

PIMA COUNTY LOCAL DROUGHT IMPACT GROUP
Wednesday, May 11, 2022
2:30 – 4 pm
Via Microsoft TEAMS
RECAP

Attendance: Kathy Chavez (Pima County Office of Sustainability and Conservation), Némesis Ortiz-Declet (Arizona Department of Water Resources), Don Falk (University of Arizona), Erin Boyle (National Weather Service), Mitch Basefsky (Central Arizona Project), Jaimie Galayda (Tucson Water), Arturo Gabaldón and Glenn Barnes (Community Water Company of Green Valley), Melodee Loyer (Farmers Water Company), Wally Wilson (Metro Water), Heidi Lasham (Town of Sahuarita), Scott Perkins (Flowing Wells Irrigation District), Cathy Kuefler (Avra Valley Co-Op), Selso Villegas (Tohono O'odham Nation), Lee Comrie (Pima Association of Governments), Justyn Dillingham (Pima County Communications Office), Sharon Browning (Pima County Health Department), Marie Light (Pima County Department of Environmental Quality), Mark Johnson (Tortolita Alliance) Sandra Maina and Amanda Webb (Office of Sustainability and Conservation), Christine Olsenius (Green Valley), Noah Silber-Coats (New Mexico State University), Kevin Strongman

1. Welcome & Introductions – Kathy Chavez, OSC, welcomed attendees and announced them.
2. Review March 9 LDIG meeting - Kathy Chavez, OSC
 - a. ADWR reviewed short term and long term status
 - b. Winter season overview from NWS
 - c. CAP and Colorado River Report from CAP
3. Arizona Department of Water Resources Updates - Némesis Ortiz-Declet, ADWR
 - a. Short-term Drought status: Drought worsened in February and March. April was warm and very dry. Most of state received no precipitation. Fifty-two percent remained in Severe (D2) drought. Thirty-six percent was in Moderate (D1) drought. Only a small portion, two percent, in Central Arizona was Abnormally Dry (D0).
 - b. Long-term Drought status: ADWR issued the January-March long-term status in April. Long-term conditions improved in the central and southeast portions of the state due to the productive summer monsoons season in 2021. Exceptional (D4) drought has persisted in small portions of Mohave and Coconino Counties and northeast Arizona.
 - c. Monitoring Technical Committee met on April 6. Presentations included updates on short- and long-term drought status, objective maps weather, Southwest Drought Impact Assessment research and reports, Salt River Project reservoir conditions, Colorado River supply update, drought monitoring wells status, forestry and fire management conditions, and agency updates. The next meeting is tentatively scheduled for July 6.
 - d. Interagency Coordinating Group met on May 4 to review drought status, weather outlook, water supply, and drought impacts. ICG agreed to maintain the current drought declarations. Links to the meeting and presentations are available [online](#) and the meeting summary will be published soon.
 - e. April was water awareness month; ADWR held seven webinars.
4. The Monsoon Fire Regime: Wildfire in the Sky Islands is Contingent on Both Winter and Monsoon Precipitation – Dr. Don Falk, University of Arizona. Work was conducted by Dr. Dan Griffin, UA Alumnus-now faculty at the University of Minnesota.
 - a. The monsoons are unique climate condition in Arizona
 - b. Research focus was on sky islands in US and Mexico
 - c. Monsoons are important culturally, ecologically

- d. Correlation of monsoon and wildfire not as clear in later years.
- e. Tree ring width is weighted to winter rainfall, more so than monsoon
- f. History of fire in North America being assembled; over 2000 sites cross-dated
- g. Borderlands history well represented. Mexico under represented.
- h. We have multiple long term reconstructions of precipitation
- i. Used cell type latewood in tree rings to reconstruct North American Monsoon. Earlywood is primarily regulated by winter moisture, whereas latewood shows the monsoon signal.
- j. Fire climate analysis in 12 sky island mountain ranges. Cross-dated chronology to ascertain year of fire. Fire lesions can be seen in tree rings during fire years
- k. Fires in multiple ranges in same year are likely unrelated
- l. Wildfire occurrence ceased/slowed in mid-nineteenth century due to construction of the railroad and heavy grazing
- m. 1600-1900 has best sample size fire histogram
- n. There are 18 years when fires occurred in multiple mountain ranges in the same year
- o. Correlating climate record with fire record indicates where fires were widespread and where there was low precipitation both winter and summer
- p. Superposed Epoch Analysis indicates climate 1 to 2 years prior to wildfire event
- q. Wet winters are not followed by fire years
- r. Widespread fire years were significantly dry in both summer and winter and preceded by 1-2 dry winters
- s. Why does monsoon have effect? Fire spread affected by Energy Release Component (ERC). Monsoon modulates length of fire season (physics of combustion)
- t. Significant wildland fire potential correlates with current New Mexico fires.
- u. We have a monsoon fire regime
- v. More research; could look in Sierra Madre in Mexico.
- w. Questions and Discussion
 - i. Effect of rainfall following fire was not reviewed
 - ii. Correlation with wet winter followed by dry monsoon increases fire severity
 - iii. Also dry winter/dry summer
 - iv. Did you look at quasi oscillation? No, would need reconstruct wind going back. Did look at El Niño Southern Oscillation
 - v. Wet/dry cycle is double-edged sword-accumulates biomass and fine fuels. Fire moves due to grasses and leaves. Cured grass can influence wildfire for 2-3 years. NM fires worsened due to wind.

5. Drought Stages and Updates

- a. City of Tucson – Drought Stage 1
- b. Metro Water – Drought Stage 1
- c. Farmers Water Company-Regulated by ACC and required to provide service
- d. Community Water – Averages other local water provider drought stages
- e. Pima County – Drought Stage 1
- f. CAP-Staff meeting with Congressional delegation. Winter precipitation in Colorado River Watershed was 90% of normal. Run-off to Lake Powell is projected to be 60% of normal. Lake Powell is near minimum pool. Bypass pools do not run 24 hours, so water is being released from Flaming Gorge to Lake Powell to protect the integrity of the infrastructure. There will also be reduced water releases from Lake Powell to Lake Mead. The Lake Mead tier shortage include water held at Lake Powell; most scenarios show a Tier 2a projected in January 2023. In 2024 likely to be a Tier 2b. Much uncertainty. Basin states working on 500+ Plan to improve water levels in Lake Mead. The elevation difference between a Tier 2a and 2b is 1050 feet and 1045 feet. No impact to municipal & industrial deliveries to

Southern Arizona, but will affect non-Indian agricultural pool water. The Recovery Planning and Analysis Group is meeting next week. This group is addressing how stored water will be recovered during a Tier 3 shortage. Meeting details available on [ADWR's calendar](#).

- g. Elgin Ranch provided via email a report of low soil moisture in Santa Cruz County; lower than at this time last year.
 - h. Question about whether Pima County's drought stage based on ADWR short term or long-term drought category and why has it not triggered an increased drought stage. The Board declares the drought stage based on a recommendation from the County Administrator and the Local Drought Impact Group, taking into consideration coordination with water providers and their drought stages. How can we be more pro-active? What can we do?
6. Adjournment and next meeting is July 13
7. Remaining meetings 2022 dates: via Teams until further notice: July 13, September 14 and November 9