

MOVING FORWARD: ADAPTATION AND RESILIENCE TO CLIMATE CHANGE, DROUGHT AND WATER DEMAND IN THE URBANIZING SOUTHWESTERN UNITED STATES AND NORTHERN MEXICO

INTRODUCTION

Climate change and associated variability in water resources pose serious challenges for water managers in the southwestern United States and northwestern Mexico.



Urban areas confront the future challenges of rapid growth and intensified water demand related to socioeconomic changes and climate-related uncertainties, such as droughts, flooding, and the potential of reduced water supply. Rapid growth in these areas has increased the vulnerability of urban water users to climatic changes. Looking toward a 20-year horizon, this project focuses on research to develop adaptive long-term planning for water management in four urban 'hotspots' in the North American monsoon-affected corridor of Arizona and Sonora: Tucson, Hermosillo, Ambos Nogales (Nogales, Arizona and Nogales, Sonora), and Puerto Peñasco.

This project, supported by the National Oceanic and Atmospheric Administration's Sectoral Applications Research Program (NOAA-SARP), focuses on stakeholder-researcher engagement to develop regionalized adaptive water management strategies to reduce urban and rural vulnerabilities and build resilience. Working closely with urban water managers and civil preparedness planners in the Arizona-Sonora region, this project will develop vulnerability assessments and site-specific adaptive management scenarios at the 5-, 10-, and 20-year horizons for the identified urban areas.

PROJECT GOAL

- institutionalize the use of climate information by decision-makers in southern Arizona and northwest Mexico to foster longer-term adaptive planning and increase resiliency under conditions of uncertainty
- address the impacts of climate variability and climate change in vulnerable urban and rural areas
- regionalize climate science production and utilization by water managers and other stakeholders through the development and field-testing of a binational, bilingual climate outlook summary



PROJECT ACTIVITIES

- use climate diagnostic information to identify and assess societal vulnerabilities posed by socioeconomic and demographic change, climate variability and change, and emerging water demand uncertainties
- assess the institutional and policy implications of identified vulnerabilities
- work with stakeholders to develop adaptive management strategies for mid-long term scenarios

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PROJECT STATUS (SEPTEMBER 2008)

- Project Partners met at University of Arizona for a Project inception workshops (9/26/08).
- Oscar Lai, Jamie McEvoy and Kate Sammler joined Rolando Díaz and Ashley Coles as graduate-student researchers on The University of Arizona team (August 2008).
- Research commenced in the Hermosillo peri-urban ejidos (Summer 2008).



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