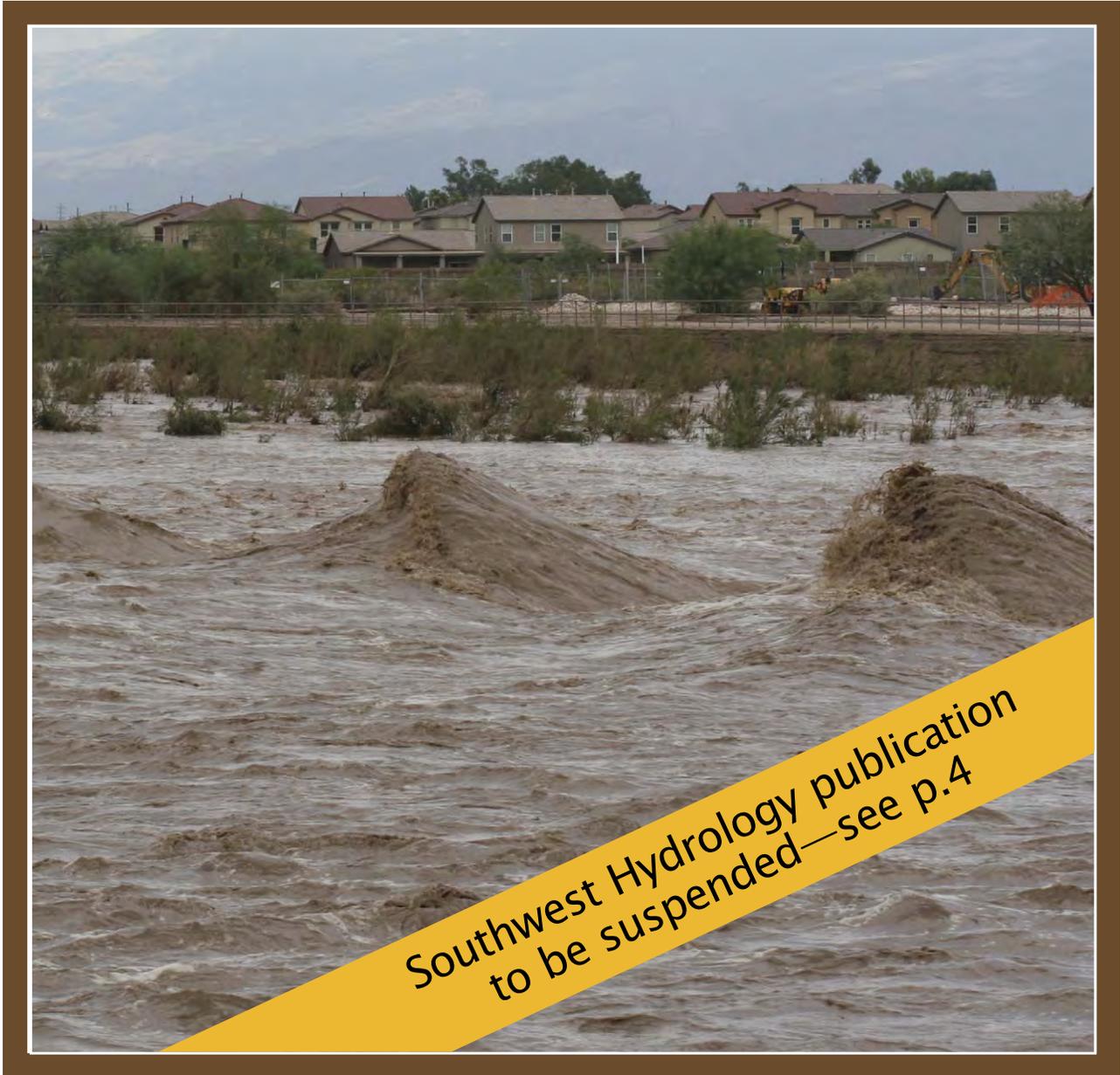


Southwest HYDROLOGY

The Resource for Semi-Arid Hydrology

Volume 9/Number 1

January/February 2010



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to be suspended—see p.4

Urban Water Management

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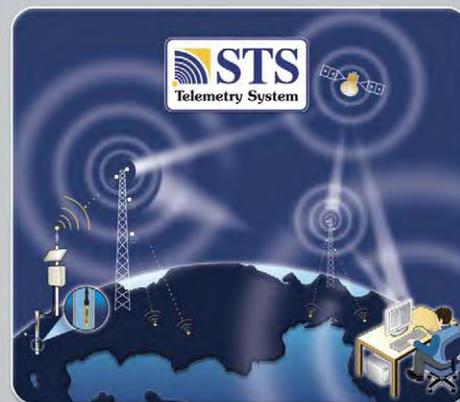
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From the Publisher



After more than eight years developing and producing Southwest Hydrology, this issue, the 47th, is my last; I'm moving to the University of Arizona's Institute of the Environment. Some water issues have changed a lot since the early days; we used the term "climate variability" rather than "climate change," and everyone was abuzz about whether the Colorado River Basin states would end up in court over shortage issues. Now, climate "change" is well-accepted and we've moved on to trying to deal with it. The basin states reached agreement. On the other hand, the Sac-San Joaquin Bay-Delta was an ecological and political mess in 2001 and it still is, but at least California is finally going to monitor (and report on) its groundwater basins. In producing Southwest Hydrology, I've learned so much about the science, issues, politics, and people related to water in the Southwest; I hope you have too. I am deeply grateful to all who have supported the magazine over the years—advertisers, sponsors, contributors, readers, advisory board, and staff; it's been a tremendous experience working with you all.

Betsy Woodhouse, Publisher

Dear Southwest Hydrology Readers,

Publication of Southwest Hydrology is being suspended following this issue in part because of the nationwide recession and because funding from the National Science Foundation, which covered the gap between revenues and expenses, ceased in December.

The end of NSF support is no surprise; Southwest Hydrology began planning for it nearly three years ago by reducing expenses, boosting ad revenues to all-time highs, soliciting sponsorships, and hosting symposia and workshops. Unfortunately, the revenue gap persists.

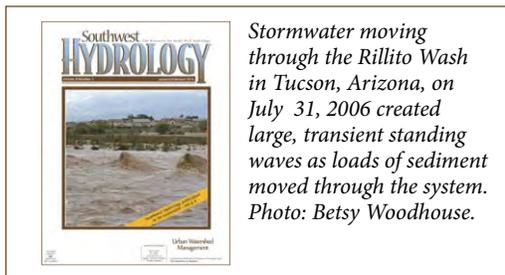
SAHRA, the umbrella organization for Southwest Hydrology, is not giving up on the publication. I believe it's been the most effective knowledge transfer effort that SAHRA has produced, in large part due to the dedication, leadership, and incredible effort of Betsy Woodhouse. We will keep you apprised of future developments via email. Please email (gwoodard@sahra.arizona.edu) or call

(520-626-5399) if you have ideas or opinions about the future of Southwest Hydrology that you wish to share.

Sincerely,

Gary Woodard

Associate Director for Knowledge Transfer



Publishing Southwest Hydrology furthers SAHRA's mission of promoting sustainable management of water resources in semi-arid



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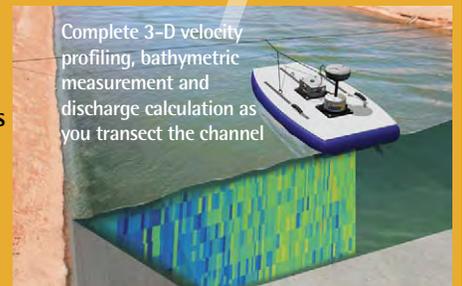


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Sound Principles. Good Advice.



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- Predicting post-fire runoff in a Southern California watershed, by Candice R. Constantine, Matthew E. Naftaly, and Jonathan S. Frye

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Urban Water Management

New approaches to urban water management can result in greater water-use efficiency and environmental benefits. Communities have begun using focused recharge of urban stormwater to replenish the aquifer and offset consumption. Use of drywells and pervious pavement are other means of capturing stormwater and directing it to the subsurface. Treated wastewater is becoming a larger component of municipal water supplies. The need to reserve some water resources for water features and urban waterways is gradually being recognized. But as these articles illustrate, urban water also presents significant management challenges, ranging from water-quality concerns and technological limitations to the impacts of considerable sociodemographic and topographic differences within a single metropolitan region.

18 Possible Tradeoffs from Urbanization on Groundwater Recharge and Water Quality

Kathleen A. Lohse, Erika L. Gallo, and Jeffrey R. Kennedy

Urban storm runoff is more than a traffic hazard. Managed properly, it can offer a viable approach for offsetting groundwater depletion. But focused recharge of stormwater runoff is not without risk: water quality effects must be considered. In some situations water quality can even be improved.

20 Differential Impacts of Flash Flooding Across the Paso del Norte

Thomas E. Gill, Timothy W. Collins, and David J. Novlan

Most Southwest residents are familiar with a variety of issues related to the U.S.-Mexico border, but did you ever think of flooding as one of them? Socioeconomic differences can mean a major storm causes inconveniences north of the border but has devastating impacts on the other side. Topographic differences over short distances enhance the range of impacts. Recognizing these differences holds valuable lessons for city planners and managers.

22 Drywells: One County's Novel Approach to Stormwater Management and Disposal

Chuck Graf

In Maricopa County, Arizona, drywells are, and have been for decades, the primary method of controlling stormwater. Far from their primitive origins, modern drywells are well-designed and multifunctional, with the ability to filter contaminants and replenish groundwater supply with minimal impact on water quality.

24 Pervious Pavement—Fact or Fiction?

David Jordan

Pervious pavement is an innovative product that could change the way communities manage and save water. While it is not a suitable replacement for conventional pavement everywhere, its applications offer promise. How does it really work?

26 Principles for Managing the Southwest's Urban Water Environments

Jim Holway and Larry Baker

Sustainable urban water management is a critical challenge for rapidly growing cities in the semiarid Southwest and around the world. Recognizing the influence of urbanization and the role and value of people within the ecosystem are two of the five key principles presented as guidelines for effective management in this setting.

28 Sustaining the Santa Fe River

Claudia Borchert, Brian Drypolcher, and Amy C. Lewis

As growing municipalities struggle to meet rising water demands, urban ecosystems often are overlooked. Santa Fe, New Mexico—"the City Different"—has taken the opposite approach, choosing to allocate a portion of its limited water resources to restore the Santa Fe River and its riparian area, thereby recognizing its social, cultural, economic, and ecological value.

30 Implementing Water Reuse

David W. Foss, Shannon Tillack, and Martin Stegmiller

Increasingly, urban managers are recognizing that treated wastewater can in fact be a valuable and sustainable water resource. But actually using it presents challenges ranging from having the appropriate infrastructure in place to convincing the public of its safety. Arapahoe County, Colorado, has met these challenges; find out how.