 2015. doi: http://dx.doi.org/10.1175/JHM-D-14-0145.1

Extending the Soil Moisture Data Record of the U.S. Climate Reference Network (USCRN) and Soil Climate Analysis Network (SCAN) – ***Coopersmith,*** *Cosh, and Bell.* Advances in Water Resources. February, 2015. doi: 10.1016/j.advwatres.2015.02.006

Field-Scale Moisture Estimates Using COSMOS Sensors: A Validation Study With Temporary Networks and Leaf-Area-Indices – ***Coopersmith****, Cosh, and Daughtry*. Journal of Hydrology. August, 2014. doi: 10.1016/j.jhydrol.2014.07.060

Using Similarity of Soil Texture and Hydroclimate to Enhance Soil Moisture Prediction – ***Coopersmith****, Minsker, and Sivapalan*. Hydrology & Earth System Sciences. August, 2014. doi:10.5194/hess-18-3095-2014

Machine Learning Assessments of Soil Drying – ***Coopersmith,*** *Minsker, Wenzel, and Gilmore.* Computers and Electronics in Agriculture. June, 2014. doi:10.1016/j.compag.2014.04.004

Patterns of Regional Climate Change: An Analysis of Changing Hydrologic Regimes ***Coopersmith,*** *Minsker, and Sivapalan.* Water Resources Research. March, 2014. doi: 10.1002/2012WR013320 (**Featured Paper**)

Exploring the Physical Controls of Regional Patterns of Flow Duration Curves: Part 1– Insights from Statistical Analyses – *Cheng, Yaeger, Viglione,* ***Coopersmith****, Ye, and Sivapalan*. Hydrology & Earth System Sciences. November, 2012, doi:10.5194/hess-16-4435-2012

Exploring the Physical Controls of Regional Patterns of Flow Duration Curves: Part 2 – Role of Seasonality and Associated Process Controls – *Ye, Yaeger,* ***Coopersmith****, Cheng, and Sivapalan*. Hydrology & Earth System Sciences. November, 2012, doi:10.5194/hess-16-4447-2012

Exploring the Physical Controls of Regional Patterns of Flow Duration Curves: Part 3 – A Catchment Classification System Based on Seasonality and Runoff Regime – *Coopersmith,* *Yaeger, Ye, Cheng, and Sivapalan.* Hydrology & Earth System Sciences. November, 2012, doi:10.5194/hess-16-4467-2012

Exploring the Physical Controls of Regional Patterns of Flow Duration Curves: Part 4 - A Synthesis of Empirical Analysis, Process Modeling, and Catchment Classification – *Yaeger,* ***Coopersmith****, Ye, Cheng, and Sivapalan.* Hydrology & Earth System Sciences. November, 2012, doi:10.5194/hess-16-4483-2012.

Understanding and Forecasting Hypoxia Using Machine Learning Algorithms – ***Coopersmith****, Minsker, and Montagna*, Journal of Hydroinformatics. 2011. doi:10.2166/hydro.2010.015

Publications In-Progress

Forecasting Coccidioidomycosis (Valley Fever) Incidence via Soil Moisture Conditions – ***Coopersmith****, Bell, Benedict, Shriber, McCotter, and Cosh.* Under internal review at the Centers for Disease Control.

Understanding Temporal Stability: A Long-Term Analysis of ARS Watersheds in the 21st Century – ***Coopersmith****, Cosh, and Jacobs.*

Estimating Point-Estimates of Gravimetric Soil Moisture with Machine Learning, Part I: An analysis during SMEX04 and SMAPVEX15 – ***Coopersmith****, Cosh, and Jacobs*

Estimating Point-Estimates of Gravimetric Soil Moisture with Machine Learning, Part II: How "close" must *in situ* sensors be? An analysis during SMEX04 and SMAPVEX15 – ***Coopersmith****, Cosh, and Jacobs*