

Drought Status & Drought Program Upcoming Activities

Zack Richards

Statewide Planning

Arizona Department of Water Resources



Credit: Dave Dilli Photography

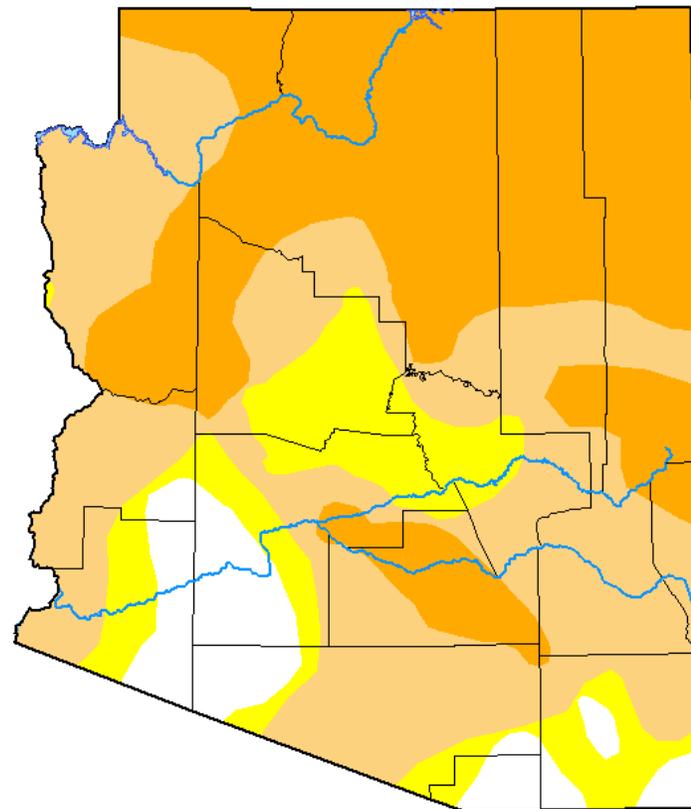
Overview:

- 1. October Short-Term Drought Status Report**
- 2. July-September Long-Term Drought Status Report**
- 3. Nov. 12th Interagency Coordinating Group Meeting Recap**

October Short-Term Drought Status Report

U.S. Drought Monitor Arizona

November 5, 2019
(Released Thursday, Nov. 7, 2019)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	8.18	91.82	78.35	39.52	0.00	0.00
Last Week <small>10-29-2019</small>	8.18	91.82	78.35	39.52	0.00	0.00
3 Months Ago <small>08-06-2019</small>	95.17	4.83	0.00	0.00	0.00	0.00
Start of Calendar Year <small>01-01-2019</small>	7.38	92.62	66.78	32.09	12.60	3.30
Start of Water Year <small>10-01-2019</small>	5.00	95.00	80.99	25.66	0.00	0.00
One Year Ago <small>11-06-2018</small>	0.00	100.00	83.76	35.33	12.60	4.32

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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

Author:

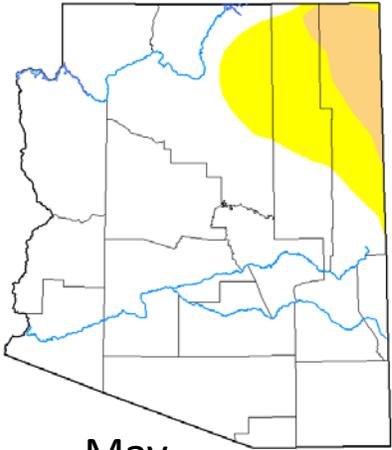
David Simeral
Western Regional Climate Center



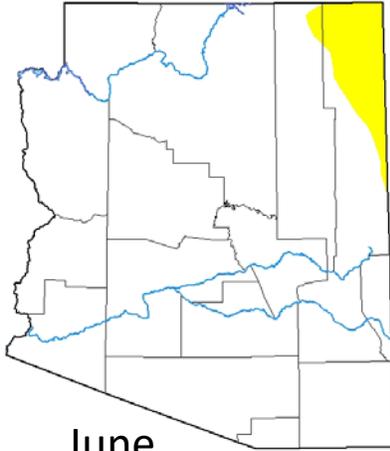
droughtmonitor.unl.edu



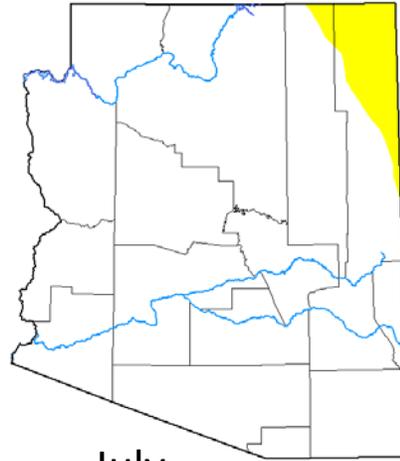
Short-Term Drought Maps



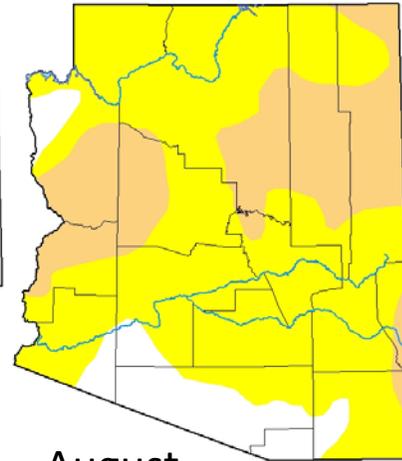
May



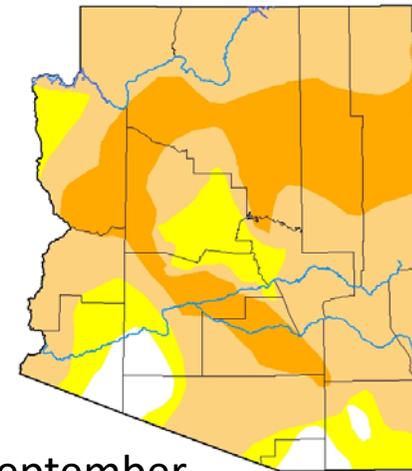
June



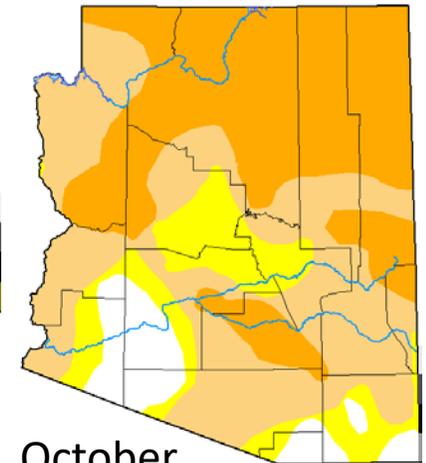
July



August



September

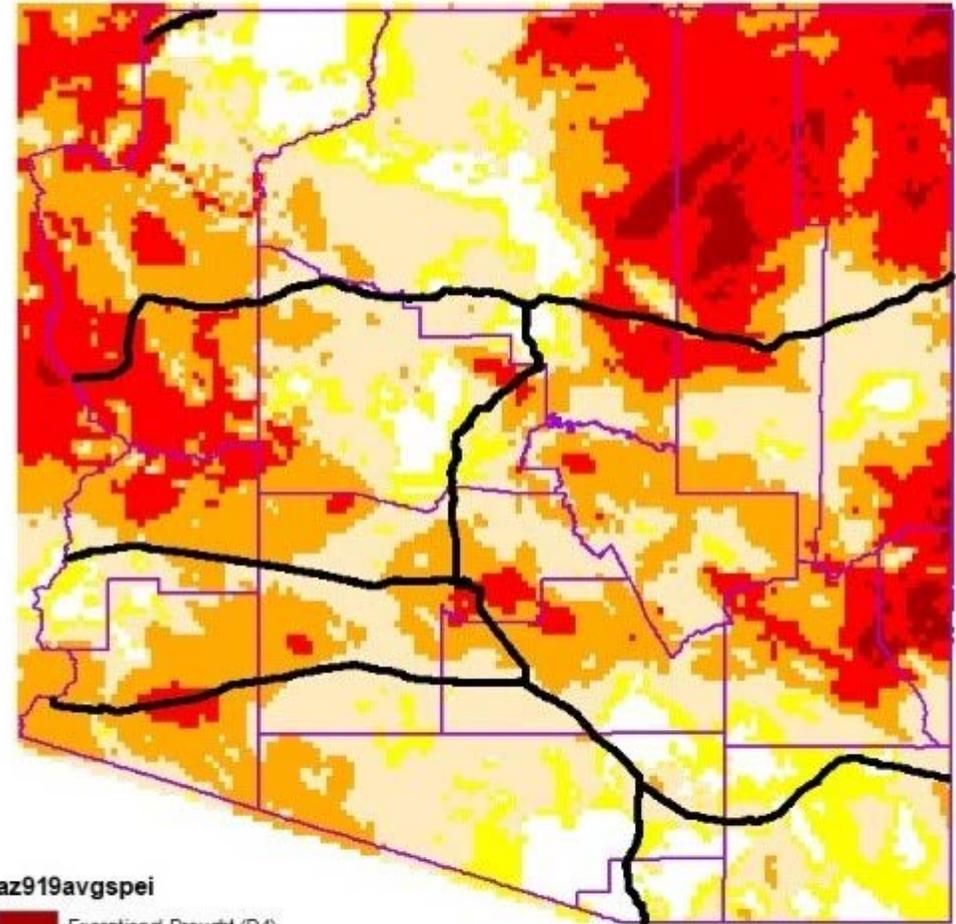


October

Past
6 Months

July - Sep Long-Term Drought Status Report

Long-Term Drought September 2019



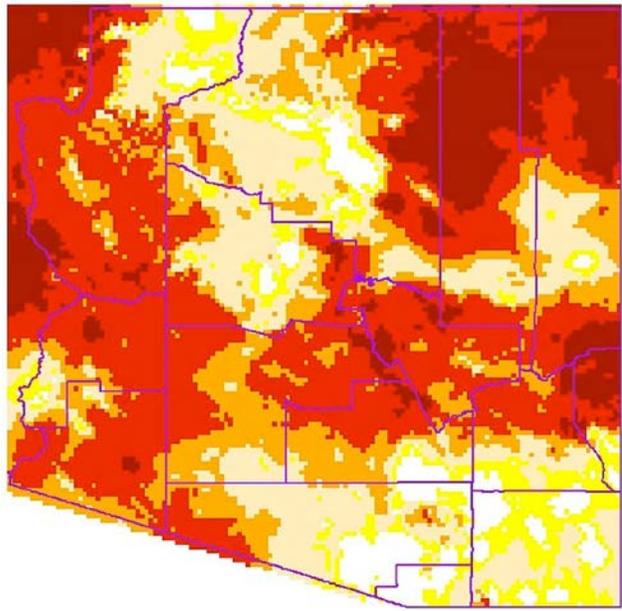
az919avgspei

- Exceptional Drought (D4)
- Extreme Drought (D3)
- Severe Drought (D2)
- Moderate Drought (D1)
- Abnormally Dry (D0)
- No Drought

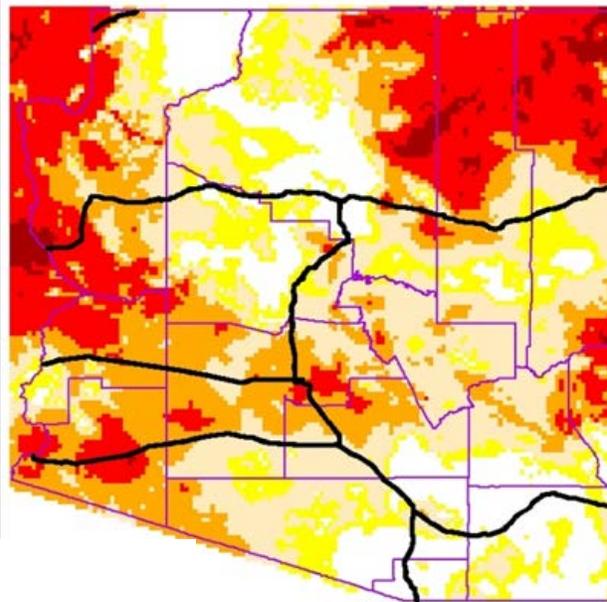
(C)2019 Arizona State Climate Office



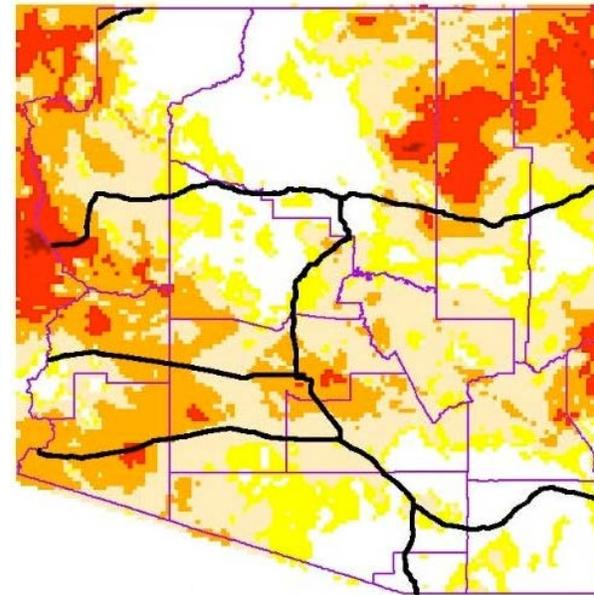
Oct – Dec 2018



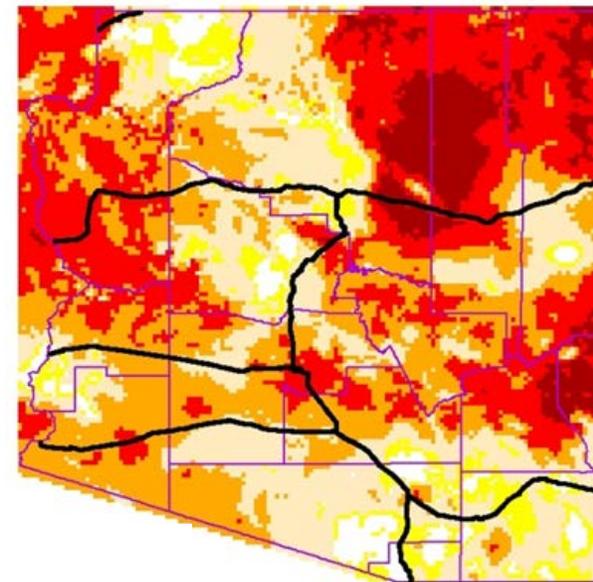
Jan – Mar 2019



Apr – June 2019



July – Sep 2019



Long-Term Drought Maps

Past
Year

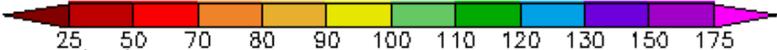
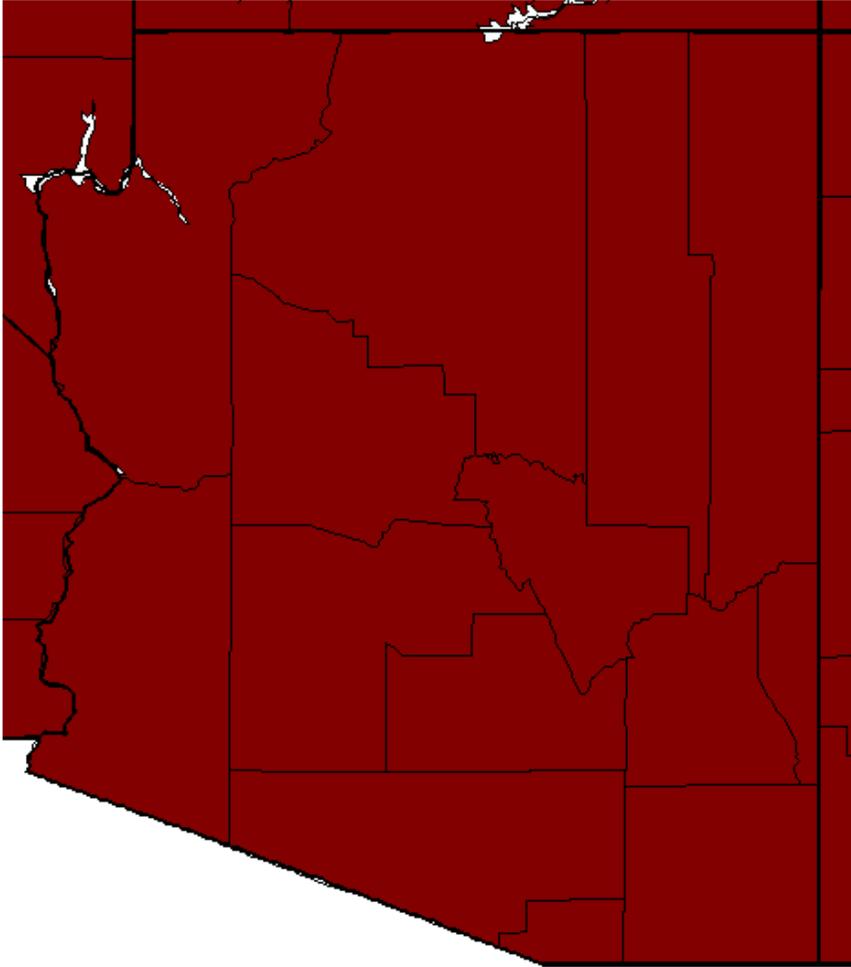
Interagency Coordinating Group Meeting Recap



Water Year Precipitation Percent of Average

Percent of Average Precipitation (%)
10/1/2019 – 10/29/2019

WY 2020 so far



Generated 10/30/2019 at WRCC using provisional data.
NOAA Regional Climate Centers

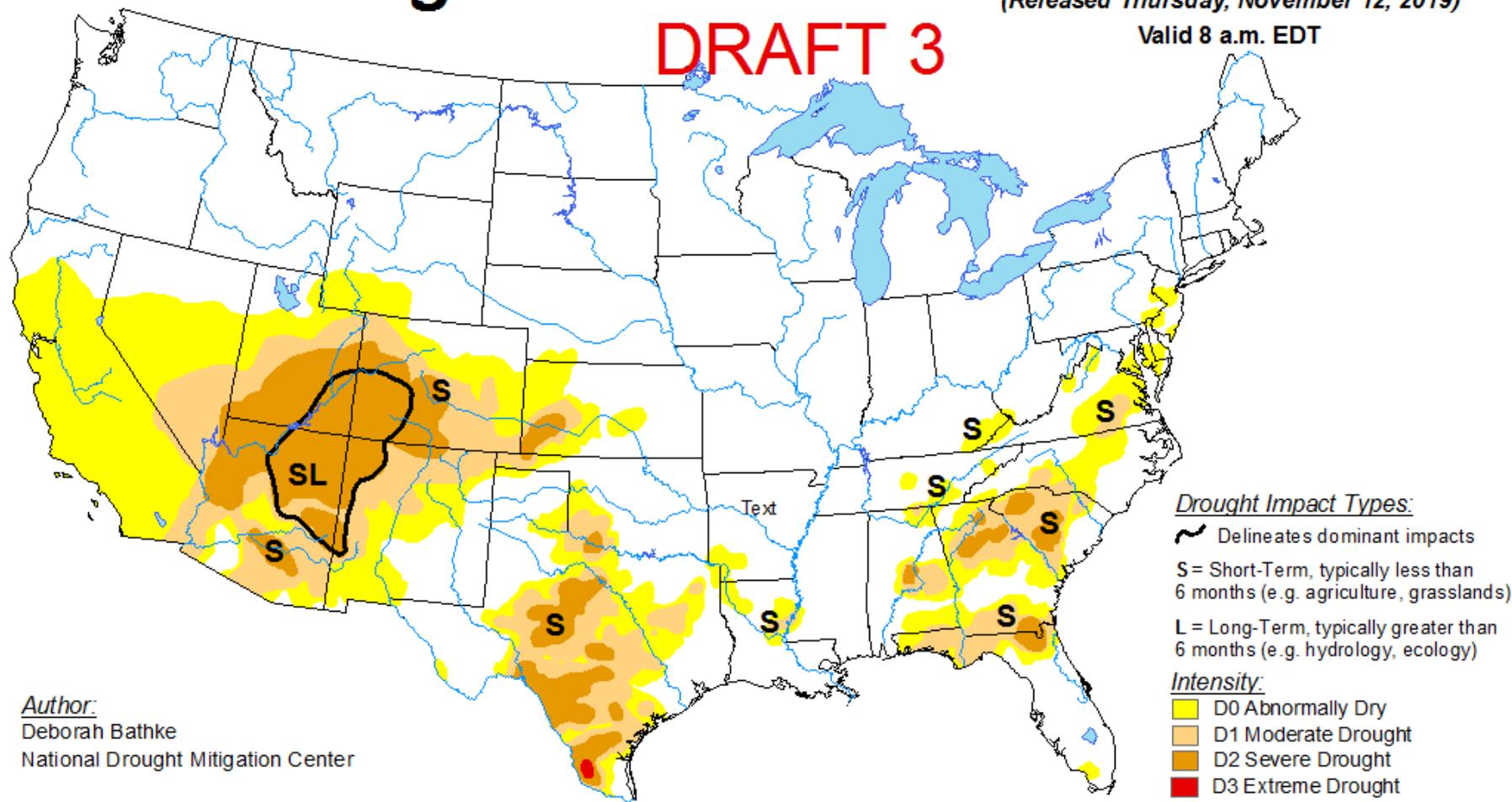
U.S. Drought Monitor

November 14, 2019

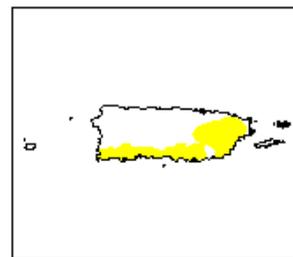
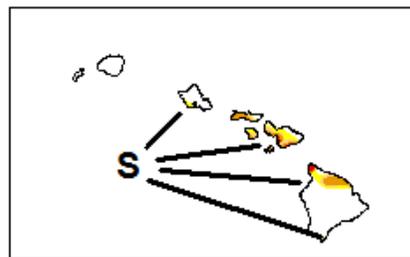
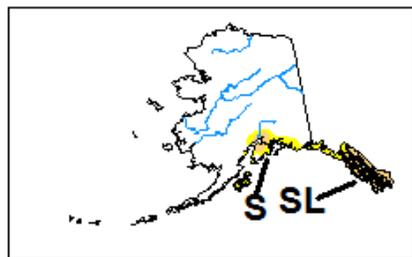
(Released Thursday, November 12, 2019)

Valid 8 a.m. EDT

DRAFT 3



Author:
Deborah Bathke
National Drought Mitigation Center



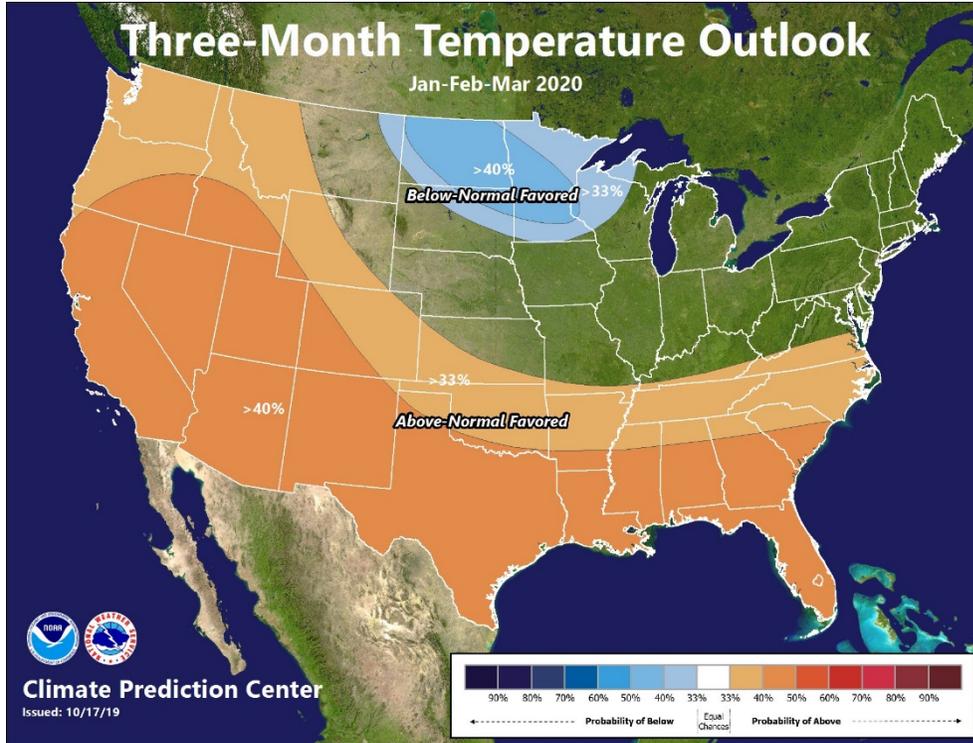
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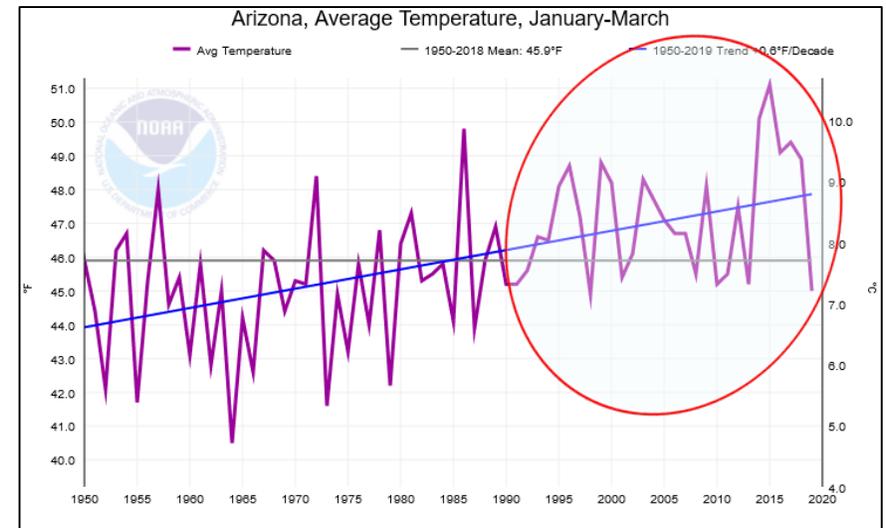
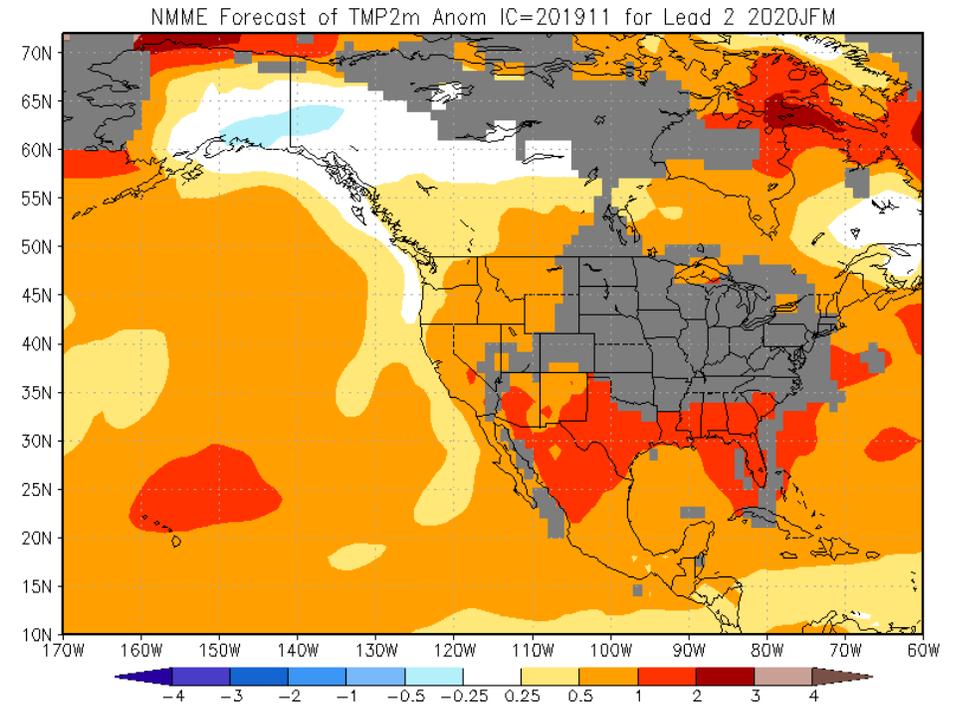
<http://droughtmonitor.unl.edu/>



Temperature Outlook: Jan/Feb/Mar 2020

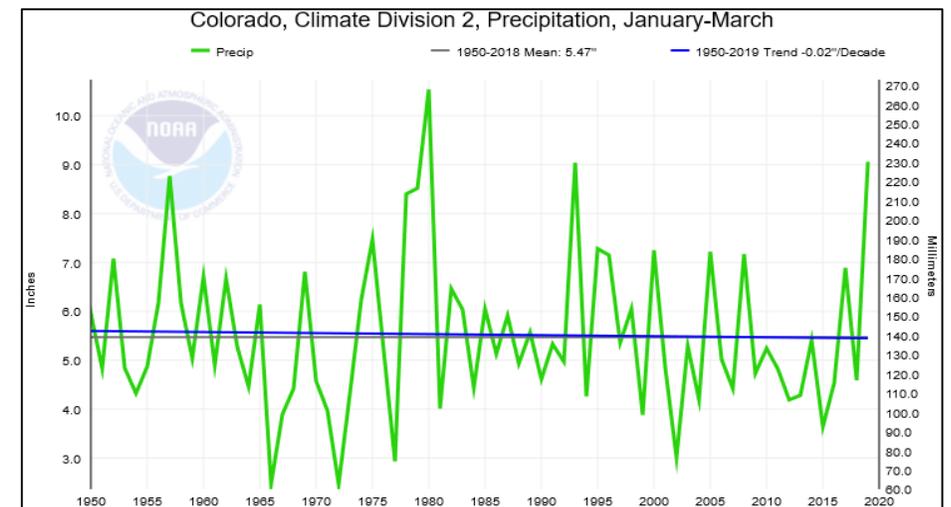
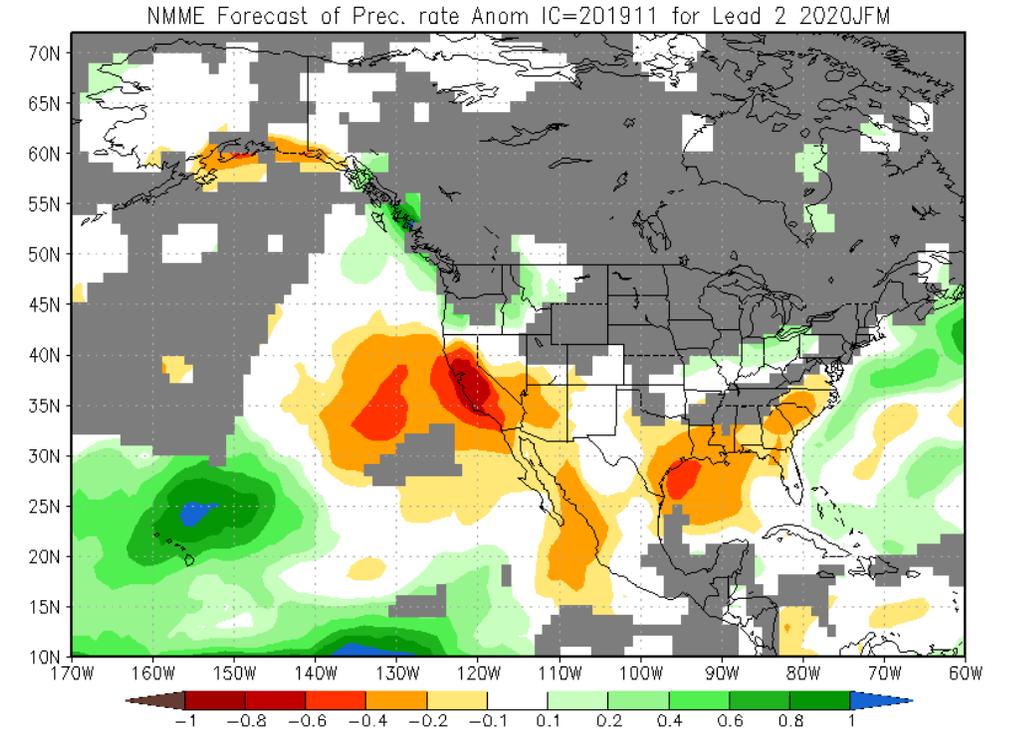
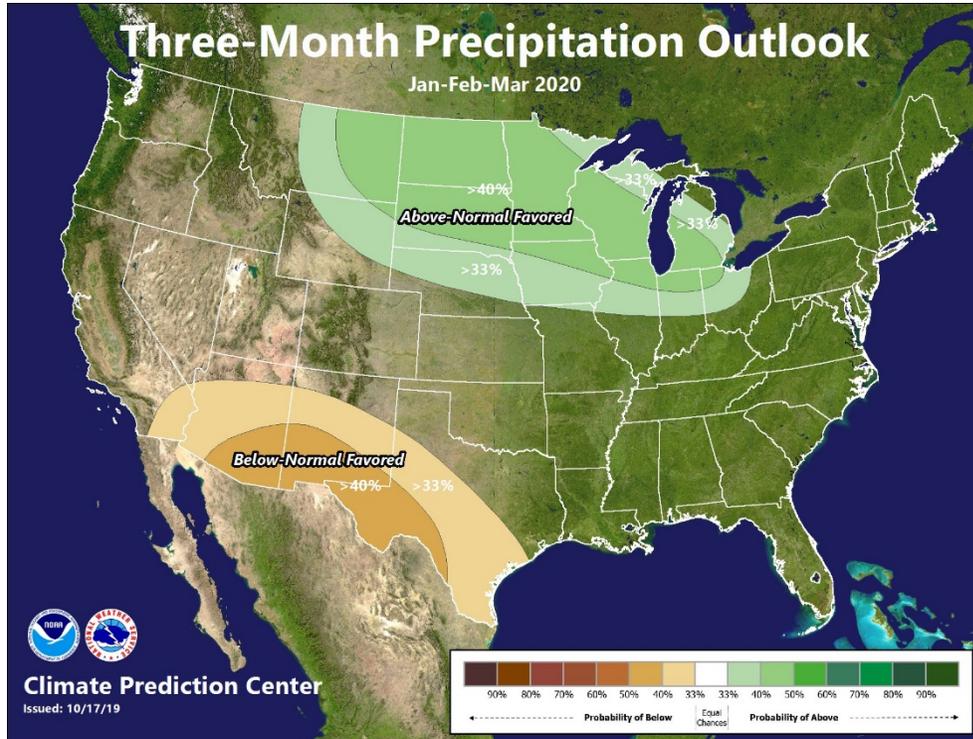


Three-month averages
Better odds for above
normal temperatures





Precipitation Outlook: Jan/Feb/Mar 2020

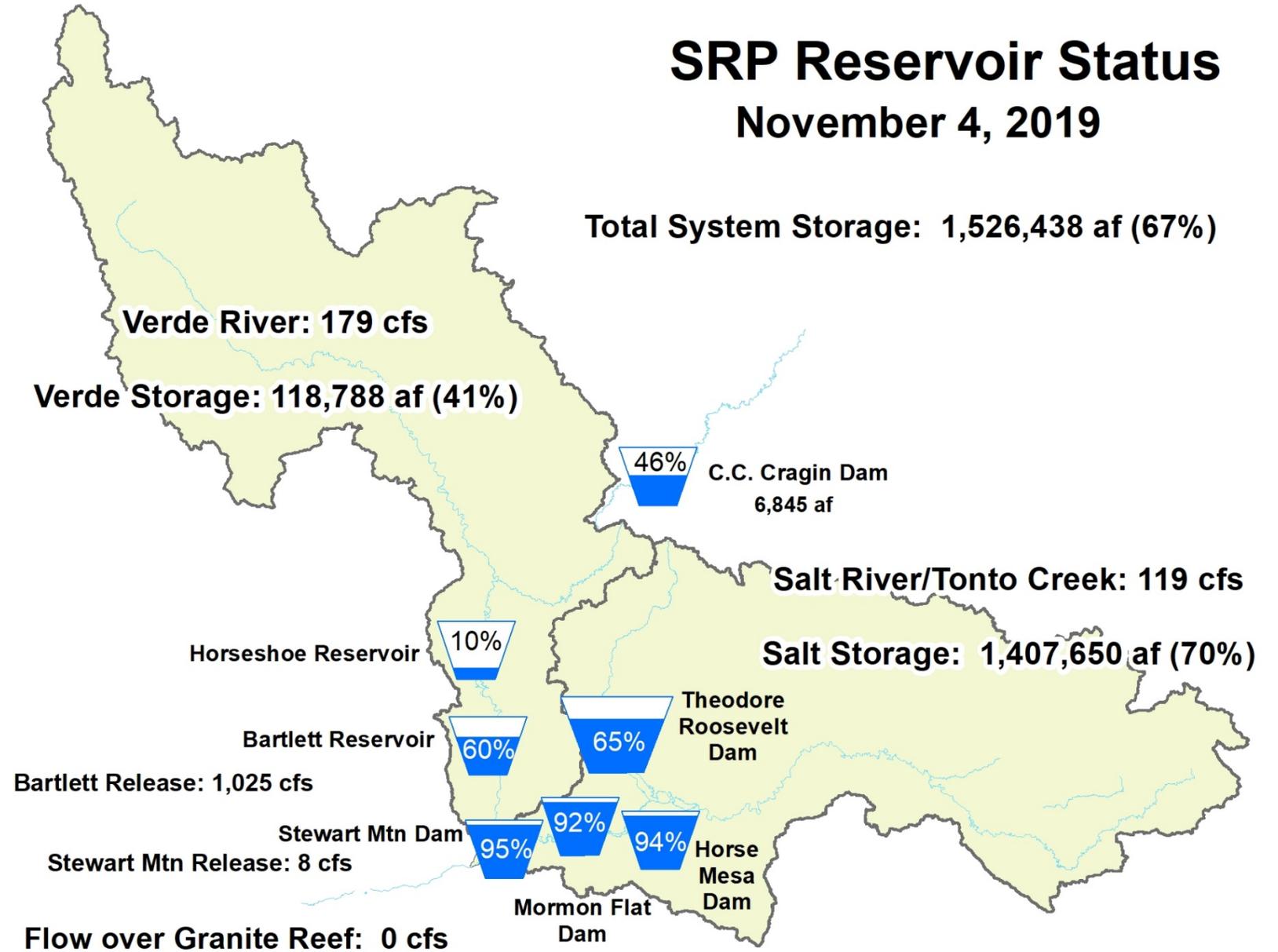


Three-month averages
Slight tilt in odds towards
lower than normal
precipitation

2019 SRP Reservoir Conditions

- January 1, 2019 Storage 1,080,148 af (47%)
- Jan-May 2019 Winter Inflow of 1,121,000 af (210% of median)
- Increased total reservoir storage up to 80% full by end of May 2019.
- Monsoon 2019 Inflows of 48,269 af (45% of median)
- Reservoir Storage currently at 67%

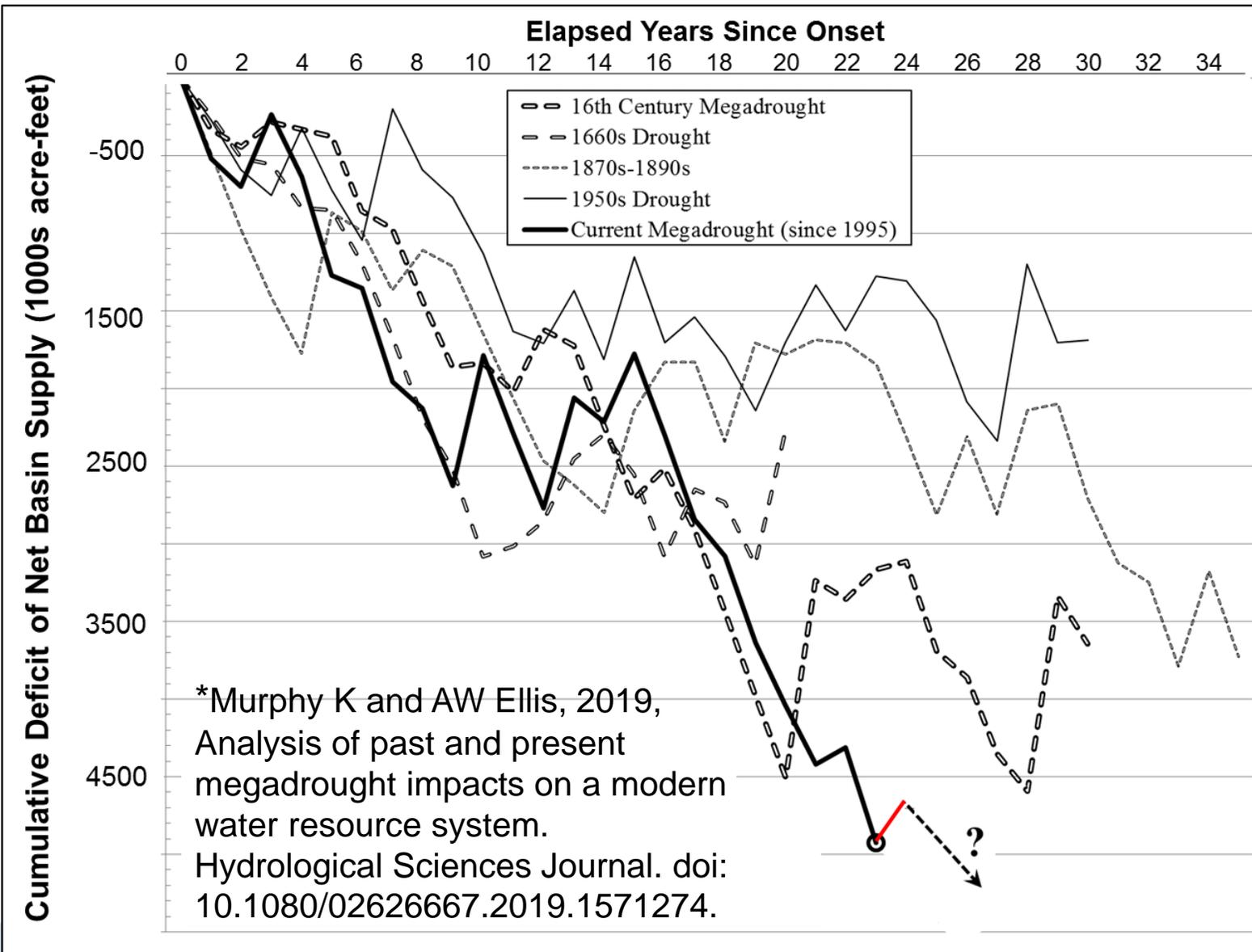
SRP Reservoir Status November 4, 2019



Year	Jan-May Inflow (AF)	May 1 Storage (AF)	May 1 Percent Full
2010	1,419,000	2,311,000	100
2011	223,000	2,006,000	87
2012	196,000	1,512,000	66
2013	449,000	1,453,000	63
2014	148,000	1,300,000	56
2015	328,000	1,314,000	57
2016	338,000	1,307,000	57
2017	970,000	1,731,000	76
2018	100,000	1,337,000	58
2019	1,121,000	1,850,000	81
2020	?	?	?

2011-2018 lowest consecutive 8-year annual inflow on record

1996-2018 lowest consecutive 23-year annual inflow on record



Mega Drought Severity

Droughts can last 20 to 35 years
 Current megadrought is the most severe in the tree ring record*

Lower Basin Side Inflows - WY/CY 2019^{1,2}

Intervening Flow from Glen Canyon to Hoover Dam

Month in WY/CY 2019		5-Year Average Intervening Flow (KAF)	Observed Intervening Flow (KAF)	Observed Intervening Flow (% of Average)	Difference From 5-Year Average (KAF)
HISTORICAL	October 2018	82	100	122%	18
	November 2018	54	67	124%	13
	December 2018	51	52	102%	1
	January 2019	83	106	128%	23
	February 2019	91	126	138%	35
	March 2019	57	200	351%	143
	April 2019	49	118	241%	69
	May 2019	30	108	360%	78
	June 2019	17	69	406%	52
	July 2019	80	19	24%	-61
	August 2019	100	65	65%	-35
	September 2019	91	60	66%	-31
	October 2019 ³	82	29	35%	-53
FUTURE	November 2019	54			
	December 2019	51			
	WY 2019 Totals	785	1090	139%	305
	CY 2019 Totals	785	900	115%	220

¹ Values were computed with the LC's gain-loss model for the most recent 24-month study

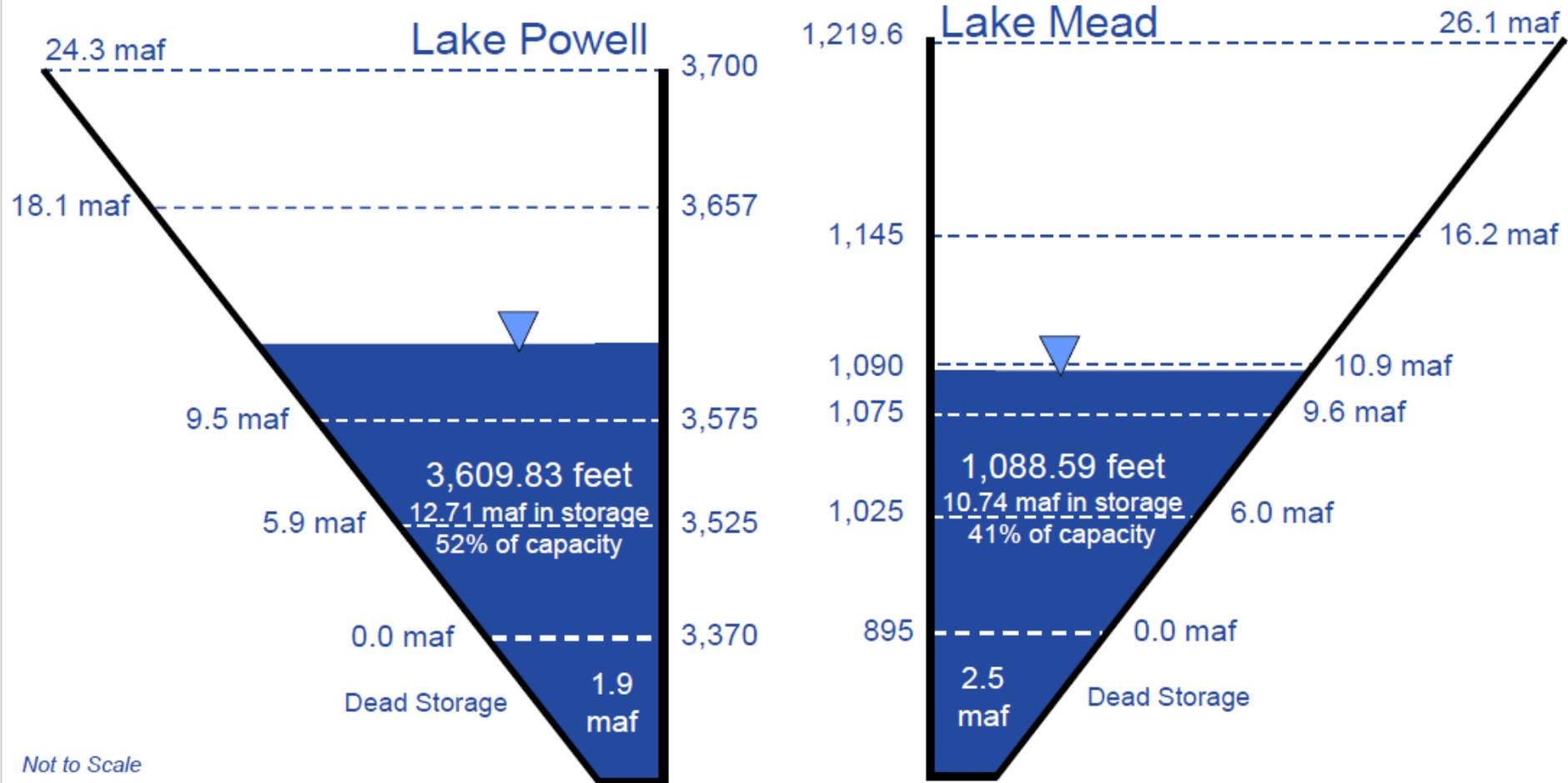
² Percents of average are based on the 5-year mean from 2014-2018

³ Preliminary data, not officially reported as of November 12, 2019

End of Calendar Year 2019 Projections

October 2019 24-Month Study Most Probable Inflow Scenario¹

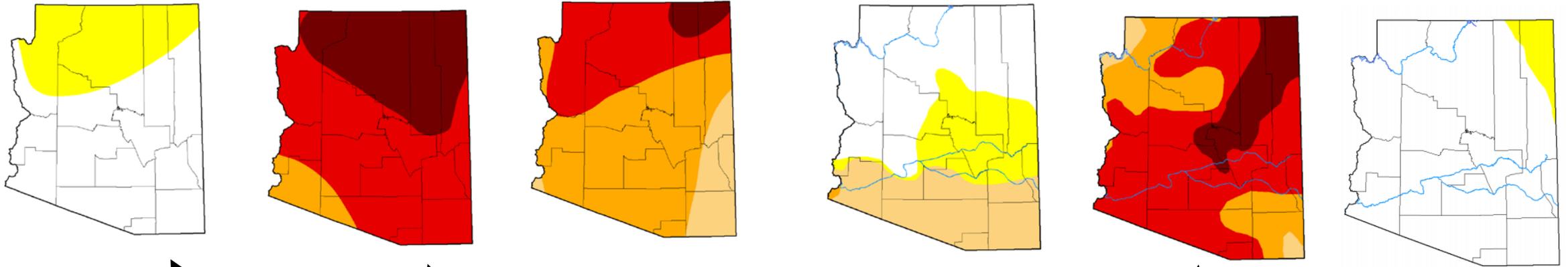
Based on a Lake Powell release of 9.00 maf in WY 2019 & 8.23 maf in WY 2020



Not to Scale

¹ WY 2020 unregulated inflow into Lake Powell is based on the CBRFC forecast dated 10/1/19.

Historic Forest Health Conditions



Year	2001	2002	2003	2017	2018	2019
Acres	82,323	509,601	1,683,412	45,003	275,933	~455,053

Important Updates

- ICG recommended - **Arizona Drought Declaration continues**
- **2019 Arizona Drought Preparedness Annual Report** - finalized and available early December
- **Next MTC meeting** - January 2020
- **Némesis Ortiz-Declet** - ADWR new Drought & Conservation Coordinator!

