

Water Quality Implications of Alluvial Aquifer Storage

Thomas Meixner
University of Arizona

ABSTRACT

Recent research has demonstrated the importance of alluvial aquifers in sustaining semi-arid rivers through the transformation of summer and winter floods into sustained baseflows in these endangered river systems. While these storm flows are important for sustaining flow it is unclear what the impact of stored storm water may be on the water quality of semi-arid rivers. In this presentation we seek to investigate the possibility of plant uptake, microbial processes and stored water mixing in influencing semi-arid river water quality. Research areas discussed will include the San Pedro and Santa Cruz rivers of southern Arizona and offer a review of the implications of sustained flow decreases in rivers versus effluent sources on river water quality. Also investigated will be the time scale of water quality influence in gaining versus losing river reaches on river water quality.