

DUST MITIGATION HANDBOOK

March 5, 2019

Annual Dust Storm Conference Central Arizona College

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Hubs



First...

Some news



Colorado River Drought Contingenty Plan

- Known as the DCP
- Seven states and Mexico are participating in the plan
- Each state has their own plan on how Colorado River water will be distributed as water shortages are realized
- The first level of water shortage is when the elevation of Lake Mead is below 1075' on Jan. 1



DCP

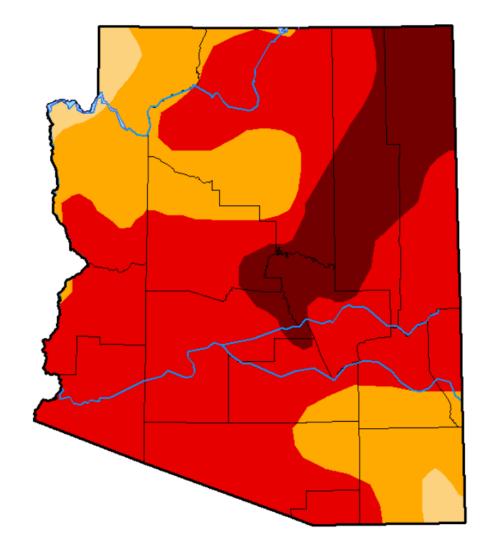
- Projected that even with latest storms, Lake Mead will fall below 1075' January 1, 2020
- Lowest priority rights for CAP water will be suspended
- Pinal County Irrigation Districts will be affected
- 35 to 40% of cropland will lay fallow (not planted to crops)



More news...

- Vast areas of Arizona went to D3 and D4 on the National Drought Monitor
- D4 areas existed in Arizona from April 10, 2018 until mid-January 2019

U.S. Drought Monitor Arizona



July 10, 2018

(Released Thursday, Jul. 12, 2018)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

					•	
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	97.05	73.62	15.71
Last Week 07-03-2018	0.00	100.00	100.00	97.05	73.62	15.71
3 Month's Ago 04-10-2018	0.00	100.00	100.00	92.63	47.56	3.98
Start of Calendar Year 01-02-2018	0.00	100.00	100.00	28.66	0.00	0.00
Start of Water Year 09-26-2017	45.38	54.62	10.69	0.00	0.00	0.00
One Year Ago 07-11-2017	35.55	64.45	29.87	0.23	0.00	0.00

Intensity:

D0 Abnormally Dry
D1 Moderate Drought
D4 Exceptional Drought

D2 Severe Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Brian Fuchs National Drought Mitigation Center









http://droughtmonitor.unl.edu/









And more...

- Research conducted on the Jornada
 Experimental Range in New Mexico shows temperature increases and higher precipitation variability both increase shrub production over grasses. (Gheradi, L. and Sala, O.E., 2015)
- Marginal grasslands may convert to shrublands and reference grasslands may see more shrub invasion.
- Grasslands offer more protection of the soil surface to wind and water erosion.





Announcing USDA's One-Stop Shop Handbook (web page) on Wind Erosion

- Hosted and sponsored by SW and SP Climate Hubs
- Combination of USDA's efforts in wind erosion control
- Agency Consideration from NRCS, Climate Hubs, FSA, ARS, RMA, others?



Wind Erosion Handbook

- Hazards and concerns of airborne particulates
- Understanding Wind Erosion
 - Climate, Wind Events, SoilMovement
- Modeling and predicting wind erosion
- Measuring airborne particulates

- Conservation Planning & Resource Concerns
- Controlling wind erosion
 - Cropland, Rangeland,
 Pastureland, unpaved surfaces
- USDA Programs to address wind erosion
- Glossary of Terms



Wind Erosion (Dust) Mitigation

- Active Cropland
- Temporarily abandoned/fallow cropland
- Permanently abandoned cropland
- Range and pastureland
- Non-paved surfaces (feedlots, roads, farmsteads)



Conservation Practices

- Complete list of practices can be found on the NRCS Field Office Technical Guide (FOTG)
- Definition and basic implementation guidelines are described in the Practice Standard
- Detailed site-specific installation instructions are developed as a practice specification.



Wind Erosion Mitigation Cropland

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- Surface Roughening 609
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- Multi-Story Cropping 379
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Wind Erosion Mitigation Rangeland

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Questions?

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