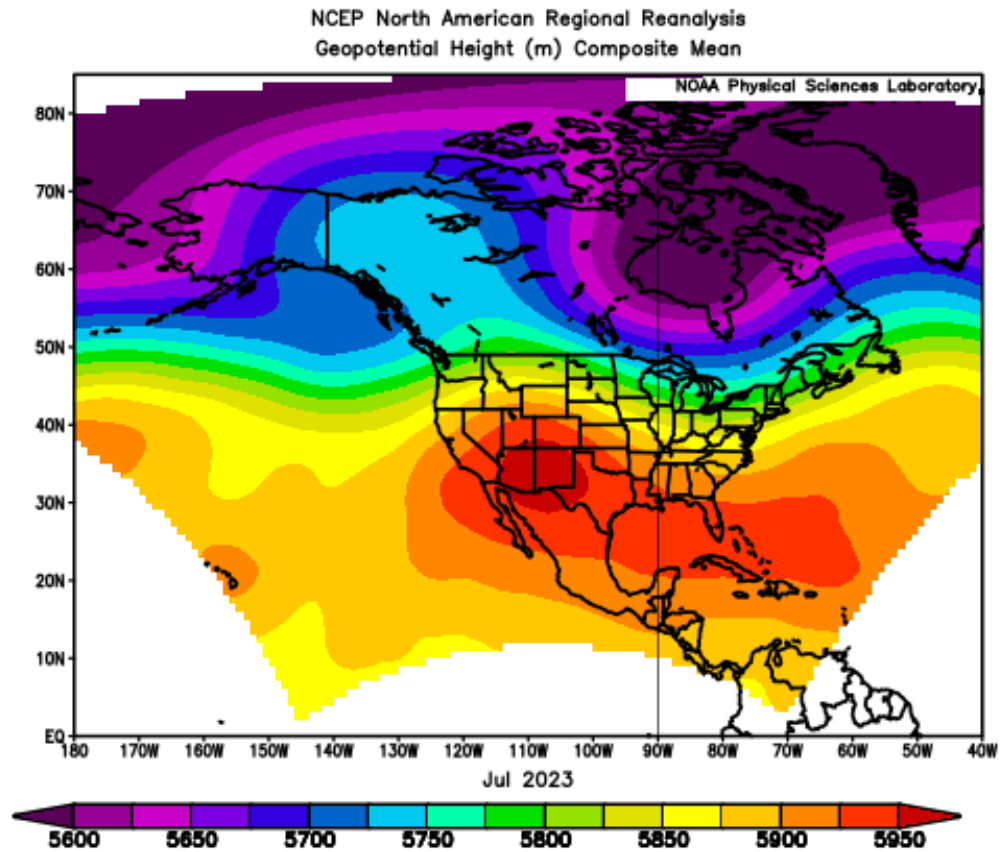
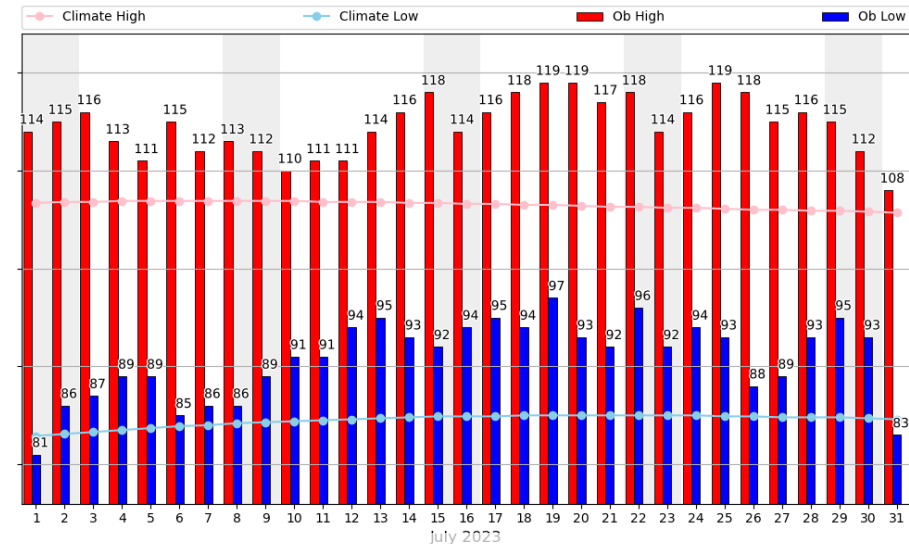


July was record-breaking



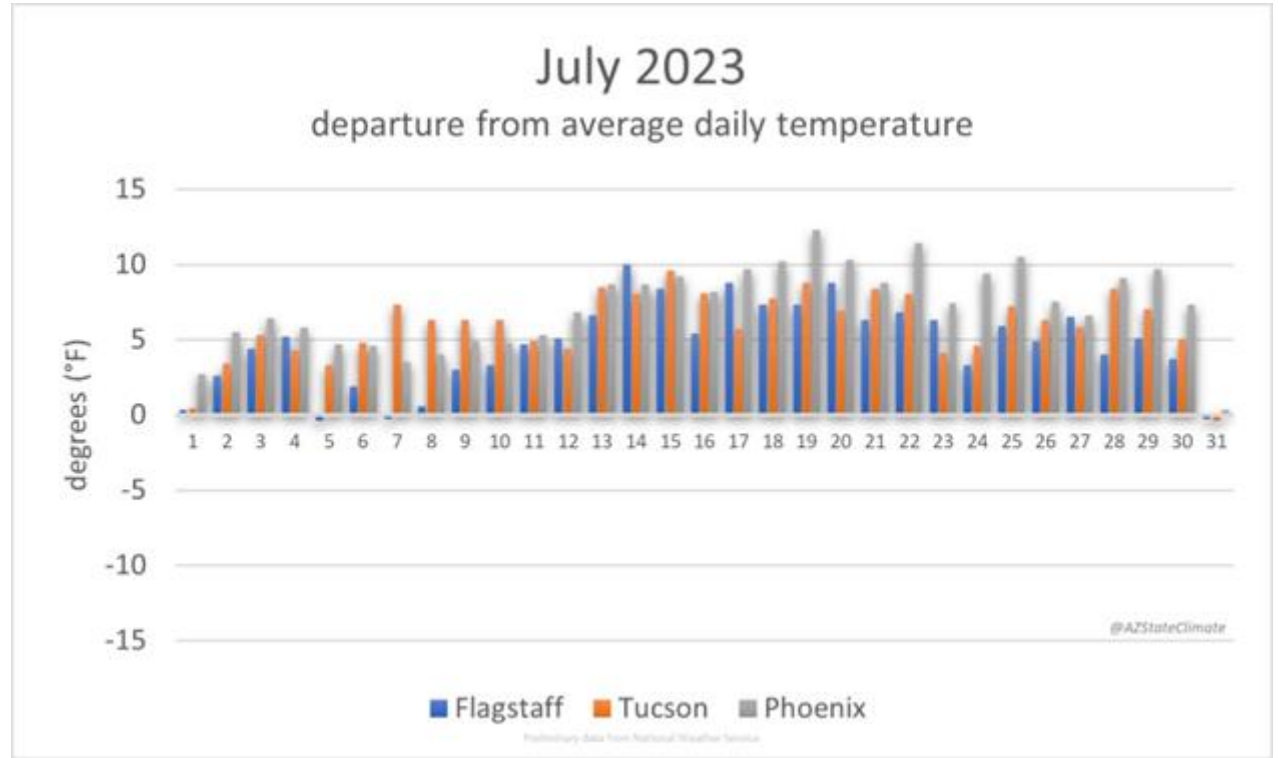
- Persistent, strong ridge
- Lack of thunderstorm activity
- Urban heat island
- Attribution: about 3.5°F warmer

[PHX] PHOENIX/SKY HARBOR :: Hi/Lo Temps for Jul 2023
NCEI 1991-2020 Climate Site: USW00023183



g 2023 6:52 AM CDT in 0.75s Phoenix has the hottest average month (city) in the US 102.7°F IEM #

Most AZ locations had their hottest month on record



JULY 2023
FLAGSTAFF
AVERAGE DAILY TEMPERATURE

ABOVE		AVERAGE		BELOW		
		+/- 0.5°F				
S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

@AZStateClimate

JULY 2023
PHOENIX
AVERAGE DAILY TEMPERATURE

ABOVE		AVERAGE		BELOW		
		+/- 0.5°F				
S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

@AZStateClimate

JULY 2023
TUCSON
AVERAGE DAILY TEMPERATURE

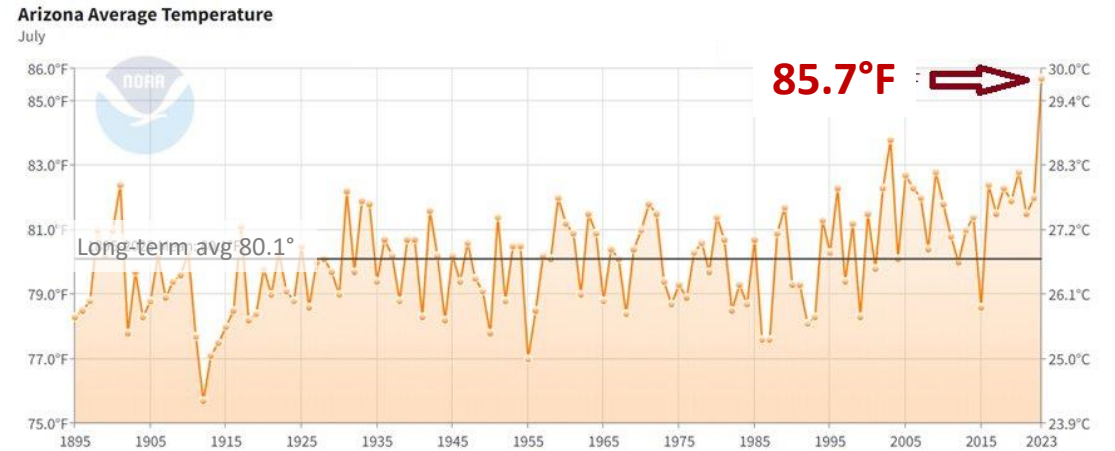
ABOVE		AVERAGE		BELOW		
		+/- 0.5°F				
S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

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Hottest statewide month ever

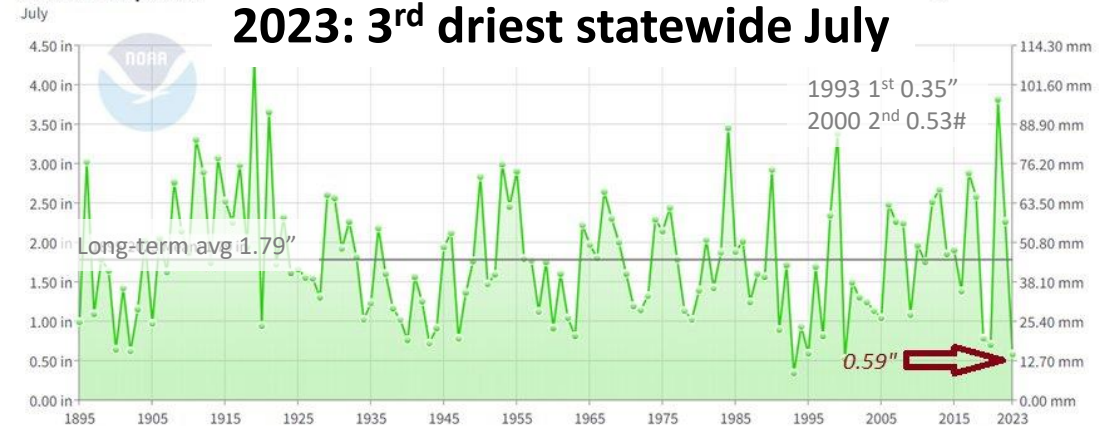
Aug 2020 now 2nd 84.1°F

2023: hottest statewide July

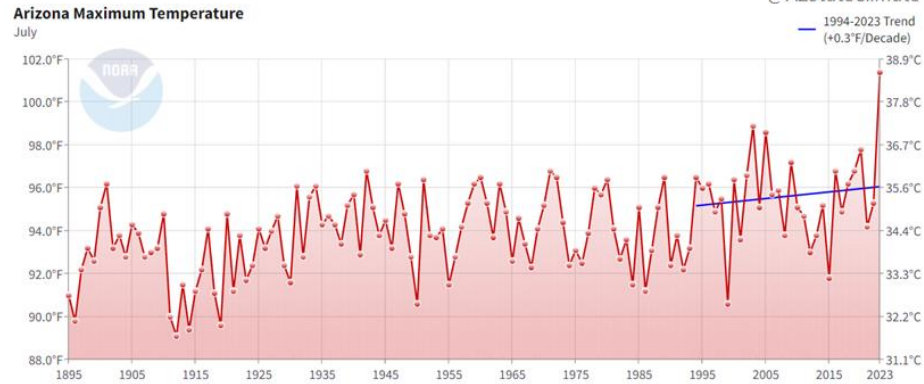
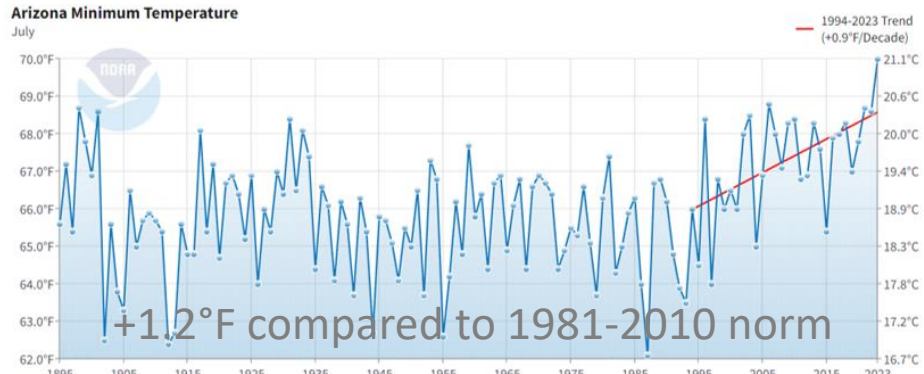


all data are preliminary, from NOAA

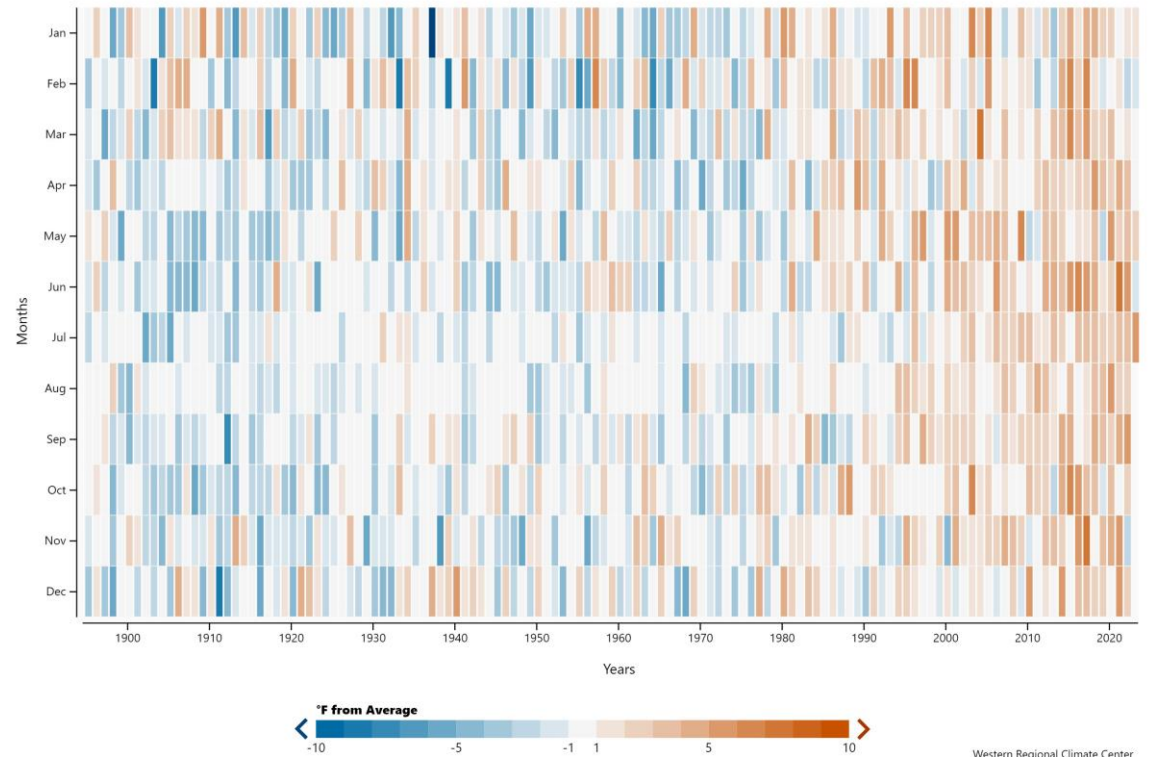
Arizona Precipitation



@AZStateClimate



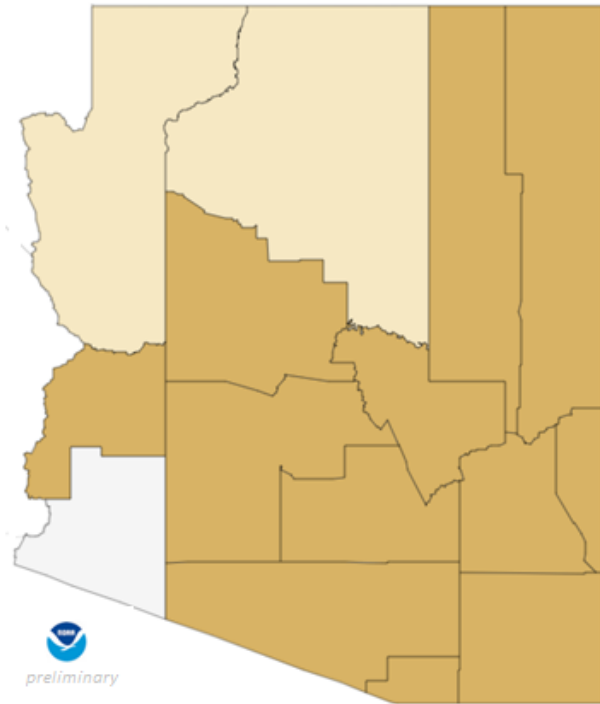
Arizona (Statewide)
Monthly Minimum Temperature Departures from 1991-2020 Computed Average(s) from Jan 1895 to Jul 2023



Statewide: minimum (night) temps hotter

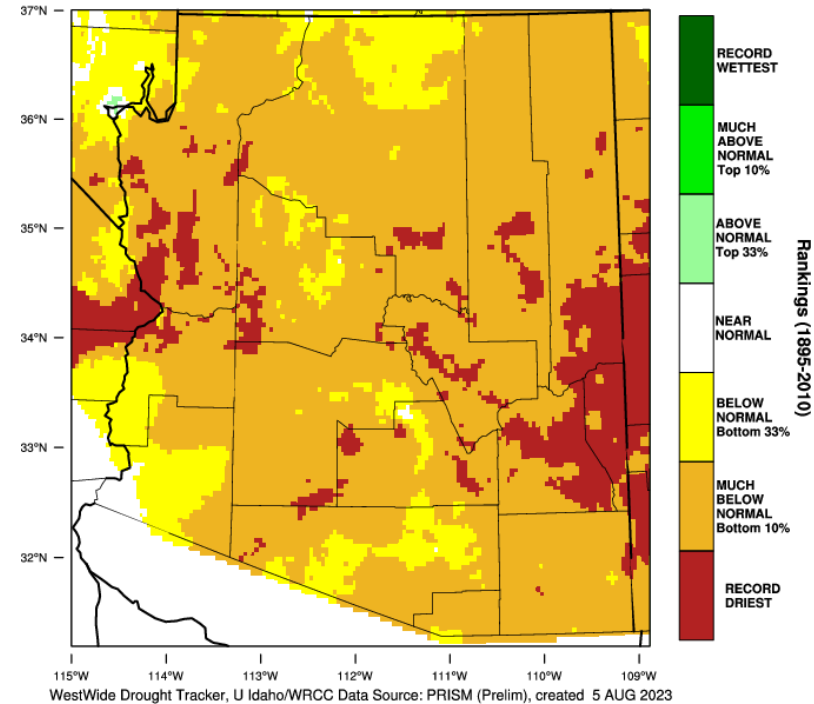
June-July very dry

2023: 2nd driest June-July on record
statewide ranking



Driest $\downarrow \frac{1}{10}$ $\downarrow \frac{1}{2}$ Near Normal $\uparrow \frac{1}{2}$ $\uparrow \frac{1}{10}$ Wettest

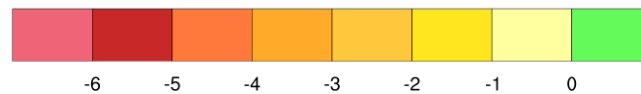
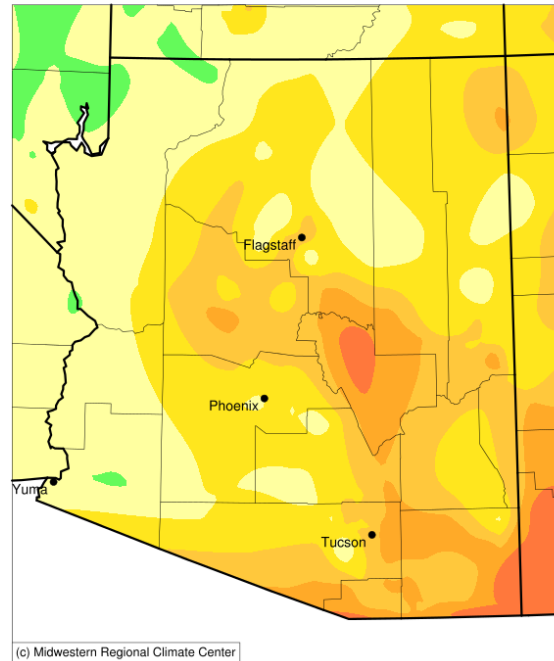
Arizona - Precipitation
June-July 2023 Percentile



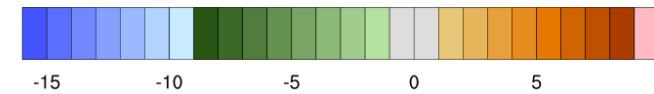
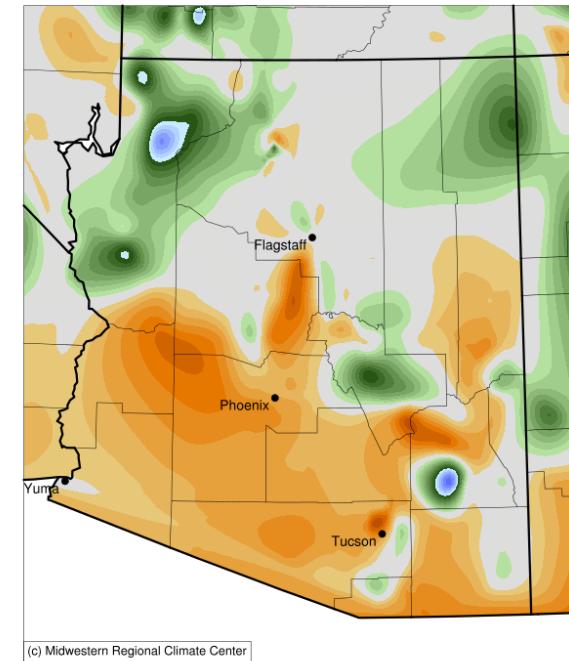
Monsoon
to date:

Much below
average precip

Accumulated Precipitation (in): Departure from 1991-2020 Normals
June 15, 2023 to August 15, 2023



Average Temperature (°F): Departure from 1991-2020 Normals
June 15, 2023 to August 15, 2023



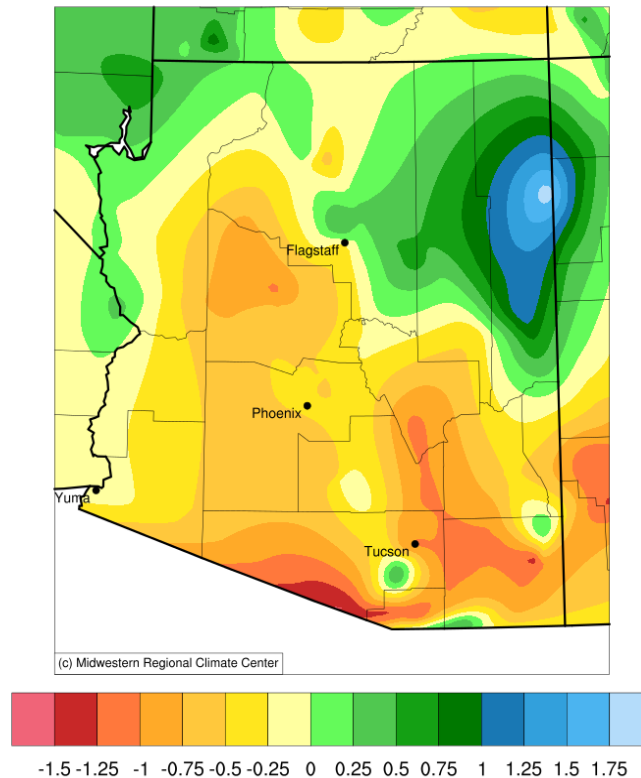
Latest starting monsoon precip for Phoenix

Phoenix Sky Harbor

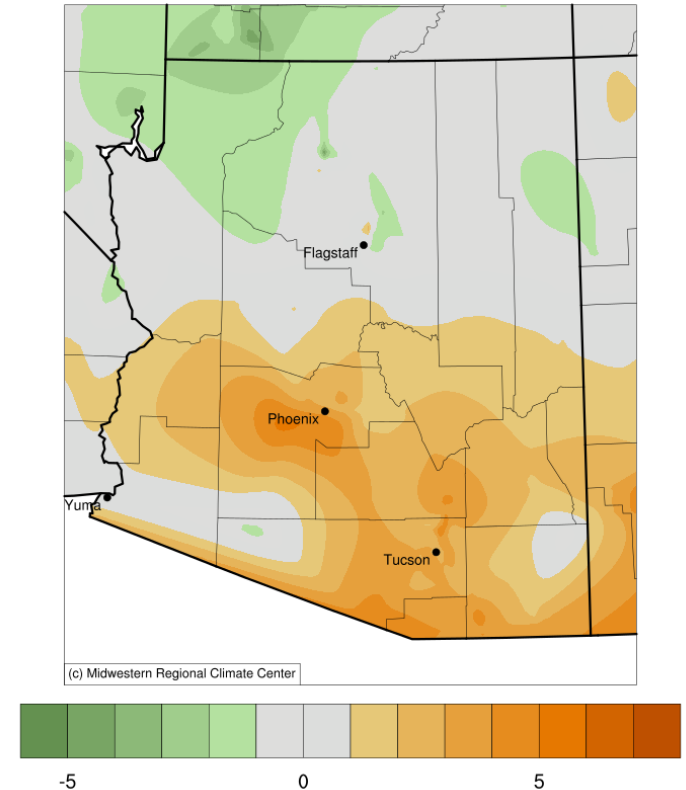
Last 0.01" or higher was March 22

Latest monsoon precip was 1995, Aug 14

Accumulated Precipitation (in): Departure from 1991-2020 Normals
August 01, 2023 to August 15, 2023

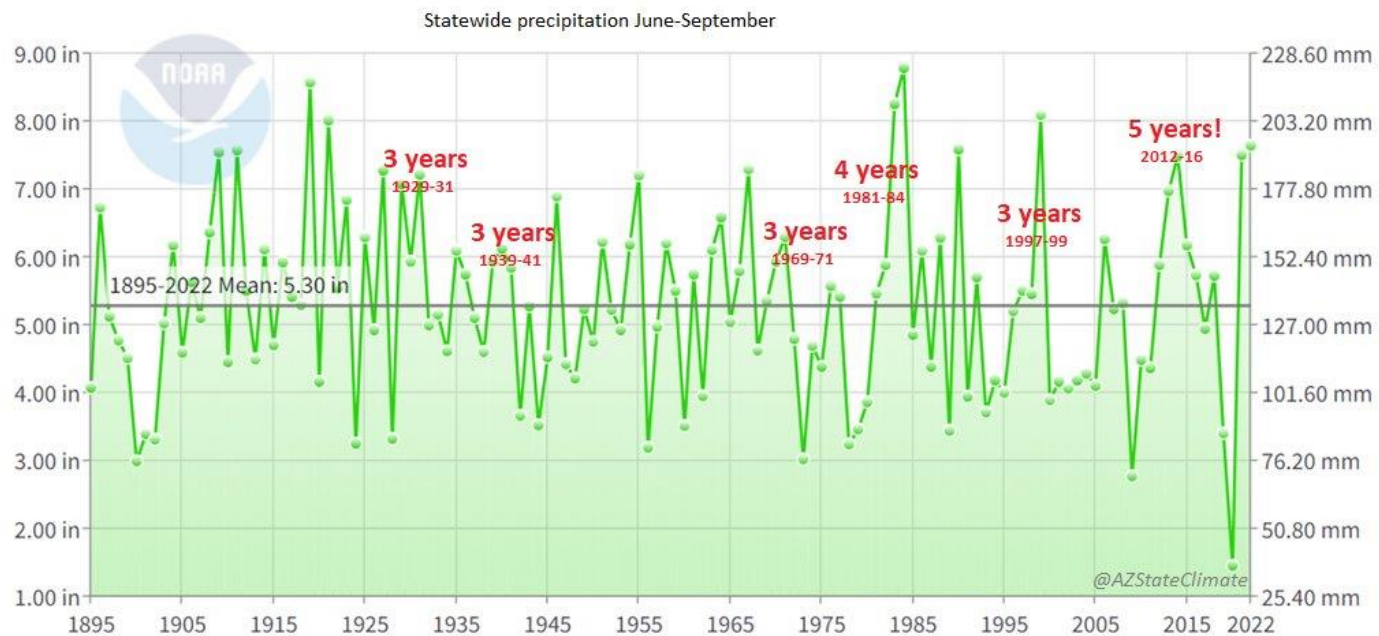


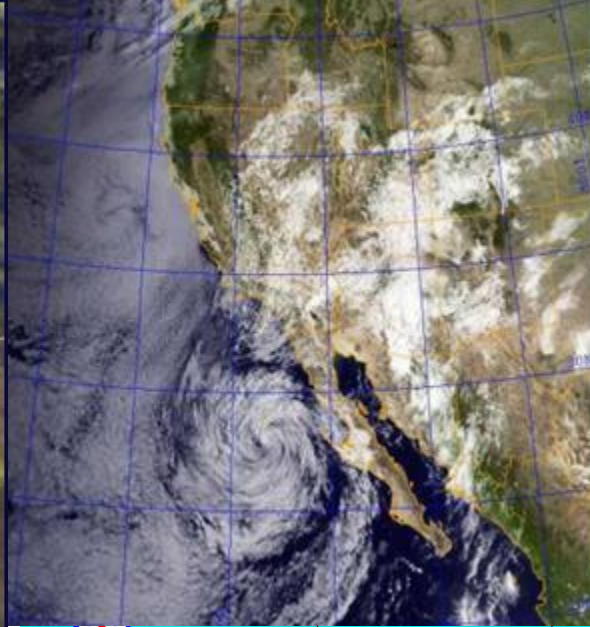
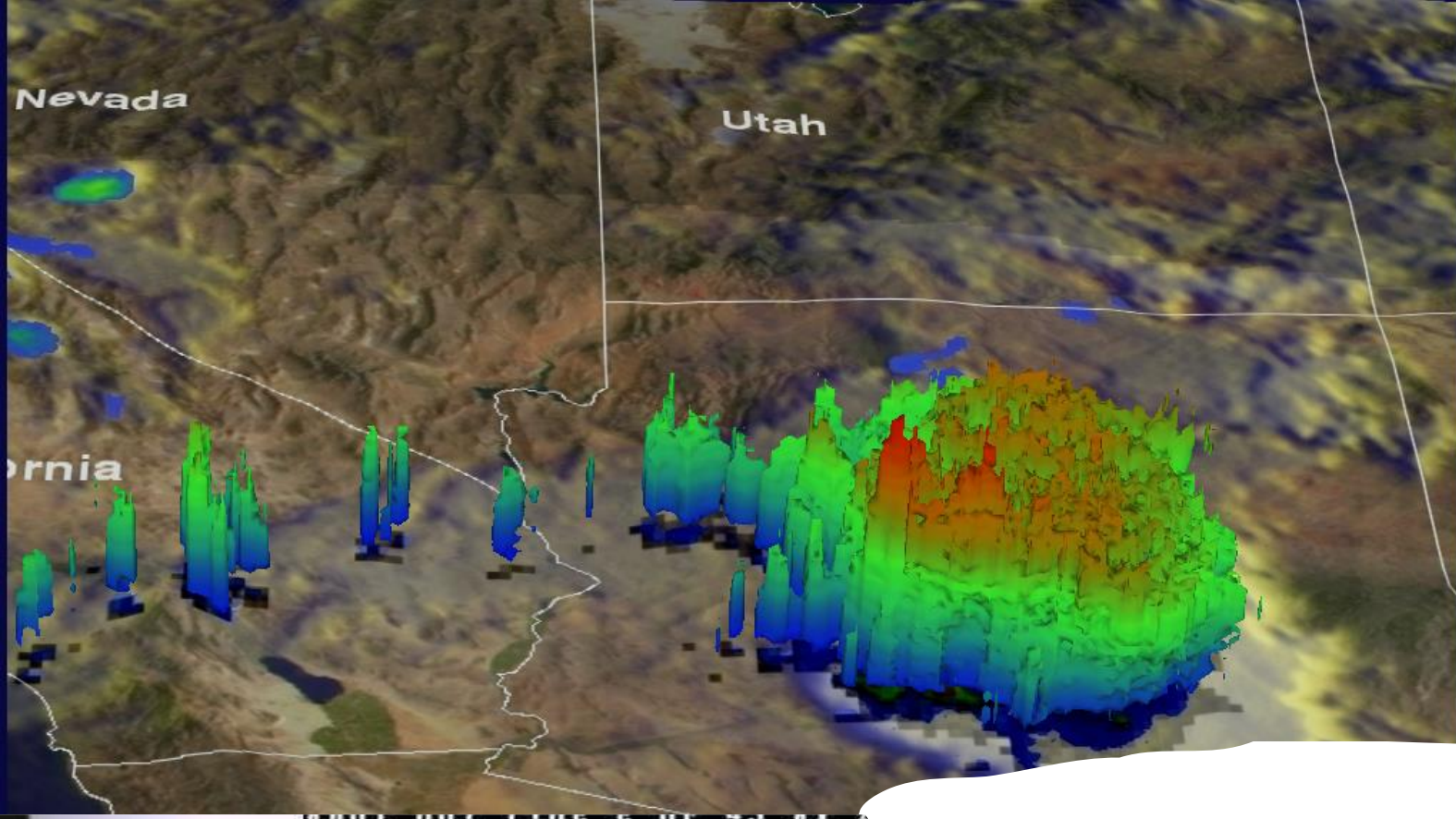
Average Temperature (°F): Departure from 1991-2020 Normals
August 01, 2023 to August 15, 2023



Is a wet monsoon still possible?

How often has Arizona had 3 or more wet summers in a row?





Visible / IR composite satellite photo of the western US, courtesy of the Naval Research Laboratory. The image was taken at 8:30 am MST on 9/8/2014. Note the position of Hurricane Norbert to the southwest of Arizona.

https://alert.fcd.maricopa.gov/alert/WY14/StormRpt_09082014.pdf

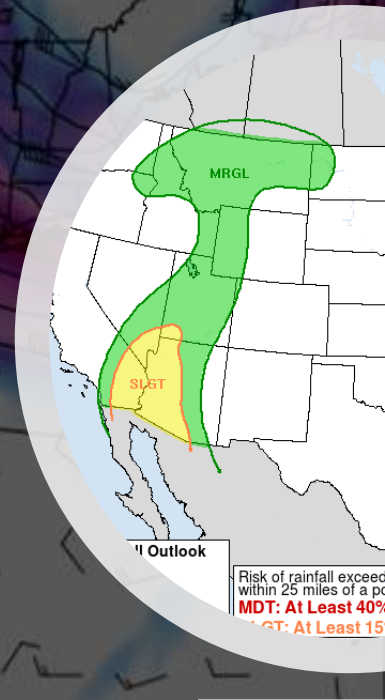
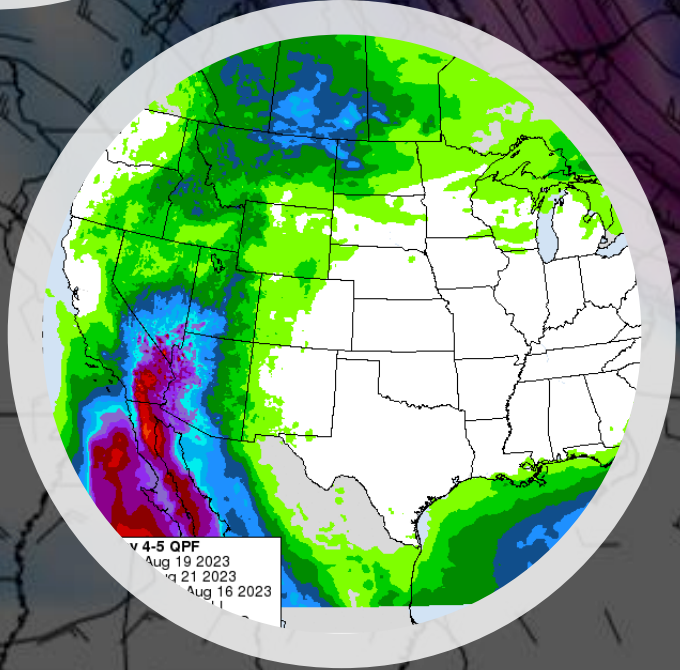
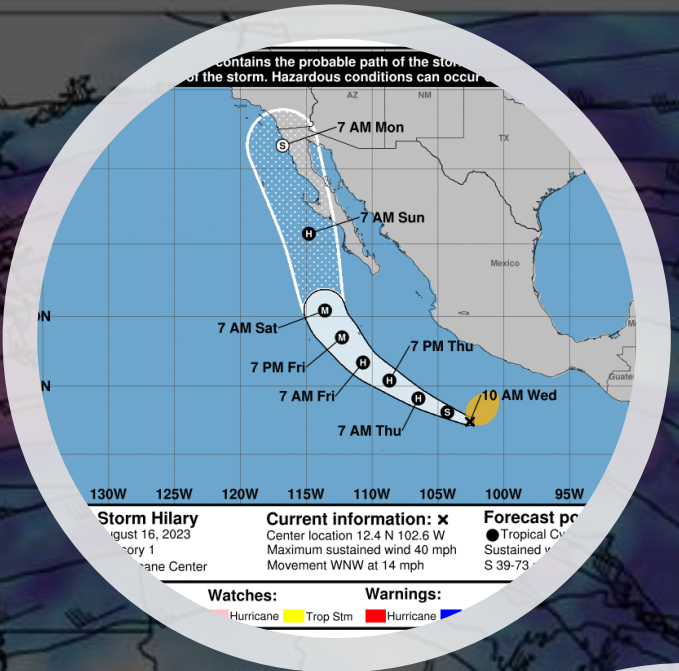
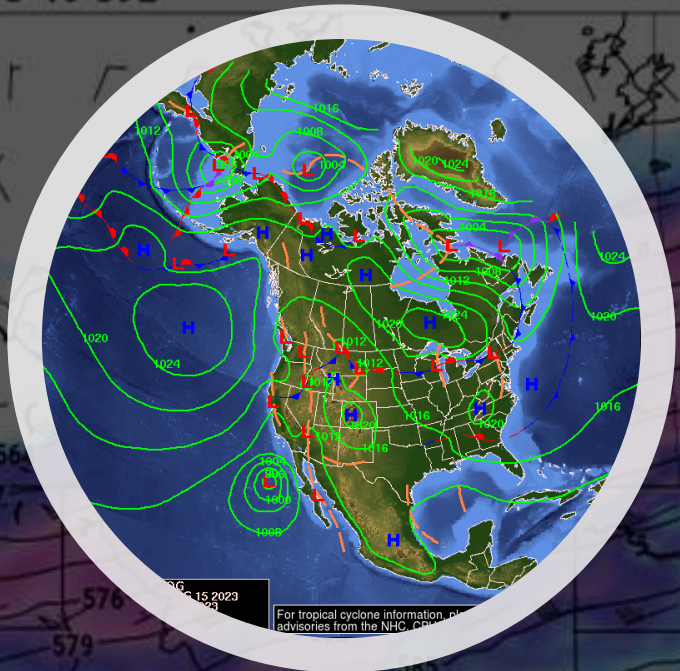
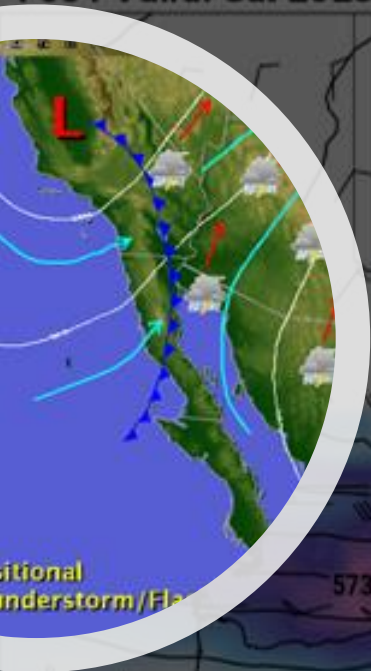
Hurricane Norbert Friday September 5, 2014 5 AM PDT Intermediate Advisory 12A NWS National Hurricane Center		Current Information: Center Location 23.0 N 111.9 W Max Sustained Wind 90 mph Movement NNW at 8 mph	Forecast Positions: ● Tropical Cyclone ○ Post-Tropical Sustained Winds: D < 39 mph S 39-73 mph H 74-110 mph M > 111 mph
Potential Track Area: Day 1-3	Watches: Hurricane Trop.Storm	Warnings:	

Norbert brought Phoenix 1000-yr rain event 9/8/2014



3.3" in 7 hrs KPHX
 4-5.5" other locations

Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2014	-0.4	-0.5	-0.3	0.0	0.2	0.2	0.0	0.1	0.2	0.5	0.6	0.7
2015	0.5	0.5	0.5	0.7	0.9	1.2	1.5	1.9	2.2	2.4	2.6	2.6



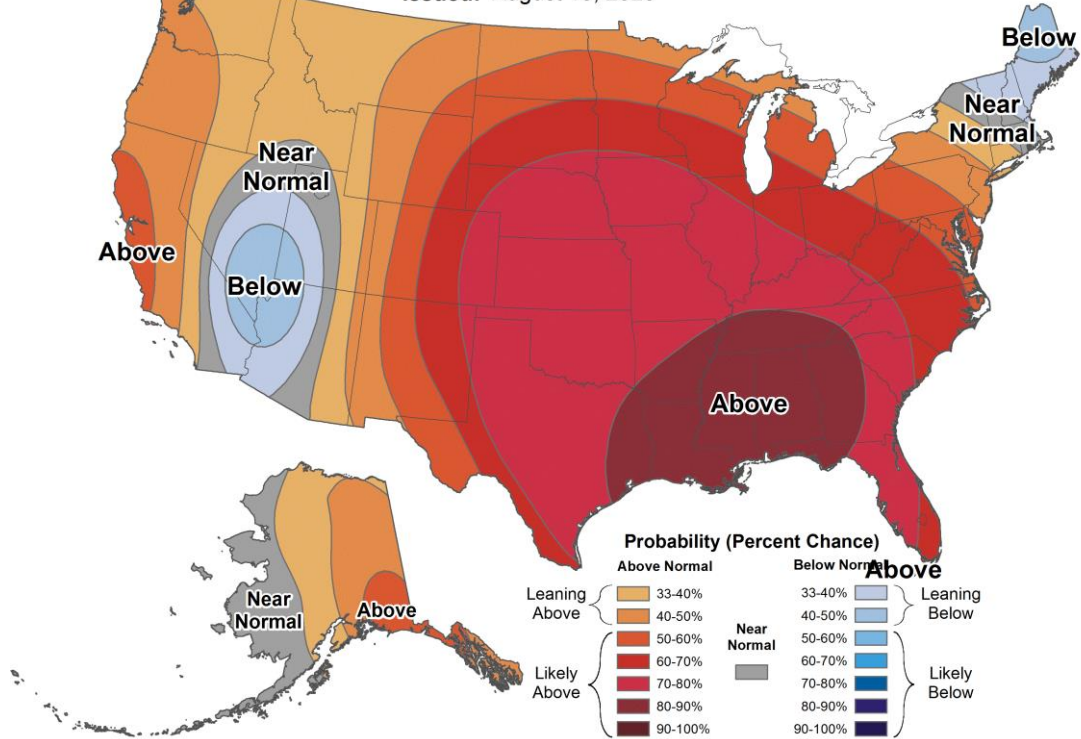
Possible impacts from Hilary
still uncertainty; next 48 hrs will tell



6-10 Day Temperature Outlook



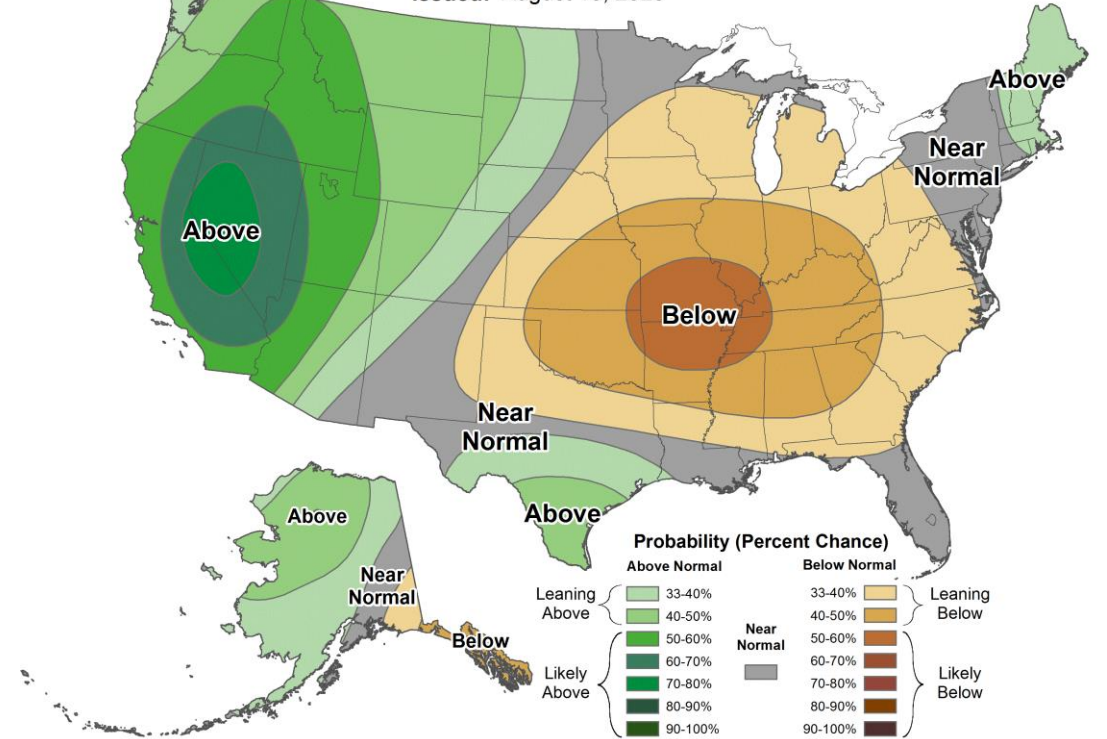
Valid: August 21 - 25, 2023
Issued: August 15, 2023



6-10 Day Precipitation Outlook



Valid: August 21 - 25, 2023
Issued: August 15, 2023

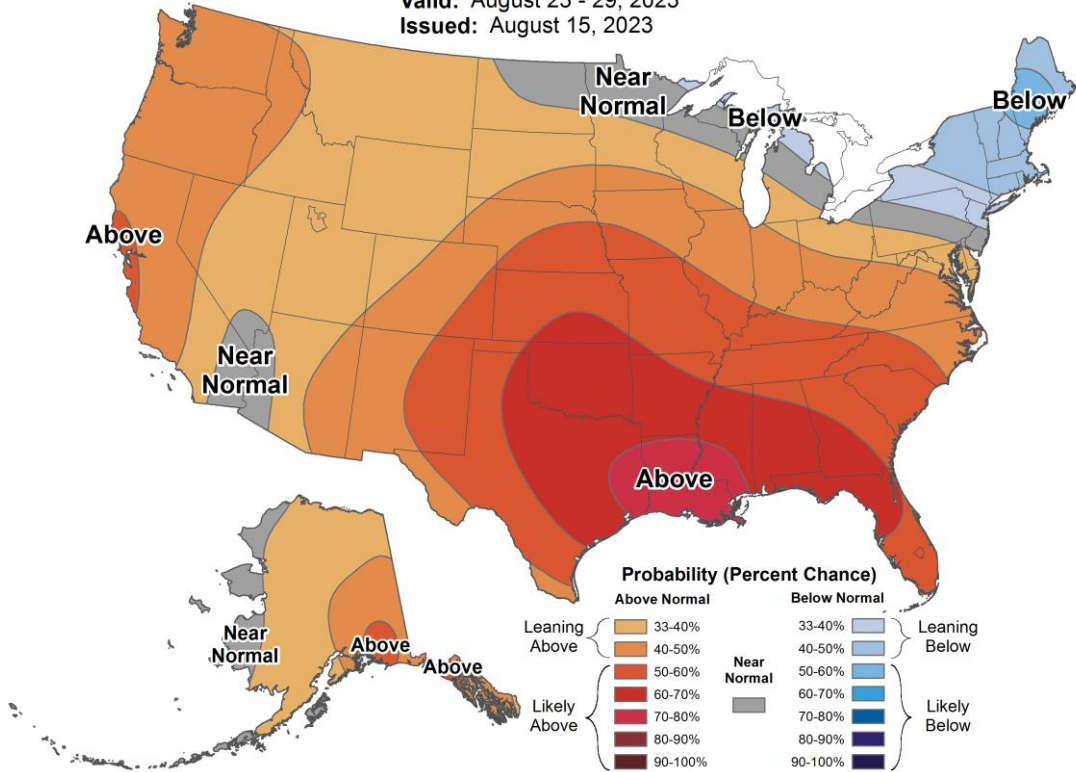




8-14 Day Temperature Outlook



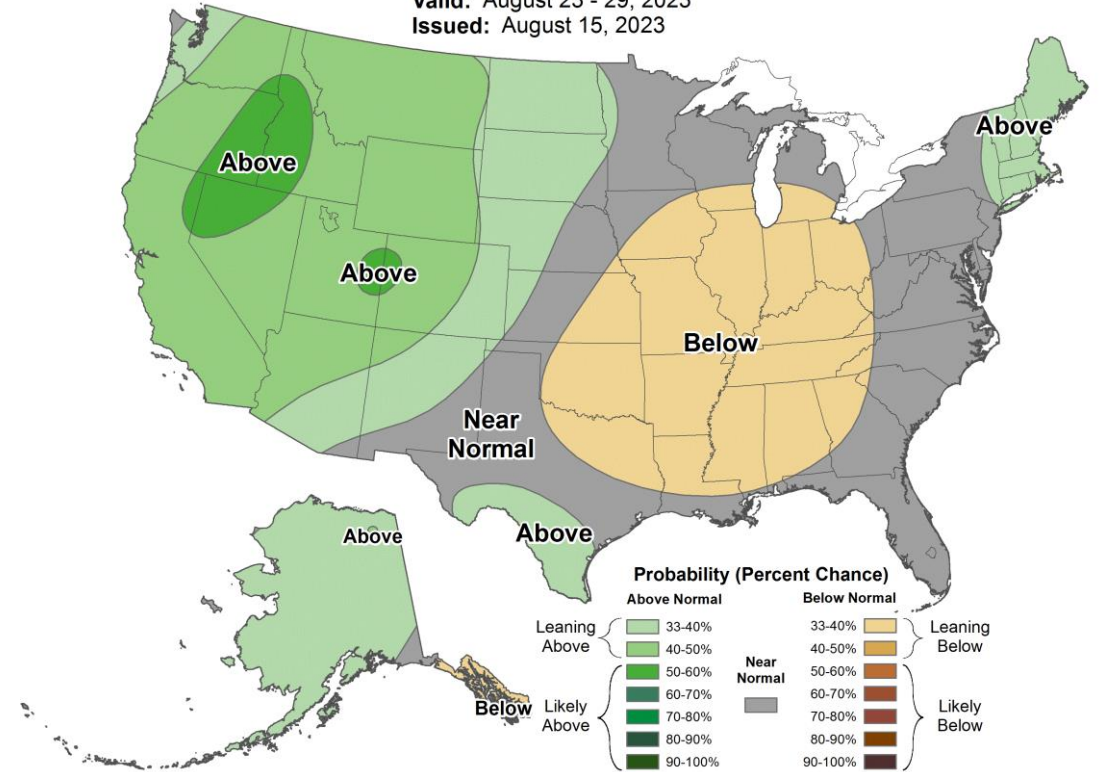
Valid: August 23 - 29, 2023
Issued: August 15, 2023



8-14 Day Precipitation Outlook



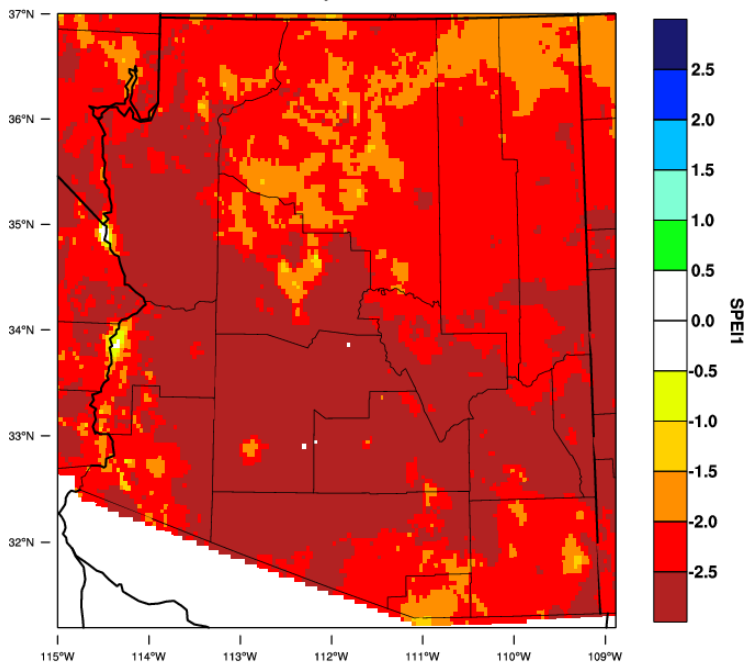
Valid: August 23 - 29, 2023
Issued: August 15, 2023



After today, likely Phx Sky Harbor 46 days of 110°F
2020: 50 days end of Aug

Long-term drought impacted

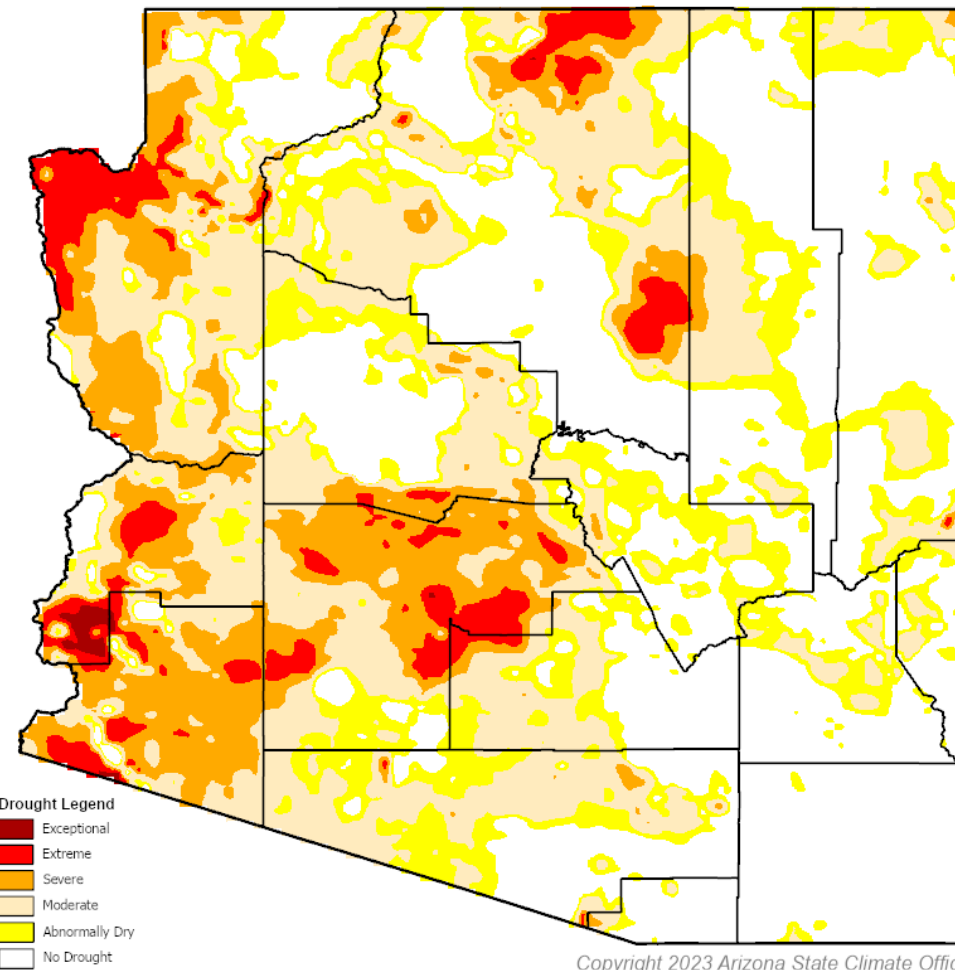
Arizona - 1 month SPEI
July 2023



WestWide Drought Tracker, U Idaho/WRC Data Source: PRISM (Prelim), created 11 AUG 2023

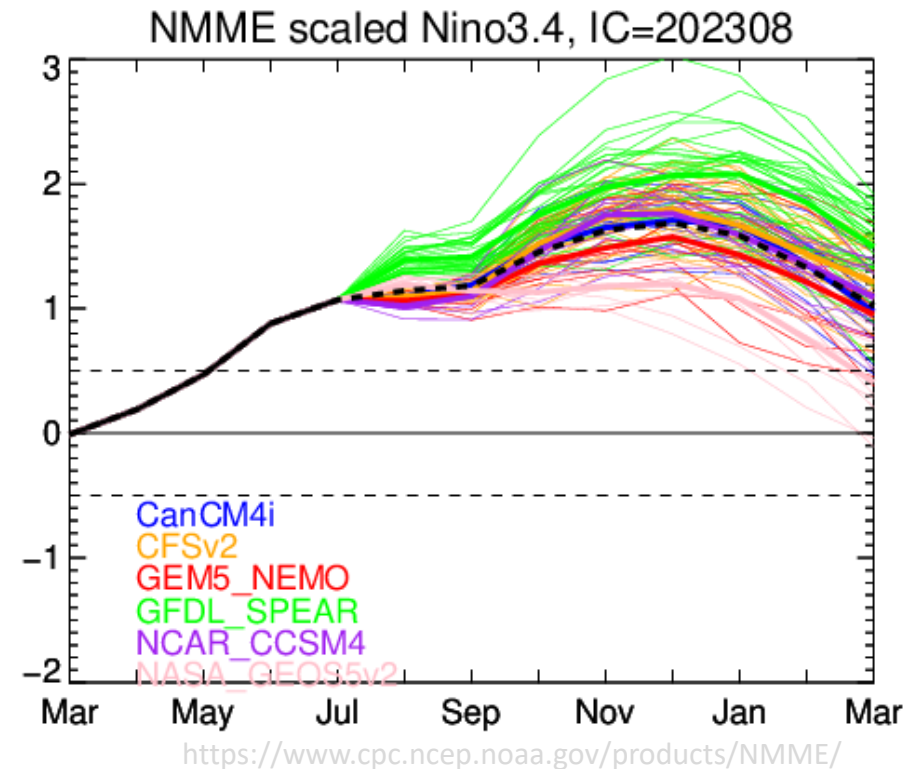
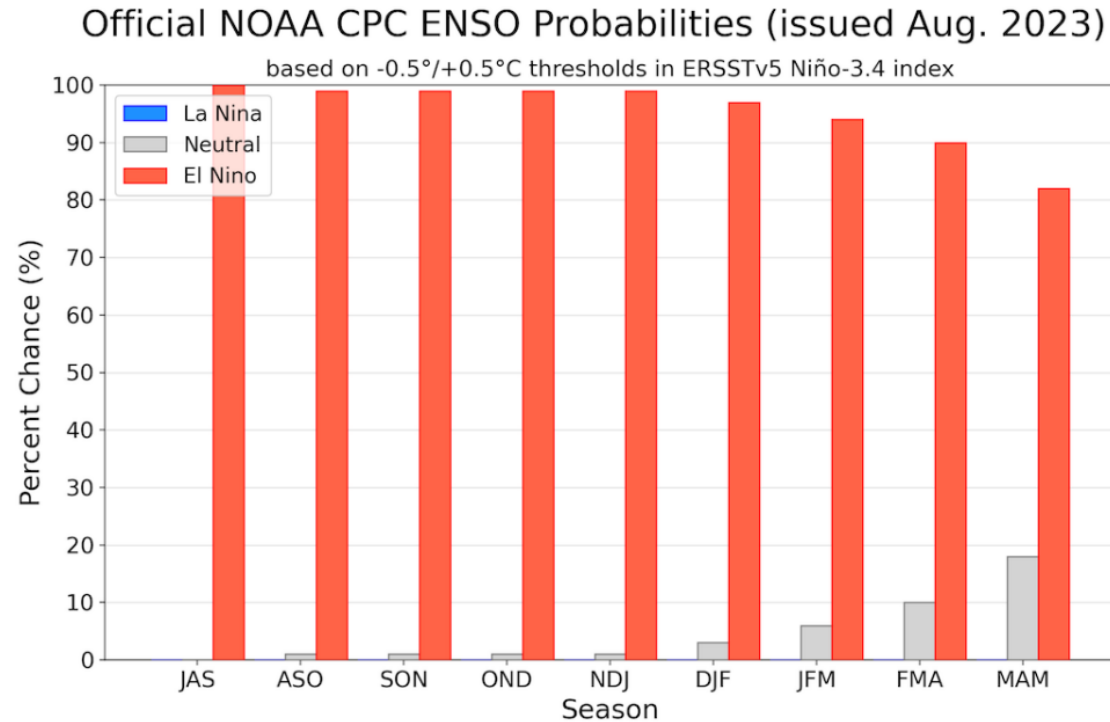
Arizona Long-Term Drought

July 2023



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El Nino on track to persist through winter 2023-24



Summary



July record-breaking
across state



Monsoon coming
about; flood potential



El Niño continues
building