

Pima County Local Drought Impact Group 2011 Annual Report to ADWR

Introduction: Pima County's Local Drought Impact Group (LDIG) consists of water providers and local, state and federal agencies. LDIG meets bimonthly to monitor drought conditions, discuss drought impacts and coordinate drought declarations and responses. During 2011, LDIG meetings included presentations on the winter and summer seasons, a 1,200-year drought perspective in the Southwest based on tree ring research, the Colorado River Basin water supply outlook, Pima County Regional Flood Control District's Automated Local Evaluation in Real Time (ALERT) System and its use for emergency management, and Perennial Water Inventory on Pima County open space lands and the impact of drought on perennial waters.

Staff from the National Drought Mitigation Center also visited Pima County's LDIG to discuss and review the center's approach to drought planning, to present the center's various resources and to discuss drought concerns in Pima County.

Information on LDIG's upcoming meetings, presentations and past meeting summaries can be found on Pima County's [LDIG](#) website.

Status of Drought: In 2011 drought conditions persisted in Pima County. The 2010-11 winter season was typical of a La Niña weather pattern with only two inches precipitation in eastern Pima County, 4.33 inches below normal. Winter temperatures were warmer than normal, especially in January, followed by a deep February freeze.

La Niña storm patterns moved winter precipitation to the northern Rocky Mountains resulting in favorable snowpack and snow melt to the Colorado River Basin. As a result, a shortage declaration on the Colorado River is unlikely until at least 2016. Before the 2011 winter season, a shortage declaration had been projected for 2013. A shortage declaration would result in curtailments to Arizona's CAP deliveries.

The summer monsoon season was hot and dry. In June, the Tucson International Airport recorded 112° for the first time since 1995 and the month ended with eight straight days of temperatures 107° or higher. July and August temperatures were also hot. The summer monsoon season ended with heavy rains in September. As of mid-September, 2.61 inches of rain had fallen at the Airport, making September the 19th wettest on record.

As is typical every ten years, the National Weather Service recalculates normal temperatures based on the previous thirty years. The mandatory recalculation, based on 1981 through 2010, will move our "normal" temperatures slightly higher.

At the beginning of 2011, the short-term drought status in Pima County indicated the western portion at D1- Moderate Drought and the eastern portion at D2 - Severe Drought. Throughout the year the short-term drought status worsened with about half of western Pima County in D3- Severe Drought. This is consistent with the southeastern portion of the State which was designated in Severe Drought and experienced a number of significant wildfires.

The long-term drought status has worsened slightly. Early in the year approximately fifty percent of Pima County was in moderate drought, while most of Pima County is now in moderate drought. Far western Pima County is experiencing no drought although this area is typically dry.

In spite of the worsening short-term drought status, the long-term status has not worsened appreciably. Increased water levels to Lake Powell and Lake Mead from the winter snowmelt in the upper Colorado basin will delay a shortage on the Colorado River by several years. Consequently, Pima County's LDIG recommends Pima County remain at Drought Stage One.

Drought Impacts: The impacts of sustained drought continue to be observed in Pima County:

- The deep winter freeze in February, coupled by the hot dry conditions early in the summer affected urban landscaping, particularly plants intolerant of low temperatures
- The Cienega Creek Natural Preserve exhibited the lowest flow length on record in June 2011, with just 13% flowing. These records began in 1975. Prior to drought, the creek flowed at least 50% of the length or greater
- Stressed riparian vegetation and reduced amounts of perennial water available to support wildlife populations have been observed in unsupplemented and perennial surface waters
- Ranchers continue to be affected by drying stockponds and lack of pasture grasses
- Above average snowpack and snowmelt in the upper Colorado basin resulted in increased water levels at Lake Powell and equalization releases to Lake Mead and delay in projections for declaration of a shortage on the Colorado River
- Aquifer water levels in the Tucson area are rising steadily due, in part, to decreasing water demand, water conservation efforts and increased use of CAP entitlements.

Drought Indicators: Pima County's LDIG continues to use the U.S. Drought Monitor as an indicator of drought severity. Last year's migration to the U.S. Drought Monitor (from CLIMAS) provided continued consistency and timely updates.

Drought-Related Actions: Several water sustainability planning initiatives are underway. Year One of the City/County [Water/Wastewater Study Action Plan](#) is being implemented and includes an update of the City of Tucson's drought response plan.

The City of Tucson's Climate Change Committee is also developing a climate change mitigation and adaptation plan that includes recommendations to achieve greenhouse gas reduction commitments.

A [Regional Water Assessment](#) Task Force is looking to increase collaboration and cooperation in managing water resources at a regional scale by addressing supply, infrastructure, conservation/demand management and reliability/sustainability and aquifer health.

In order to move toward water sustainability and decrease reliance on groundwater, the Town of Oro Valley entered into a wheeling agreement with the City of Tucson to deliver CAP water directly to the town's residents through Tucson Water's CAP infrastructure.

Each of the water providers prepared a drought response plan on file with ADWR. As of October 2011, the status of regional drought declarations remains unchanged from 2010. The status of drought declarations is:

Regional Drought Declarations

Entity	Drought Declaration
Pima County	Stage One Alert
City of Tucson	Stage One
Town of Oro Valley	Stage One
Town of Marana	Stage One Alert
Metropolitan DWID	Stage One Alert
Community Water of Green Valley	Stage One Alert