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TWENTY-THIRD HYDROLOGY DAYS
March 31 – April 2, 2003



Dedicated to
José D. Salas
Borland Professor of Hydrology and Water Resources
and Professor of Civil Engineering
Civil Engineering Department
Colorado State University

In recognition of his significant contributions to water resource and hydrologic science and engineering; flood prediction, forecasting and control; regional drought analysis, prediction, and management; modeling of hydro-climatic processes exhibiting shifting level patterns; modeling and simulation of periodic stochastic hydrologic processes; regional frequency analysis of extreme events; and the estimation of return periods and risk for dependent hydrologic processes.

LIST OF ACCEPTED ABSTRACTS¹

Linking drought research to water resource management actions

Professor John A. Dracup, Department of Civil and Environmental Engineering,
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Scale Dependence Of Dispersivity Estimated From Temporal Moments In Heterogeneous Porous Media

Daniel Fernández-Garcia, Tissa H. Illangasekare, Environmental Science And Engineering
Division, Colorado School Of Mines. Harihar Rajaram, Department Of Civil,
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Short Comings in Applying Regional Hydraulic and Morphologic Databases in Natural Channel Design Projects

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Limiting Source Dimensions of Three-Dimensional Analytical Point Source Model for Solute Transport

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Oklahoma, Musharraf Zaman, PhD, University of Oklahoma

Collecting continuous flow data on headwater reaches of the Little Snake River, Colorado

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Collins, CO, Brian P. Bledsoe, Civil Engineering Department, Colorado State University,
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Process controls on stream and river channel width

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Analysis of short-time single-ring infiltration under falling-head conditions with gravitational effects

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¹ As of February 22, 2003

Electrically Induced Redox Barriers (e⁻barriers) - Borden Field Experiment

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The Application of Quantitative Assessment of Land Use Changes Impact on Water Conservation for Reservoir Watershed

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Application of TOPMODEL in the Distributed Model Intercomparison Project (DMIP)

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Effective discharge determination

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Development of theoretically based design criteria for a porous V-weir

Chance J. Bitner, Hydraulics Division, Department of Civil Engineering, Colorado State University, Christopher I. Thornton, Hydraulics Division, Department of Civil Engineering, Colorado State University

On the probabilistic characterization of drought events

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Cellular automata models of particle interactions in sediment entrainment

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Variation of bedload rating and flow competence curves with stream and bed material parameters

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Calibrated Groundwater Flow and Salinity Transport Modeling in the Lower Arkansas River Basin of Colorado

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Shear stress distributions in streams with high bank roughness

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GIS Database Implementation for San Antonio River Authority

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An Objective Method for the Intercomparison of Terrain Stability Models and Incorporation of Parameter Uncertainty

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Information Content in Transient Drawdown Data

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Predicting the Spatial Distribution of Fine Sediment In Stream Networks

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Natural And Surfactant Enhanced Dissolution Of Field DNAPLs

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Severe Drought: A Review of the 2002 Water Year in Colorado

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Drought In An Evolutionary Context: Molecular Evidence From Endemic Colorado River Fishes In Western North America

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Long-term effects of dam removal on aquatic biodiversity of the Colorado River

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Effect of performance of Canal System in Ganges

Kobadak and Pabna integrated rural development project on poverty. S.H.M.Fakhruddin
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Spatial and temporal snowpack variation for the Salt River in Arizona

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Improving MODFLOW's RIVER Package for Unsaturated Stream/Aquifer Flow

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Estimating Streambed and Aquifer Parameters from a Stream/Aquifer Analysis Test

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Real Time Monitoring of NAPL Sources Using Photon Attenuation Techniques on Chlorinated Solvents

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Using CFD to Define the Hydraulic Zone of Influence at Cooling Water Intake Structures

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Microbially Influenced Mass Transfer from Entrapped Pools of Non-Aqueous Phase Tetrachloroethene: Preliminary Results of Small Flow-Cell Experiments

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Water Release from Cross-linked Polyacrylamide

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Drought and Water Policy: Implications for Colorado

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Engineering Design Parameter Of Storms In Venezuela

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Modeling the Influence of Irrigated Agriculture on Selenium Levels in the Uncompahgre River in Western Colorado

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Development of a Technique for Analyzing ^{15}N in Waters with Low Nitrate Content

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Fine Sediment Dynamics in the Upper Colorado River During Spring Runoff and Summer Baseflows: Implications for Flow Recommendations and Biological Productivity

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Island Ageing and Dynamics in the Snake River, Western Idaho, USA

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Use of Chemical Oxidation to Reduce Rate-Limited Matrix Diffusion of PCE from Low Permeability Materials – A Numerical Study

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Is Pan Evaporation Decreasing Across the Conterminous United States? If it is, so what?

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Use of a Rainfall Simulator to Assess Controls on Post-Fire Runoff and Sediment Production, Colorado Front Range

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Assessment of Phosphorus Distribution in a Drought-Impacted Reservoir and Recommendations for Potentially Mitigating Eutrophication Concerns

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Inter-comparison of spatial estimation schemes for precipitation and temperature in hydrologic modeling

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A method of conducting Watershed Scale Sediment Impact Assessments for two highly erodible basins in Northern Mississippi :Implications for phosphorus loading and water quality.

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History Of Hydraulics and Fluid Mechanics At Colorado State University

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2002 Municipal Response To Drought In The Colorado Front Range

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Mass transfer characteristics of entrapped DNAPL during surfactant flushing in two-dimensional flow field.

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Streamflow and sediment yield following the 2000 Bobcat fire, Colorado Front Range

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Depicting channel reaches at sub-link scales using digital elevation models

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Factors affecting predictions of stream reach morphology using remotely sensed data: implications for restoration and habitat evaluation

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Effects of Drought on Antibiotic Occurrence and Water Quality in a River Influenced by Urban and Agricultural Activity

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GIS-based temperature interpolation for distributed modeling of reference evapotranspiration

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Effects of the Hayman Fire and Thinning on Sediment Production Rates, Channel Morphology, and Water Quality

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Coping with Droughts: Region-wide Reservoir Storage estimation for efficient Water Management, and Drought Mitigation

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Habitat Improvement Techniques for Aquatic Fishery: Application Experiences at Ta-Chia River in Taiwan

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Climate, Water Resources, and Environmental Sustainability: Ensuring Adequate Water Supplies in the 21st Century.

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Application of Physical Principles of the Unit Hydrograph Method in Characterizing Streamflows for River Restoration and Management

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South Platte River at Globeville Physical Model

Peter M. McCarthy, Thomas E. Brisbane, and Steven R. Abt, Hydraulics Program, Civil Engineering Department, Colorado State University, Fort Collins

Spatial Relations Between Soil Electrical Conductivity and Soil Water Content, Texture, and Chemistry

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Preliminary Analysis Of Sediment Transport Capacity In The Colorado Plateau

Robert T. Milhous, Fort Collins Science Center. U.S. Geological Survey.

Criteria For Risk Evaluation In Groundwater Management Projects: A Comparative Study

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Influence Of Pool Morphology On The Performance Of The Pitt For DNAPL Characterization

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Identification of the Ordinary High-Water Mark of the Snake River, Western Idaho, USA

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Common themes in channel design failure: Case studies from southern Ontario

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Electrically Induced Redox Barriers for the Treatment of Ground Water – Warren AFB Field Experiment

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Investigation of the Hydraulic Patterns in a Riffle using Three-Dimensional Velocity Characteristics

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Drought in Colorado -Where are we in 2003?

Roger A. Pielke, Sr., Department of Atmospheric Science, Colorado State University, Fort Collins, Colorado - Colorado State Climatologist

Post-Fire Erosion in the Colorado Front Range: Rates and Recovery

Joseph H. Pietraszek and Lee H. MacDonald, Watershed Science Academic Program, Forest, Range, and Watershed Stewardship Dept., Colorado State University, Fort Collins, Juan de D. Benavides-Solorio, National Council of Science and Technology, Guadalajara, Mexico

Analyzing nonvolatile organic disinfection by-products using gas chromatography/mass spectrometry

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AFCEE Source Zone Initiative- Technical Assistance To FE Warren, NAS Fort Worth & AFP 4

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Drought, fire and forests – lessons from 1851 and 2002

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Effectiveness of BAER treatments in the Bobcat, Hayman, and Schoonover Fires

Daniella T.M. Rough, Lee H. MacDonald, and Joseph W. Wagenbrenner, Watershed Science Program, College of Natural Resources, Colorado State University, Fort Collins, CO 80523

Relative Effects of Lithology on Fine Sediment Deposition In the Coast Range of Oregon

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Consequences of Incomplete Remediation of the DNAPL-Contaminated Aquifers: Intermediate-Scale Experiments and Numerical Modeling Studies

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Progress in Stochastic Analysis, Modeling, and Simulation: SAMS-2003

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Predicting Flow Regime for Ungauged Streams in the Western United States

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Storage analysis using stochastic nonparametric streamflow simulation: Case study of the proposed Seaman reservoir expansion in Northern Colorado

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One-Dimensional Column Studies of Emulsified Vegetable Oil for Dense Non-Aqueous Phase Liquid Subsurface Remediation

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The Axis of Risk and Uncertainty in Hydrologic Design

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Characterizing the Dynamics of Droughts

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Aggregation scenarios to model water fluxes in watersheds with spatial changes in soil texture

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Effect of Forest Thinning on Soil Moisture after 12 Years

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Role Of Stream Stability And Channel Morphology In Controlling Phosphorus Export From Agricultural Watersheds

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Issues Of Heterogeneity, Characterization, Mass Transfer And Up-Scaling Associated With Partial Source Zone Treatment At DNAPL Contaminated Sites

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Parameter estimation technique for a water balance model and application to measured data

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DNAPL Dissolution in Random Heterogeneity Fields

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Mountain Floodplain Hydrologic Regime Alteration due to Beaver Activity

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An Investigation of the Downstream Effects of DNAPL Source Zone Remediation.

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Channel Remediation and Restoration Design for Silver Bow Creek, Butte Montana

C. Gary Wolff, Senior Engineer, Mussetter Engineering, Inc., Fort Collins, Colorado, Robert A. Mussetter, Principal Engineer, Mussetter Engineering, Inc., Fort Collins, Colorado, Bill Bucher, Senior Engineer, Maxim Technologies, Inc., Helena, Montana

Influence of Bedrock Geology on Water Quality in Selected Front Range Reservoirs

Julie Woodke, Department of Forest, Rangeland, and Watershed Stewardship, Colorado State University, Fort Collins

Vegetable Oil Delivery Techniques For Use As A Carbon Source In The Reductive Dechlorination Of Chlorinated Solvents In Saturated Porous Media

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Snow covered area images based representation of spatial distribution pattern of snow in a mountainous watershed

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