

Perry E. Cabot

Research Scientist and Extension Water Resources Specialist
Colorado Water Institute and CSU Extension, Colorado State University
Office: (970) 434-3264 x 203 | perry.cabot@colostate.edu

a. Education

<u>Institution</u>	<u>Degree</u>	<u>Year</u>
University of Wisconsin-Madison	Ph.D., Agricultural Engineering and Land Resources	2006
University of Illinois at Urbana-Champaign	M.S., Environmental Engineering	1999
Colorado State University	B.S., Civil Engineering	1994

b. Academic Positions

- 2014-present Research Scientist/Scholar II, Colorado Water Institute, CSU Extension and CSU Agricultural Experiment Station
- 2011-present Research Scientist/Scholar II, Colorado Water Institute, CSU Extension
- 2009 Fulbright Scholar and Lecturer, University of Zambia
- 2008-2011 Regional Specialist, Colorado Water Institute, CSU Extension
- 2006-2007 Post-Doctoral Research Associate. University of Wisconsin-Madison.
- 2000 Research Associate. University of Illinois at Urbana-Champaign.

Private Sector

- Registered Professional Engineer, Wisconsin (#38117-006)
- 1995-1997 Project Manager/Design Engineer. Sear-Brown Group. Ft. Collins, CO
- 1994-1995 Design Engineer/Surveyor. RBD Engineering Consultants. Ft. Collins, CO

c. Refereed Publications (2011 – present)

- Lakshminarayanan, A. D.B. Olsen and **P.E. Cabot**. 2014. Engine Performance Testing, Fuels Evaluation, and Enterprise Budgeting for a Simplified Approach to Diesel Biofuel. *Applied Engineering in Agriculture*.
- Drenth, A., D. B. Olsen, **P. E Cabot**, J. J. Johnson. 2014. Compression Ignition Engine Performance and Emission Evaluation of Industrial Oilseed Biofuel Feedstocks Camelina, Carinata, and Pennycress across Three Fuel Pathways. *Fuel*.
- Hall, C.D, **P.E. Cabot** and M.F. Quigley. *In Review*. The Effect of Planting Date and Irrigation on the Establishment of an Herbaceous Community. *Restoration Ecology*.

d. Non-Refereed Publications (2011 – present)

- Moore, C.D., G. Richard and **P.E. Cabot**. 2016. Floating Wetland Systems Managing Aquatic Plants as a Selenium Sequestration Strategy. *Colorado Water*. 33(2):10-12.
- Coleman, C., J.R. Poppleton, **P.E. Cabot**, J. Clary, K. Fefes, B. O'Brien, H. Piza and R. Waskom. 2016. Citizen's Guide to Water Conservation. Denver, Colorado: Colorado Foundation for Water Education.
- **Cabot, P.E.**, C.C. Olson, R.M. Waskom and K.G. Rein. Rainwater Collection in Colorado. CSU Extension Fact Sheet 6.707.

e. Manuscripts/Publications reviewed

- Keske, C.M.H., C. H. Pearson, D. L. Hoag and A. Brandess. 2014. TR14-3 Western Colorado Biomass Budget Generator.
- Smith, J.L. and J.P. Workman. 2014. CSU Extension Fact Sheet. 5.010 Alcohol for Motor Fuels.

f. Research and Extension Presentations (2011 – present)

- Colorado Water Bank Field Research. 2016. Colorado Water Congress. Steamboat Springs, CO. August 24, 2016.
- Pesticide Applicator Workgroup (108 Aquatic Pest Control Session). Overview of the “Water of the United States” Rule. Montrose, CO. February 17, 2016.
- Compact Water Bank Studies in Western Colorado. Southwest Colorado Research Center Conference. Cortez, CO. February 3, 2016.
- Water Bank Workgroup. “Phase IIC Water Bank Project Update at Colorado Water Congress.” Denver, CO. January 26, 2016.
- CSU Agricultural Experiment Station. “Western Slope Research Update.” Ft. Collins, CO. January 6, 2016.
- Southwest Agricultural Seminar. “Exploring Innovation and Efficiencies.” Cortez, CO. December 4, 2015.
- American Water Resources Association Annual Water Resources Conference. “Agronomic Responses of Grass and Alfalfa Hayfields to No and Partial Season Irrigation as Part of a Potential Colorado Western Slope Water Bank” with Joe Brummer, Lyndsay Jones, Calvin Pearson and Abdel Berrada. Denver, CO. November 19, 2015.
- Climate Change in Western Colorado Panel (sponsored by Valley Organic Growers Association). “What Global Warming means for Farming, Food Security, and the Western Slope.” Paonia, CO. November 2, 2015.
- Upper Colorado River Basin Water Forum. “Update on No Chico Brush Agricultural Irrigation Efficiency Project.” Grand Junction, CO. October 28, 2015.
- Upper Colorado River Basin Water Forum. “Update on Colorado Water Bank Project: First Year of Results on Agronomic Impacts and Measurements of Water Savings.” Grand Junction, CO. October 29, 2015.
- Water Bank Workgroup. “Phase IIC Water Bank Project Update at Colorado Water Congress.” Vail, CO. August 19, 2015.
- Invited Speaker. New Faculty Ram Tour. “Western Slope Water Issues.” Palisade, CO. August 13, 2015.
- Technical Challenges in Agricultural (and Food Production) Water Conservation. 2015. Martz Summer Conference. Getches-Wilkinson Center and CU-Boulder School of Law. Boulder, CO. June 11, 2015.
- Growing Agriculture by Applying Science and Technology. 2015. 40th Annual Western Water Workshop. Western State Colorado University. Gunnison, CO. June 24, 2015
- Western Region Extension Advisory Meeting. “Agricultural Field Studies: Estimates of Conserved Consumptive Use and Saved Water.” Craig, CO. April 22, 2015.
- Uncompaghre Valley Water Users Association Annual Meeting. Montrose, CO. February 3, 2015.
- Annual Soil Health Conference. Montrose, CO. January 30, 2015.
- Annual Ag Day in New Castle, CO. January 28, 2015.

- Colorado Basin Roundtable. “Irrigation Efficiency and Conservation: Can agriculture be efficient? Can it be sustained?” Glenwood Springs, CO. October 27, 2014.
- Colorado River District Annual Seminar. “Irrigation Efficiency and Conservation: Can agriculture be efficient? Can it be sustained?” Grand Junction, CO. September 19, 2014.
- Creative Water Arrangements: The Future of Colorado Agriculture. 39th Annual Colorado Water Workshop: The People's Water. Gunnison, CO. June 18, 2014.
- Discussing Colorado’s Water Plan: Conceptualizing an Agricultural Water “Gap.” 2014 National Crop Insurance Services Meeting. Denver, CO. January 9, 2014.
- Colorado Counties Incorporated. Colorado Springs, CO. December 23, 2013.
- Conservation Reserve Enhancement Program: Native Vegetation Evaluation and Guide. Rio Grande Basin Roundtable. Alamosa, CO. November 12, 2013.
- Canola for Biofuel in the Lower Arkansas Valley of Colorado. Yuma County Economic Development Council. Yuma, CO. October 7, 2013.
- Joyful Noise “Walk with the Farmer” event. Black Forest, CO. August 18, 2013
- Southeastern Colorado Water Conservancy District. Pueblo, CO. May 26, 2013.
- Arkansas River Basin Water Forum. Walsenburg, CO. April 23-25, 2013.
- Bessemer Ditch Board of Directors. Vineland, CO. February 9, 2013.
- Colorado Ag Leadership Seminar. Pueblo, CO. November 8, 2012.
- Technical Issues Associated with Fallowing of Cropland. Ag Fallowing Policy Dialog Presentation. Denver, CO. October 23, 2012.
- Colorado State University responses to long-term drought in Colorado. Long-Term Drought Response Conference. Pueblo, CO. October 15, 2012.
- Engaging the Public in Water Education and Stewardship: Examples from the Arkansas Basin. Sustaining Colorado Watersheds Conference. Avon, CO. October 10, 2012.
- Voluntary Baseline Groundwater Quality Sampling. Huerfano County Well Testing Workshop. La Veta, CO. October 2, 2012.
- Irrigation Assessment Tools: The Lawn Irrigation Self Audit (LISA). Efficient Irrigation Workshop. Pueblo, CO. April 14, 2012.
- Educating in Challenging Climates: Drought Education Since 2002. Western Water Workshop. Gunnison, CO. July 18, 2012.
- Energy & Water Conservation through Irrigation System Evaluation & Water Management. Southern Rocky Mountain Agricultural Conference and Trade Fair. February 9, 2012.
- A Yearlong Event Series to Educate and Engage the Public on the History and Future of Water Management in the Arkansas Basin. Ark Valley Farm/Ranch/Water Symposium & Trade Show. Rocky Ford, CO. Feb 2, 2012.
- Effects of Land Fallowing and Water Rights Leasing on Crop Yield, Nutrient Needs and Management. Super Ditch Workshop and Presentation. Rocky Ford, CO. January 6, 2012.
- Arkansas River Basin Water Forum. Colorado Springs, CO. April 27-28, 2011.

g. Extension Tours, Workshops and Field Days

- Pepsi Co Tour with The Nature Conservancy. Montrose, CO. July 21, 2016.
- Apprentice Master Gardener Workshop. Irrigation Section. Rifle, CO. April 7, 2016.
- Western Horticultural Society. “Western Slope Water Issues.” Grand Junction, CO. January 19, 2016.

- No Chico Brush Event. “Irrigation Efficiency Research in the Lower Gunnison Basin and 2016 CWCB-ATM-WSRA Update” for No Chico Brush Project. Montrose, CO. January 12, 2016.
- Western Slope Water Bank Workgroup Tour. Grand Junction, CO. July 20, 2015.
- Four States Agricultural Exposition: Water Workshop. Cortez, CO. March 20, 2015.
- Presentation to Ukrainian Faculty Visitors. Grand Junction, CO. August 11, 2015.
- Colorado River District. Annual Field Tour. Delta, CO. September 11, 2015.
- Colorado Foundation for Water Education Mini-Tour. Palisade, CO. July 24, 2015.
- Water Resources Research Site Mini-Tour (sponsored by The Nature Conservancy). Delta, CO. October 6, 2015.
- Practical Crop Production Irrigation practices AGRS 100 Course at Western Colorado Community College. Delta, CO. October 17, 2015.
- NoChicoBrush Outreach Event in Montrose, CO. February 26, 2015.
- NoChicoBrush Outreach Event in Hotchkiss, CO. February 19, 2015.
- 2015 Water Course: Water for Agriculture in Grand Junction, CO. February 18, 2015.
- Student Water Field Conference. Grand Junction, CO. September 28, 2014.
- Eagle County Workshop. “Irrigation Efficiency and Conservation: Can agriculture be efficient? Can it be sustained?” Eagle, CO. September 19, 2014.
- Fountain Creek meeting for Colorado Open Lands Project in Fountain, CO. February 25, 2013.
- Middle Colorado Watershed Council Private Well Workshop in Glenwood Springs, CO. September 3, 2014.
- Water 2012 “Careers in Water” Event at CSU-Pueblo. Pueblo, CO. October 25, 2012.
- Huerfano County Well Testing Workshop. La Veta, CO. October 2, 2012.
- COAGMET Workshop. Arkansas Groundwater Users Assoc. Pueblo, CO. August 17, 2012.
- Extension Water Team Tour. Salida, CO. July 25-26, 2012.
- Drought Preparedness Workshop. Pueblo, CO. May 15, 2012.
- Arkansas River Basin Water Forum. Leadville, CO. April 25-26, 2012
- Earth Day Clean-Up Event. Fountain, CO. April 21, 2012.
- Efficient Irrigation Workshop. Pueblo, CO. April 14, 2012.
- Community Forum for Citizens for Huerfano County. Walsenburg, CO March 15, 2012.
- Super Ditch Workshop and Presentation. Rocky Ford, CO. January 6, 2012
- Streamside Science Workshop. January 2, 2012.
- Sediment Collector Naming Contest. Pueblo, CO. June 29, 2011.
- Corn-Fallow Workshop. Rocky Ford, CO. May 8, 2011
- Revegetation Field Day at Zapata Farms. Hooper, CO. June 29, 2011.

h. Synergistic Activities

- Vice-Chairperson. Colorado Foundation for Water Education Program Committee.
- Co-Leader (with José Chavez) for Extension Water Resources Team.
- Co-Chairperson. Valuing Colorado's Agriculture: A Workshop for Water Policy Makers. Cheyenne Mountain Resort. Colorado Springs, CO. October 7, 2013.
- Co-Chairperson and Treasurer. Arkansas River Basin Water Forum. 2009-2013.
- Arkansas River Basin Water Forum recognition award for service between 2004-2014

- Research Assistant Professor, Department of Civil Engineering. 2011-present
- Lecturer. Colorado State University-Pueblo.
- Lecturer. Colorado Mesa University and Western Colorado Community College.

i. Current Projects and Funding

- Colorado Water Conservation Board. Colorado Water Bank: Agricultural Field Studies and Estimates of Saved Consumptive Use. 01/01/2015 – 01/01/2017. \$300,000.
- Colorado Water Conservation Board. No Chico Brush Agricultural Water Research Project. 2015-2018. \$90,000.
- Colorado Water Conservation Board. A farmer-led initiative to quantify and demonstrate irrigation efficiencies at farm-scales through instrumented water budgeting. 2015-2018. \$173,080.

j. Major Ongoing Extension Activities

- *Mobile Oilseed Crushing Press*. Join with Colorado Mesa University and University of Colorado. Unconventional Energy Program. Design and Fabrication of a Small-Scale Oilseed Processing System to Produce Feedstock for Diesel Biofuels. Supported \$48,059.
- *Lawn Irrigation Self-Audit Program*. Funded by Colorado Water Conservation Board. Multi-Media Program for Reporting Crop and Turf Water Use Estimates from the Colorado Agricultural Meteorological Network (CoAgMet). Supported \$46,971.

k. Graduate Student Committees

- Committee Co-Chair – M.S. (expected Fall 2016). Amandeep Vashisht, Colorado State University, Department of Civil Engineering.
- Committee Co-Chair – M.S. (expected May 2017). Sumit Gautam, Colorado State University, Department of Civil Engineering.
- Committee Member – Ph.D. (expected 2017). Arunachalam Lakshminarayanan, Colorado State University, Department of Mechanical Engineering.
- Committee Member – Ph.D (graduated May 2015). Aaron Drenth, Colorado State University, Department of Mechanical Engineering. Dissertation Title “Analysis of Industrial Oilseeds: Production, Conversion to Biofuels, And Engine Performance From Large to Small Scale.”
- Committee Member – M.S. (graduated May 2015). Lyndsay Jones, Colorado State University, Department of Soil and Crop Sciences. Thesis Title “Agronomic Responses of Grass and Alfalfa Hayfields to No and Partial Season Irrigation as Part of a Western Slope Water Bank.”
- Committee Member – M.S. (graduated Fall 2012). Kim Schott, CSU-Pueblo, Department of Biology. Thesis Title “The Effects of the Kerber Creek Restoration Project on Fisheries in Kerber Creek, Saguache County, Colorado.”
- Committee Member – M.S. (graduated Fall 2012) Scott Winter, CU – Colorado Springs, Department of Department of Geography and Environmental Studies. Thesis Title “Spatial Modeling of Residential Water Demand in Colorado Springs between 2000 and 2009.:
- Committee Member – M.S. (graduated Spring 2013) Courtney Hall, University of Denver, Department of Biological Sciences. Thesis Title “Soil Stability and Resistance to Invasion of Restored Short-Grass Prairie.”

I. Completed Projects and Funding

- Colorado Water Institute. Using remote sensing assessments to document historical and current saved consumptive use (CU) on alfalfa and grass hayfields managed under reduced and full irrigation regimes: A new CU documentation system. \$50,000.
- Colorado Mesa University. Unconventional Energy Program. Design and Fabrication of a Small-Scale Oilseed Processing System to Produce Feedstock for Diesel Biofuels. \$48,059.
- Arkansas Groundwater Users Association and CWCB. Multi-Media Program for Reporting Crop and Turf Water Use Estimates from the Colorado Agricultural Meteorological Network (CoAgMet). \$46,971.
- CSU Extension Natural Resources Planning and Reporting Unit. (Mr. Mark Platten and Ms. Irene Shonle). Landscape Irrigation Self-Audit. \$1,800.
- Colorado Water Institute. FY 15-16 Student Water Research Proposal (with Dr. Gigi Richard at Colorado Mesa University). Floating Wetlands Systems: Managing Aquatic Plants as a Salt and Sequestration Strategy. \$5,000.
- Colorado Water Institute. (Prof. Joe Brummer). Agronomic Responses to Partial and Full Season Fallowing of Alfalfa and Grass Hayfields. \$46,127.
- Colorado Water Conservation Board. Agricultural Weather Data Delivery Improvements to Uncompahgre Valley Irrigators. \$112,347.
- Colorado Water Conservation Board. Agricultural Economics and Water Resources: Methods, Metrics and Models – A Specialty Workshop. \$9,746.
- USDA-NIFA. Huerfano County Well-Testing Program. Funded under Water Research, Outreach, and Teaching in the Northern Plains and Mountains Region Project.
- Colorado Department of Agriculture. Engine performance testing, fuels evaluation, and enterprise budgeting for a simplified approach to diesel biofuel. \$48,952.
- Colorado Water Conservation Board, City of Aurora, Lower Arkansas Valley Water Conservancy District. The Effect of Land Fallowing and Water Rights Leasing on Corn Yield, Nutrient Needs and Economics in the Lower Arkansas River Valley of Colorado. Arkansas Basin. \$104,990.
- Natural Resources Conservation Service. Strategies for Rotational and Permanent Fallowing of Previously Irrigated Cropland Under Groundwater Pumping Restrictions in the San Luis Valley. \$24,306.
- Water 2012 Event Series. Regional chairperson for a Water 2012 consortium among the Lower Arkansas Valley Water Conservancy District, Upper Arkansas Water Conservancy District, Southeastern Colorado Water Conservancy District, Colorado Springs Utilities, Pueblo Board of Water Works and the Colorado Water Conservation Board. The campaign accomplished the following: 1) “Written in Water” yearlong series (52 weeks) with Mr. Chris Woodka and Mrs. Carla Quezada (Lower Arkansas Valley Water Conservancy District) in The Pueblo Chieftain; 2) Water 2012 video (3:35) posted at <http://vimeo.com/37191829> with 4,890 views; 3) Development of a “Google Earth Flyover” at <http://www.secwcd.org/content/video-audio-clips>; 4) Partnership with the Center for New Media and Pueblo Community College for Roundtable interviews with notable water experts at <http://www.secwcd.org/content/video-audio-clips>; 5) “Careers in Water” Event hosted at CSU-Pueblo in coordination with Campus Career Center.