COLORADO WATER INSTITUTE

About CWI

Colorado water managers and users must contend with the fickle nature of weather and climate, the allocation of limited water among competing sectors of Colorado's economy and environment, and the demands of thirsty downstream states. CWI works closely with Colorado water managers and users to develop sound science to assist water managers in reducing conflict among water users. CWI facilitates the transfer of new water knowledge to water managers and assists in educating the next generation of Colorado water managers by working with all Colorado institutions of higher education.

Research

CWI, an affiliate of Colorado State University (CSU), exists for the express purpose of focusing the water expertise of higher education on the evolving water concerns and problems being faced by Colorado citizens. We are housed on the campus of CSU but work closely with all institutions of higher education in Colorado. CWI coordinates research efforts with local, state, and national agencies and organizations. Recent state funding allowed CWI to fund research projects at CSU, the University of Colorado, and Colorado School of Mines.

Outreach/Information Transfer

CWI publications include research reports, the *Water in the Balance* series, and *Colorado Water*, a bimonthly newsletter containing information on research, faculty, conferences and other events with a water focus. Outreach activities are conducted in conjunction with CSU Cooperative Extension, the U.S. Department of Agriculture, the Colorado Department of Agriculture, the Environmental Protection Agency, and Cooperative State Research, Education and Extension Service.

Training

One of CWI's primary missions is to facilitate the training and education of university students. To this end, CWI works with the U.S. Geological Survey to place student interns in positions, funds student research grants, and manages scholarships on behalf of students.

Highlights
Response to State Needs

Agricultural Water Conservation

The Agricultural Water Conservation Clearing house Project is a joint collaboration between CWI, CWCB, CSREES, Western Regional Water Program, and CSU Libraries. The project's goals are to increase access to information that will help build collaborative relationships between and among regional and national agencies, provide technical expertise regarding agricultural water conservation, and offer detailed information on the management, policies, and laws regarding ag water conservation. www.agwaterconservation.colostate.edu/.

Colorado River Flow Forecasting

A unique partnership between CWI and the Colorado River Water Conservation District generated a project to conduct "Hydrologic Analysis, Forecasting, and Simulation of the Upper Colorado River System." The report (CR208) is available online at www.cwi.colostate.edu.

K-12 Water Education

Walking Through the Water Year (WTWY) is a collaborative water education initiative managed by the CSU Colorado Climate Center and Colorado Water Institute and the Poudre School District (PSD). PSD Channel 10 broadcasts TV/web ready videos and DVDs called "The Water Report" to supplement K-12 water education in the classroom. www.psd.k12.co.us/services/channel10/wtwy.aspx

Arkansas Valley Salinity

CWI water researchers are working with local legislators and water leaders to find ways to alleviate crop yield reductions due to salinity.

Lysimeter

State of Colorado, USDA/ARS, and Colorado State University are working together to install and instrument two scientifically sound large weighing lysimeters in the Arkansas Valley in support of the Arkansas River Compact settlement.

Colorado State University

Current Faculty Research Projects

Hydrologic Analysis and Process-Based Modeling for the Upper Cache la Poudre Basin
Stephanie Kampf, Colorado State University

Adjoint Modeling to Quantify Stream Flow Changes Due to Aquifer Pumping
Roseanna Neupauer, University of Colorado

Determination of Consumptive Water Use by Alfalfa in Arkansas Valley
Lee Sommers, Colorado State University

Assessing the Relative Costs/Values of New Water Supply Options
Douglas Kenney, University of Colorado

Estimating the Cost Effectiveness of Water Conservation Programs
Chris Goemans, Colorado State University

Adaptive Management of Zebra and Quagga Mussels in Colorado
Craig Bond, Colorado State University

Willow Creek Water Quality Study
John Stednick, Colorado State University

Data Analysis and Final Report of the Nature and Implications of Irrigation Practices in Colorado's Lower Arkansas River Valley
Timothy Gates, Colorado State University

Agricultural Water Conservation Clearinghouse
Reagan Waskom, Colorado State University

New Methods for Sago Pondweed Management
Scott Nissen, Colorado State University

Paleohydrology of the Lower Colorado River Basin
Rajagopalan Balaji, University of Colorado

Current Internships

OMS Internship
Robert S. Regan, U.S. Department of Agriculture

GEOLEM Internship
Roland Viger, U.S. Department of Agriculture

CWCB Internship
Craig Godbout, Colorado State University

Current Student Research Projects

Understanding the Hydrologic Factors Affecting the Growth of the Nuisance Diatom *Didymosphenia Geminata* in Rivers
James Cullis, University of Colorado

Developing Barriers to the Upstream Migration of New Zealand Mudsnail (*Potamopyrgus Antipodarum*) Phase III
Scott Hoyer, Colorado State University

High Resolution Soil Moisture Retrieval in the Platte River Watersheds
Chengmin Hsu, University of Colorado

Bear Creek Watershed Project
Kim Gortz-Reaves, University of Colorado

Potential Changes in Groundwater Acquisition by Native Phreatophytes in Response to Climate Change
Julie Kray, Colorado State University

Impact of Limited Irrigation on Health of Four Common Shrub Species
Jason Smith, Colorado State University

Shear Resistance of the Nuisance Diatom *Didymosphenia Geminata*
James Cullis, University of Colorado

Impact of Limited Irrigation on Health of Four Common Shrub Species
Jason Smith, Colorado State University

Evaluation of Herbicide Combinations for Control of Sago Pondweed (*Stukenia pectinata*) in Irrigation Canals
Joseph Vassios, Colorado State University

CWI Staff

Reagan M. Waskom, Director
Nancy J. Grice, Assistant to the Director
Julie A. Kallenberger, Research Associate
Laurie Schmidt, Editor
MaryLou M. Smith, Research Associate
Faith R. Sternlieb, Research Associate

Contact Information

Colorado State University
E102 Engineering Building
Fort Collins, CO 80523-1033
Phone: 970-491-6308 Fax: 970-491-1636

Colorado Water Institute Advisory Committee on Water Research Policy

Jim Broderick
Executive Director, Southeastern Colorado Water Conservancy District

Ralph Curtis
Rio Grande Water Conservation District

Representative Randy Fischer
Colorado State House of Representatives Chair, House Agriculture, Livestock and Natural Resources Committee

Steve Gunderson
Director, Water Quality Division, Department of Public Health and Environment

Senator Mary Hodge
Colorado State Senate
Senate Agriculture, Natural Resources and Energy Committee

James Kircher
Director, Colorado Water Science Center, USGS

Eric Kuhn
General Manager, Colorado River Water Conservation District

James Martin
Colorado Department of Natural Resources

Dan McAuliffe
Colorado Water Conservation Board

Chris Piper
Public Relations, Denver Water

John Porter
Southwestern Water Conservation District

David Robbins Esq.
Attorney, Hill and Robbins

John Stulp
Commissioner, Department of Agriculture

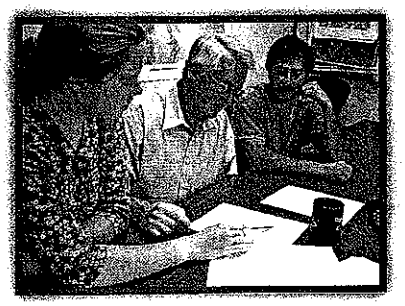
Eric Wilkinson
General Manager, Northern Colorado Water Conservancy District

Ex Officio Members:

Jeff Jahnke
Director, Colorado State Forest Service

Lee Sommers
Director, Colorado Agricultural Experiment Station

Deborah Young
Director, Cooperative Extension



Recent Publications

Transport Relationships Between Bedload Traps and a 3-Inch Helley-Smith Sampler in Coarse Gravel-Bed Streams and Development of Adjustment Functions by Kristin Bunte and Steven R. Abt (December 2009).

Development of Characterization Approaches and a Management Tool for the Ground Water-Surface Water System in the Vicinity of Sutherland Reservoir and Gerald Gentlemen Station Lincoln County, Nebraska by Clint P. Carney and Eileen P. Poeter (October 2009).

Development of Oilseed Crops for Biodiesel Production under Colorado Limited Irrigation Conditions by Jerry Johnson, Jean-Nicolas Enjalbert, Joel Schneekloth, Alan Helm, Ravi Malhotra, and Daren Coonrod (April 2009).

Occurrence and Fate of Trace Organic Contaminants in Onsite Wastewater Treatment Systems and Implications for Water Quality Management by Kathleen E. Conn and Robert L. Siegrist (March 2009).

Public Perceptions, Preferences and Values for Water in the West: A Survey of Western and Colorado Residents by James Pritchett, Alan Bright, Andrea Shortsleeve, Jennifer Thorvaldson, Troy Bauder and Reagan Waskom (January 2009).

Agricultural Chemicals and Groundwater Protection in Colorado 1990-2006 by Troy Bauder, Reagan Waskom, Rob Wawrzynski, Karl Mauch, and Greg Naugle (June 2008).

Some Economic Effects of Changing Augmentation Rules in Colorado's Lower South Platte Basin: Producer Survey and Regional Economic Impact Analysis by Jennifer Thorvaldson and James Pritchett (July 2007).

On the web: http://cwi.colostate.edu

The National Institutes for Water Resources

What are the Water Resources Research Institutes?

The Water Resources Research Institutes represent cooperative agreements between public universities and federal and state government that engender lasting partnerships among state universities; federal, state, and local governments; businesses and industries; and non-governmental organizations aimed at solving problems of water supply and water quality at local, state, regional, and national levels.

At the land grant university of each state, a small federal grant provides base support for a program that identifies water resources research needs, finds university researchers capable of conducting useful research, and leverages federal funds with state and other resources to sponsor the needed investigations. More importantly, the modest federal grant creates an environment that encourages the other partners to incorporate science into their efforts and fund additional research in ways that might not occur without the aegis of the federal grant. Some of these programs are free-standing university institutes; others are subunits within university departments or cross-discipline research entities. NIWR networks these separate institutes into a coordinated unit represented by eight regional groupings, as indicated in the map below and functioning through NIWR.

The State Water Resources Research Institute Program is administered by the U.S. Department of the Interior through the U.S. Geological Survey. Program contact:

John E. Schefter, Chief, Office of External Research
MS 424 Water Resources Discipline, U.S. Geological Survey
12201 Sunrise Valley Drive, Reston, VA 20192
Phone: (703) 648-6800; Fax: (702) 648-5070
Email: schefter@usgs.gov
http://water.usgs.gov/wrri/