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November 25, 2014

Mr. Kevin Kinsall, Natural Resources Policy Advisor
Office of Governor Jan Brewer
1700 West Washington Street
Phoenix, Arizona 85007

Re: Recommendation to Maintain the Drought Emergency Declaration PCA99006 and Drought Declaration issued by Executive Order 2007-10

Dear Mr. Kevin Kinsall,

This letter provides the fall 2014 update on Arizona's drought conditions and recommendations to the Governor from the Drought Interagency Coordinating Group (ICG). The ICG is an important part of the state's overall drought preparedness strategy as described in the Arizona Drought Preparedness Plan and the Plan's annual progress reports. The ICG, comprised of state, federal, tribal and non-governmental organizations, is an advisory body to the Governor on Arizona drought issues. This group meets in the spring and fall to evaluate drought conditions and provide recommendations to the Governor regarding emergency declarations due to drought. The ICG met on November 13, 2014 and, based on the findings below, recommends that the state's Drought Emergency Declaration (PCA99006) and Drought Declaration for the State of Arizona (Executive Order 2007-10) be continued.

The November 13 meeting included the following presentations:

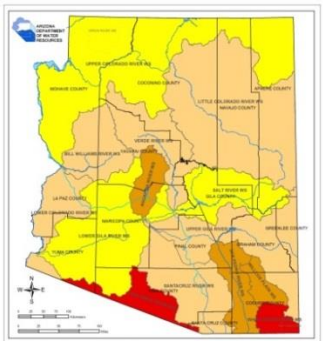
- Drought Status Summary: *Nancy Selover, Drought Monitoring Technical Committee Co-chair, State Climatologist*
- Outlook for Winter 2014-2015 Water Year and Summer 2015: *Mark O'Malley, Drought Monitoring Technical Committee Co-chair; Lead Forecaster, NWS*

- Local Drought Impacts on Municipal and Domestic Users: *Michael J. Lacey, ICG Co-chair, Director, Arizona Department of Water Resources*
- Colorado River Hydrology Update: *Tom Buschatzke, Assistant Director Water Planning, Arizona Department of Water Resources*
- DroughtView: New Tools for Monitoring Drought across Arizona: *Michael A. Crimmins, Climate Science Specialist, University of Arizona*
- Forest and Woodland Health: *Bob Celaya, Forest Health Specialist, Arizona State Forestry Division*
- 2014 Fire Season: *Byron Kimball, Planning and Preparedness Officer, Arizona State Forestry Division*
- Impacts of 2014 Drought on Wildlife: *Ed Jahrke, Wildlife Specialist Statewide Supervisor, Arizona Game and Fish Department*
- Recent Effects of Changing Precipitation Patterns on NE Arizona Drought: *Margaret Hiza Redsteer, Research Scientist, USGS, Flagstaff*

The main points described below provide the foundation for the Drought ICG's recommendations:

1. Drought status

Most of the state continues in moderate to severe drought conditions, and the winter of 2014 was the state's fourth consecutive dry winter. Late season winter storms brought some relief to the upper portions of the Colorado River basin. The entire state received less than 70% of normal precipitation, and streamflow was below normal due to lack of snowmelt. The 2014 monsoon season was wetter than normal, largely due to three very significant rainfall events due to copious moisture pulled into southern and central Arizona. As a result, long-term drought conditions have improved somewhat compared to last year at this time. Last year, three watersheds were in extreme drought, and nine were in moderate or severe drought. This year, twelve watersheds are in moderate or severe drought, but none are in extreme drought, and one, the Lower Colorado River Watershed, is in a "no drought" condition.



Category
No Drought
D0 - Abnormally Dry
D1 – Moderate Drought
D2 – Severe Drought
D3 – Extreme Drought
D4 – Exceptional Drought

October 2013 Long-term Drought Status

October 2014 Long-term Drought Status

2. 2015 water year outlook:

The Climate Prediction Center's outlook for January through March 2015 indicates near equal chances for above, below or near-normal temperatures. The outlook's odds for winter precipitation based on a preponderance on computer model output indicate a better chance of a wetter than normal winter. Although there is a 58% chance for El Niño development, the most likely outcome is for a brief, weak El Nino event in winter and early spring. Weak El Niño events provide little predictable influence on weather across Arizona.

The outlook for June-August 2015 shows much better chances that the average temperature during these three months will be above normal statewide. This outlook is based primarily in recent trends over the past 10 years. The Climate Prediction Center does not provide an outlook for monsoon precipitation because thunderstorm activity can be localized and is not influenced by larger scale climate signals.

3. Municipal, industrial and agricultural water resources

While the state as a whole is not currently facing immediate water crisis, long term drought has impacted water supplies in some areas. Most of rural Arizona relies exclusively on groundwater and lacks the groundwater regulations and conservation requirements present in the state's active management areas. This can result in water supplies being more stressed, as happened in southeastern Arizona this year where some communities experienced wells going dry.

The current Colorado River reservoir system storage stands at 50% of total system capacity, which is approximately the same as this time last year. The US Bureau of Reclamation's October 2014 projections indicate a 0% probability for a Tier 1 shortage in the Lower Basin for 2015, 25% probability for a Tier 1 shortage for 2016 and 53% probability for 2017.

A Tier 1 shortage will result in a reduction of 320,000 acre-feet to Arizona's Priority 4 users. Because the mainstem Priority 4 users are not completely using their entitlement allocations, the Central Arizona Project (CAP) will have its water deliveries reduced by the above amount. However, there would not be any cutback in water deliveries to Indian, Municipal, Industrial or Non-Indian Agricultural Priority CAP users. All "other excess" deliveries would be curtailed, and deliveries to CAP's agriculture pool would be reduced by about 60%.

4. Drought impacts on forest health and wildlife

Drought conditions continue to impact forest health and habitat conditions for wildlife. Localized drought may have affected the health of the forests in the southeastern part of the state in 2014, where much of the observed tree mortality

was caused by pine engraver beetles, and located on south-facing slopes where drought impacts are first manifested. Most surprising was the detection of these bark beetles infesting non-native pines in the lower elevation desert regions in the Tucson area. Recent reported droughty conditions in the metropolitan area may have been a contributing factor to the beetle activity. The majority of the bark beetle mortality detected in the state in 2014, was located near or around the 2011 Wallow Fire in eastern Arizona.

There were fewer fires (1,541) in 2014 compared to the ten year average (2,326). A total of 183, 406 acres burned, which was more than in 2013 (104,351 acres), but less than the 10 year average (334, 057 acres). The largest fire was the Slide Fire that began on May 20 and impacted 21,227 acres between Sedona and Flagstaff.

Although improved from last year, the state is at roughly 80% of historical greenness (visual indication of moisture based on VegDRI maps) for this time of year, with most of the state below 50%.

Although prolonged drought is continuing to have varying degrees of impact on all wildlife, they do benefit from the more than 1500 current and new wildlife water developments constructed statewide by both state and federal resource management agencies."

5. Drought impacts on range and farmland

   The impact of drought on range and farmland resulted in USDA disaster designations for all counties in the State. According to the USDA Natural Resources Conservation Service (NRCS), field offices in areas impacted by drought reported reduced forage, livestock water shortages, reduced livestock carrying capacity and crop production losses.

6. Recommendation:

   The updates confirmed that Arizona remains in long-term drought, with most of the state experiencing moderate to severe drought conditions. Although enhanced chances for above normal winter precipitation could help alleviate short-term drought conditions, extended years of normal or above normal precipitation are needed to alleviate the long-term moderate drought conditions experienced over most of the state. Based on this information, the Drought Interagency Coordinating Group unanimously recommends that both drought declarations, PCA99006 and Executive Order 2007-10, be kept in place.

The meeting summary and presentations are posted on the ADWR drought website. Please contact me directly if you have any questions regarding the recommendation.

Sincerely,

Michael J. Lacey, ICG Co-chair

cc: Chuck McHugh, ICG Co-chair

Enclosures:

PCA99006 Drought Emergency Declaration

Executive Order 2007-10 Drought Declaration