PIMA COUNTY LOCAL DROUGHT IMPACT GROUP
(LDIG)
Wednesday, July 13, 2016
Pima County Public Works Building

RECAP

Attendance: Colby Bowser (OSC), Julia Fonseca (OSC), Melanie Alvarez (PAG), Amanda Smith (PAG) Erin Boyle (NWS), Mitch Basefsky (CAP), Bill Schock (Santa Cruz NRCD), Candice Rupprecht (Tucson Water), Jeremy Weiss (PhD, UA)

1. Welcome & Introductions
2. Updates
    a. Recap May 11
    b. Spring Drought Interagency Coordinating Group, May 17
    c. Other Updates
        i. MAlvarez & ASmith (PAG)
            1. Presented riparian health assessment update re: Cienega and Davidson Canyon areas. Purpose is to document drought and land use change impacts by collecting data on flow extents, flow volumes, depth to water and other indicators. As an ADEQ recognized Outstanding Arizona Water, it is an important perennial stream and shallow groundwater dependent system, serving as a proxy for other riparian areas threatened by drought. Past technical report format is changing to indicator format to show health of habitat to inform decision makers. (See attached handouts). Long term goal is to reach out to area well owners inform how systems work together.
            2. Assessment is encouraging. Considerable increase in Cienega mainstem, more than doubling, a 217% increase in extent from 0.876 miles in June 2015 to 1.898 miles in June 2016. Davidson Canyon has seen its first June flows since 2012. History has been consecutive low extents with recent small increases. The cause of this year's increase is not known, but a possible combination of increase in winter precipitation and low spring temperatures was noted. Monitoring took place on June 3rd, before summer rains were a factor. Also noted, despite recent increase, the full 9.5 mile extent in Cienega hasn't flowed since 1985.
            3. PAG is seeking input on current projects: (1) Indicators Report as explained and will be presented at September LDIG (2) Drought Plan Comparison Report almost completed but more input needed from some jurisdictions (3) Cienega interactive GIS Erosion Analysis Tool, maps known erosion and biophysical factors. Tool will be transferable to different areas, PAG is getting data from RFCD.
3. DroughtView - JWeiss (PhD, UA)
    a. http://droughtview.arizona.edu
    b. "Combining on-the-ground know-how with remotely sensed data to assess drought impacts."
    c. "DroughtView is a web-based decision-support tool that combines satellite-derived measures of surface greenness with additional geospatial data so that users can visualize and evaluate vegetation dynamics across space and over time."
    d. "There is a wealth of data that, if appropriately analyzed and channeled, can inform decision making in agriculture and natural resources."
    e. "DroughtView provides visualization and allows evaluation of a large amount of remote sensing data for field expert interpretation."
    f. "MODIS is a key sensor aboard the Terra and Aqua satellites that detects electromagnetic energy related to numerous atmospheric, land, and ocean phenomena."

g. Both satellites used to measure same area twice daily- a complete view of Earth every two days. A bi-weekly map is developed as a composite view because some areas may have cloud covering, best representation of greenness in that two week timeframe, not necessarily an average.
h. MODIS period of record goes back to 2000.
i. "NDVI – Normalized Difference Vegetation Index; compares amounts of the visible light and near-infrared parts of the electromagnetic spectrum reflected from Earth's surface plants reflect electromagnetic radiation differently relative to bare ground and water"
j. DroughtView assists in confirming USDA Drought Declarations and distribution of aid to ranchers or in developing rangeland operations plans… "retrospective and real-time monitoring, along with disaster assistance, improve the chances of cattle operations surviving dry periods."
k. DroughtView assists biological scientists in finding growth of invasive species or in biological surveys.
l. "DroughtView is proving similarly useful in coordinating surveys for an invasive annual, Sahara mustard, on the Barry M. Goldwater Range in SW Arizona." --Jim Malusa, UA SNRE
m. "DroughtView provides visualization and allows evaluation of a large amount of remote sensing data for field expert interpretation." JWeiss advised interpreting the data in the known conditions of the time and context. "Your tool won't tell the whole story; Context is key; The … magic combination for making … change with data is equal parts technical analysis and local context."
n. Learn How to Use DroughtView tutorial is available on the initial page.

4. Adjournment