

Third Annual Symposium

RISE

Research Insights in
Semiarid Ecosystems

Recent research at the USDA-ARS Walnut Gulch Experimental Watershed (WGEW) and the University of Arizona Santa Rita Experimental Range (SRER)



RISE Program

University of Arizona, Tucson, Marley Building, Rm. 230
Saturday, 7 October 2006, 9:00 AM to 2:30 PM
Lunch and Poster Session, 11:00-1:00 PM
Registration Fee: \$7 Students; \$20 All Other (includes lunch)

Purpose: The objectives of the symposium are to share recent results of scientific research at WGEW and SRER, to encourage future research activities at the WGEW and the SRER, and to promote the WGEW and the SRER as outdoor scientific laboratories.

**3rd RISE Symposium (Research Insights in Semiarid Ecosystems)
7 October 2006**

Marley Building, Room 230

8:30-9:00	Registration	
9:00-9:10	Mitch McClaran and Susan Moran	RISE Welcome
9:10-9:30	Travis Huxman UA EEB	Ecosystem response to precipitation pulses on the Santa Rita Experimental Range
9:30-9:50	Jeannie McLain USDA ARS ALARC	Rangeland management practices alter trace gas (CO ₂ , N ₂ O, CH ₄) fluxes at the Santa Rita Experimental Range
9:50-10:10	George Ruyle UA SNR	Developing, Implementing and Monitoring an Adaptive Management Grazing Plan for the Santa Rita Experimental Range
10:10-10:30	Tim Keefer USDA ARS SWRC	Comparing two types of weighing recording precipitation gauges on Walnut Gulch Experimental Watershed
10:30-11:00	Poster introductions	<i>Poster abstracts provided by poster authors</i>
11:00-1:00	Poster Session (Accepting submissions)	<i>Authors will be with their posters in the hall outside the conference room</i>
12:00-1:00	Lunch w/ Posters	Provided at the meeting by RISE
1:00-1:20	Julio Betancourt USGS DL	On-going research at the Desert Laboratory and opportunities for collaboration
1:20-1:40	David D. Breshears, J.P. Field, C.B. Zou, and J.J. Whicker UA SNR & LANL	Wind and Water Erosion under Alternate Land Uses: Insights from Ongoing Research at the Santa Rita Experimental Range
1:40-2:00	Jeff Stone USDA ARS SWRC	Hydrologic comparison of a brush and a grass ecosystem at a range of scales at the Walnut Gulch Experimental Watershed
2:00-2:30	Discussion	All speakers and poster authors will be in attendance

Posters

P1	C. Tewksbury, J. Root, C. Tewksbury, S. Archer and C. McMurtry UA SNR	Woody Debris in Desert Grasslands?
P2	C. McDonald UA SNR	Restoring Native Semi-Arid Grassland Communities: Using Fire and Livestock Grazing to Reduce the Abundance of the Non-Native Lehmann Lovegrass
P3	H. Throop, S. Archer, C. McMurtry and M. McClaran UA SNR	Relationships between aboveground woody biomass and soil organic carbon in a semi-desert grassland
P4	S. Woods and M. Lanning UA SNR	Seedling establishment of woody plants: the first step in encroachment
P5	A. Nafus, M. McClaran and C. McMurtry UA SNR	Allometric equations to estimate biomass of perennial grasses
P6	F. Mashiri, M. McClaran and J. Fehmi UA SNR	Comparing short and long-term effects of grazing systems, precipitation and mesquite on grass dynamics

Posters (continued)

P7	S. Elliott Dartmouth College	Relative roles of plant-animal interactions for seedling recruitment in a water-limited environment
P8	C. Huang, S. Archer and S. Marsh UA SNR	A top-down approach to understanding the biotic and abiotic characteristics of stable semi-arid savanna ecosystems
P9	D. Browning and S. Archer UA SNR	Spatial patterns and trends in woody plant (<i>Prosopis velutina</i>) biomass under contrasting grazing practices (1932 – 2006)
P10	C. McMurtry, S. Archer, M. McClaran, D. Browning, and H. Throop UA SNR	Estimating <i>Prosopis velutina</i> aboveground biomass: field and remote sensing approaches
P11	E. Courtright, J. Herrick, B. Lavine and J. Repp USDA-ARS JER	Rangeland Database and Field Data Entry System
P12	A. Laliberte, A. Rango and A. Slaughter USDA-ARS JER	Unmanned Aerial Vehicles (UAVs) for Rangeland Remote Sensing
P13	C. Potenza, A. Slaughter, I. Reyes, R. Sedillo, M. Lucero and J. Barrow USDA-ARS JER	Use of Gene Specific primers to Identify Fungal Endophytes of Native Grasses
P14	D. Peters and C. Laney USDA-ARS JER	Trends in Long-Term Ecological Data: a multi-agency synthesis project
P15	W. Cable and R. Scott USDA-ARS SWRC	Quantifying the hydrological significance of tree hydraulic redistribution in a savanna ecosystem.
P16	M. Nichols, K. McReynolds and C. Reed USDA-ARS SWRC	The use of rock check dams as a conservation practice in Southeastern Arizona
P17	J. Field, D. Breshears, C. Zou and J. Whicker UA SNR	Wind and Water Erosion: Competing Processes on the Santa Rita Experiment Range
P18	E. vanderLeeuw, M. McClaran, S. Marsh, C. Wissler and W. van Leeuwen UA SNR	Two Types of Residential Developments and their Impacts on the Santa Rita Experimental Range
P19	C. Boodleman, D. Breshears and C. Zou UA SNR	Near ground solar radiation as a function of woody canopy cover: Testing initial predictions and trends in mean and variance in the Santa Rita Experimental Range
P20	M. Nearing, A. Kimoto, M. Nichols and J. Ritchie USDA-ARS SWRC	Spatial patterns of soil erosion and deposition in two small, semiarid watersheds
P21	C. Shipek and M. Nichols USDA-ARS SWRC	Channel Response to Changes in the Runoff Regime along the Walnut Gulch Channel

Posters (continued)

P22	J. Buono and J. Stone USDA-ARS SWRC	Variation in Overland Flow Velocity: A Shrub Grass Comparison from Southern Arizona
P23	S. Burns, S. Scott, D. Goodrich, M. Hernandez, L. Levick, A. Cate, W. Kepner, D. Semmens, S. Miller, P. Guertin USDA-ARS SWRC	Automated Geospatial Watershed Assessment (AGWA): A GIS-based Hydrologic Modeling Tool for Watershed Management and Landscape Assessment
P24	S. Moran, R. Scott, T. Keefer, G. Paige, W. Emmerich, M. Cosh and P. O'Neill USDA ARS SWRC	Partitioning Evapotranspiration in Semiarid Grassland and Shrubland Ecosystems Using Diurnal Surface Temperature Variation

<p>RISE Organizing Committee: Mark Heitlinger, Mitch McClaran, Susan Moran markh@Ag.arizona.edu mcclaran@u.arizona.edu smoran@tucson.ars.ag.gov</p>	<p>Acronyms: ALARC: Arid-Land Agricultural Research Center ARS: Agricultural Research Service DL: Desert Laboratory LANL: Los Alamos National Laboratory SNR: School of Natural Resources SWRC: Southwest Watershed Research Center UA: University of Arizona</p>
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