



PIMA COUNTY LOCAL DROUGHT IMPACT GROUP
(LDIG)
Wednesday, May 14, 2014
Public Works Building

RECAP

Attendance: Kathy Chavez (RWRD), Colby Bowser (RWRD), Mead Mier (PAG), Erin Boyle (NWS), Marie Light (PDEQ), Mitch Basefsky (CAP), Lilian von Rago (RWRD), Jerald Meadows (NWS), Glen Sampson (NWS), Joellen Russell (UA)

1. Welcome and Introductions - Introductions were made
2. Updates
 - Recap of March 12, 2014 LDIG meeting
 - Drought Status Maps: Short Term map indicates extreme drought in central/SE Arizona including portions of Pinal, Graham, Cochise and Gila Counties. Long Term map, updated in April, shows Santa Cruz watershed and Yavapai area worsening from moderate to severe drought. Eastern Arizona worsened from abnormally dry to moderate drought
 - State Monitoring Technical Committee- April 29, 2014:
 - Discussed the short term and long term status
 - The last three months have been extremely dry leading to downgrading watersheds in northern, central and eastern Arizona
 - The next long term status update will be in July
 - Governor's Interagency Coordinating Group – May 13, 2014
 - Presentations on Arizona's Strategic Vision for Water Sustainability, Drought status and outlook, Colorado River hydrology and impacts to Arizona, Salt and Verde River Watersheds and Wildfire Outlook
 - Monsoon outlook depends on location of high pressure areas, but the outlook is for above normal summer temperatures
 - Bureau of Reclamation estimates a 23% probability of a tier 1 shortage in 2016 and a 51% probability of a tier 1 shortage in 2017
 - Salt and Verde reservoirs are 57% of normal; only two major winter storms
 - Wildfires are becoming more drought dependent; non-desert areas have higher than normal fine fuel loads
 - Above normal wildfire season is expected in eastern Arizona

- ICG recommends the Governor continue the emergency drought declaration that has been in place since 1999.
 - Drought restrictions are in place in Williams, Safford and Payson. These areas are highly reliant on groundwater for domestic water supply
3. Heat, Drought and the High Latitudes: How the Arctic and Antarctic are helping Arizona Keep its Cool – Dr. Joellen Russell, UA Department of Geosciences, made the following key points on research
- Westerly winds are moving toward the poles which will mean less winter rains for the Southwest
 - There has been a large decrease in arctic ice in the last 30 years. Less ice means less heat is reflected back to space. Additionally, the dark blue ocean replacing ice absorbs heat. Both are contributing to warming of the oceans.
 - Between 1990 and 2012 plant zones have been observed shifting north in the northern hemisphere
 - Climate models have increased in complexity since the 1970s
 - Impacts to Arizona include:
 - Tropical moisture may not produce summer precipitation because increased aerosols will cause an inversion layer that interferes with convection
 - Less winter moisture because the jet stream will move toward the poles
 - More consecutive dry days
 - Upper level jet streams move away from the poles as the climate cools, but jet stream move toward the poles as the climate warms. These jet streams produce more moisture in the northern states (Montana, Dakotas) and less moisture in the Southwest
 - Less moisture means less mountain stream flows in Arizona
 - The oceans are warming faster than the atmosphere
 - The westerly winds in the Southern Hemisphere are stronger which produces more mixing in the oceans. Westerly winds in the Northern Hemisphere are weaker because large mountain ranges such as the Rockies and Himalayas attenuate winds
 - There are huge ocean currents in the southern oceans because there is more mixing
 - Increased ocean temperatures will cause more easterly winds which will decrease El Niño conditions
 - The stratosphere (upper atmosphere) has cooled as much as 4°F, while the troposphere (lower atmosphere) has warmed
 - The oceans are warming, but the full impacts are not yet known
 - The greatest challenge for this work is correlating various climate models to actual climate conditions
 - [PCMDI](#) is being used to evaluate climate models
 - Climate models can be used for 50-year projections, but are not effective for 20- and 30-year projections

4. Pima County Drought Vulnerability Assessment

- The final Drought Management Plan Review and Vulnerability Assessment was included in the packet along with recommended changes to the Drought and Water Wasting Ordinance. It was noted that additions to the report were made including purchase of groundwater wells near groundwater dependent ecosystems, strategies for the environment that include rainwater catchments and mitigation through green spaces. LDIG approved the report and ordinances changes. They will be forwarded to the County Administrator and Board for approval.

5. Adjournment

- a. Mitch Basefsky provided an update on CAP operations, plans for establishment of a conservation fund and the need to address structural deficit issues. He can provide more information at an upcoming meeting
- b. Next meeting is July 9. Items include and presentation on Pima County EOC Emergency Plan and Community Wildfire Protection Plan