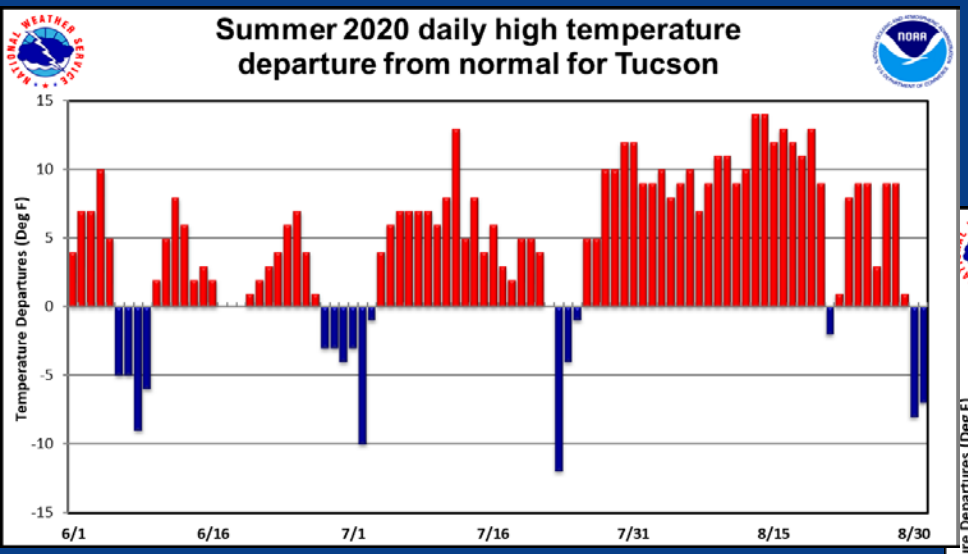
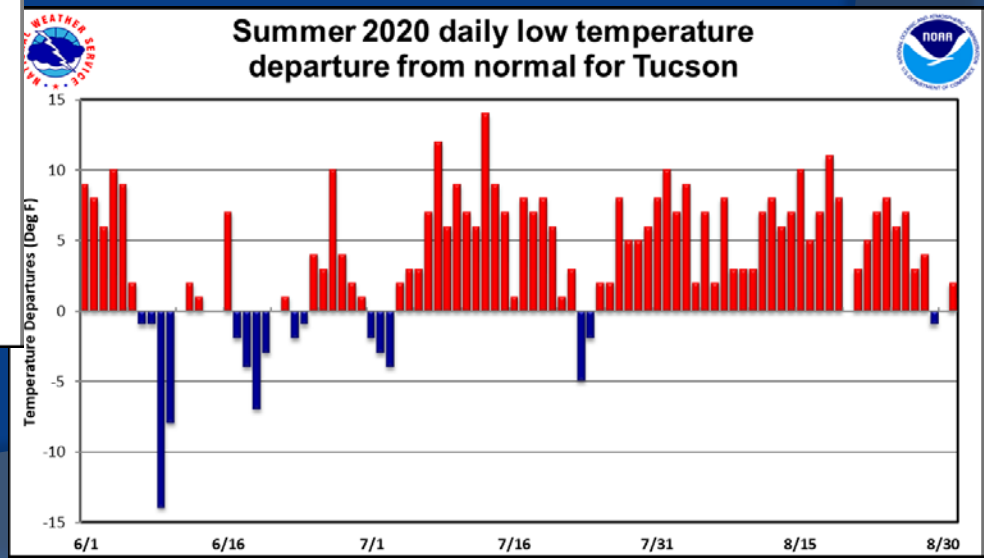
2020 MONSOON SEASON

National Weather Service Tucson, Arizona
Pima County Local Drought Impact Group Meeting
September 9, 2020

Summer 2020
June - August

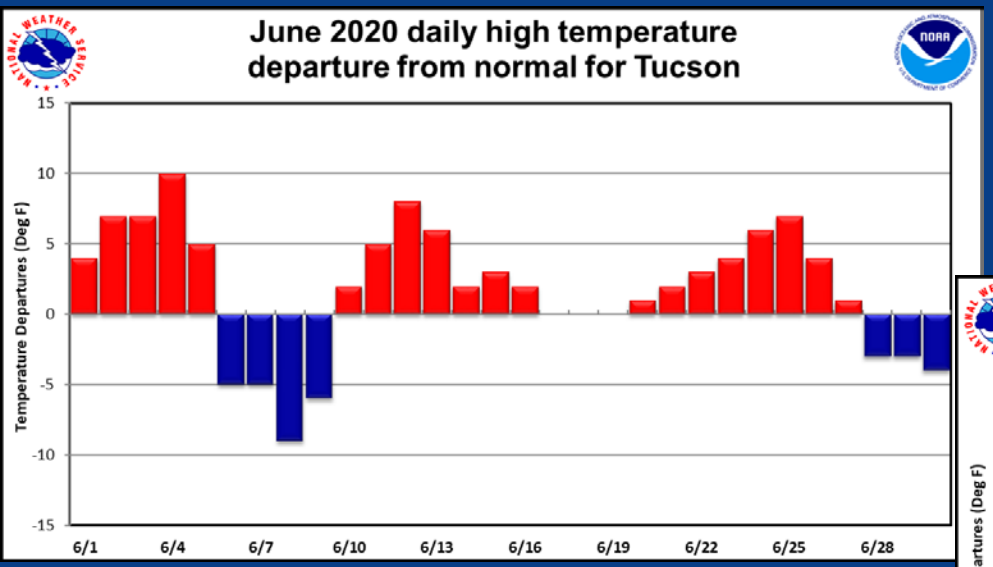
- **Hottest** & **7th Driest**
- 74 days 100°F or hotter, 2nd highest total
- 1.67” rainfall at Tucson Airport, normal is 4.84”
- 47% of rainfall occurred on August 20 within 5 hours
- Rainlog & Pima ALERT recorded 0.5” to 6” in the mountains
- Preliminary new NWS Normals for 1991-2020 show temperatures increasing and precipitation decreasing for Summer Season

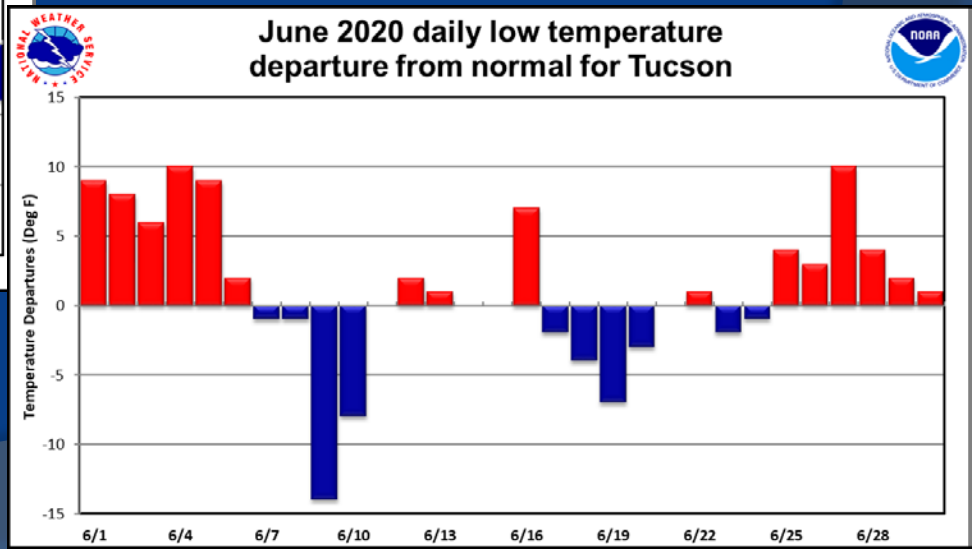




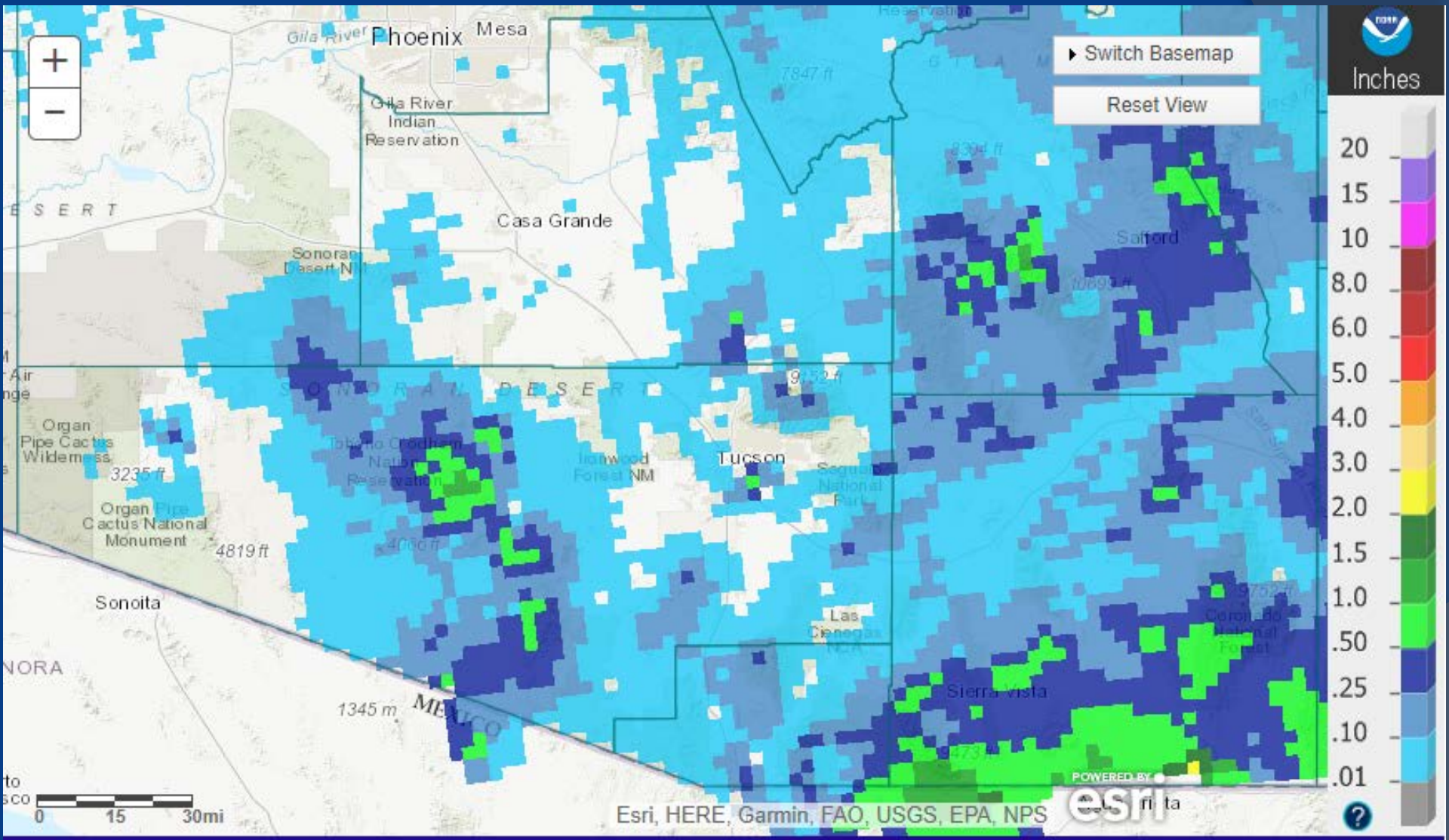
JUNE

- 17th Warmest
- 50th Driest: 0.05” rainfall, normal 0.20”
- June 5th Bighorn Wildfire started
- Rainlog & Pima ALERT gages recorded 0” to 0.5”



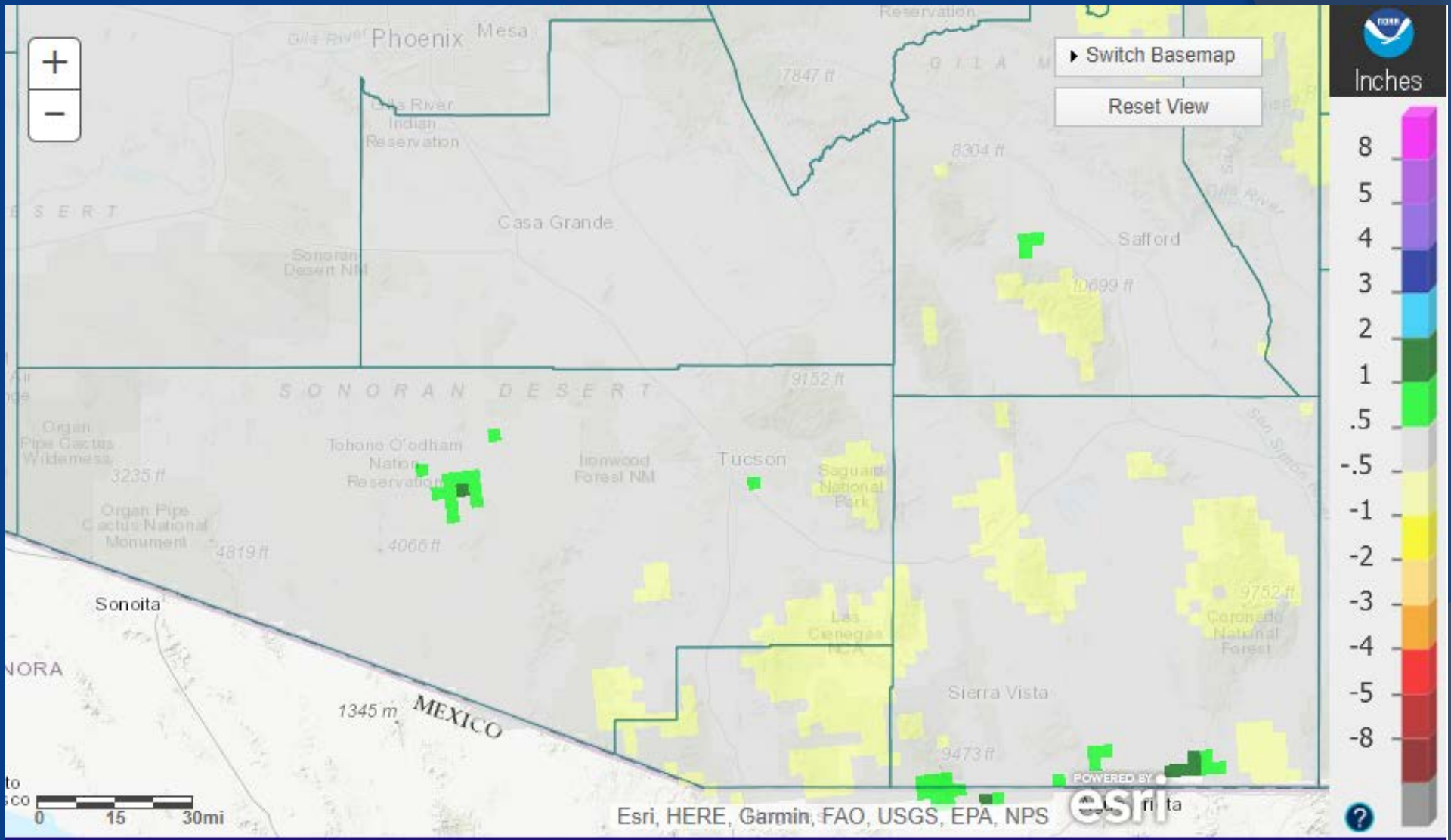


June Observed Precipitation



Tucson, AZ: June, 2020 Monthly Observed Precipitation

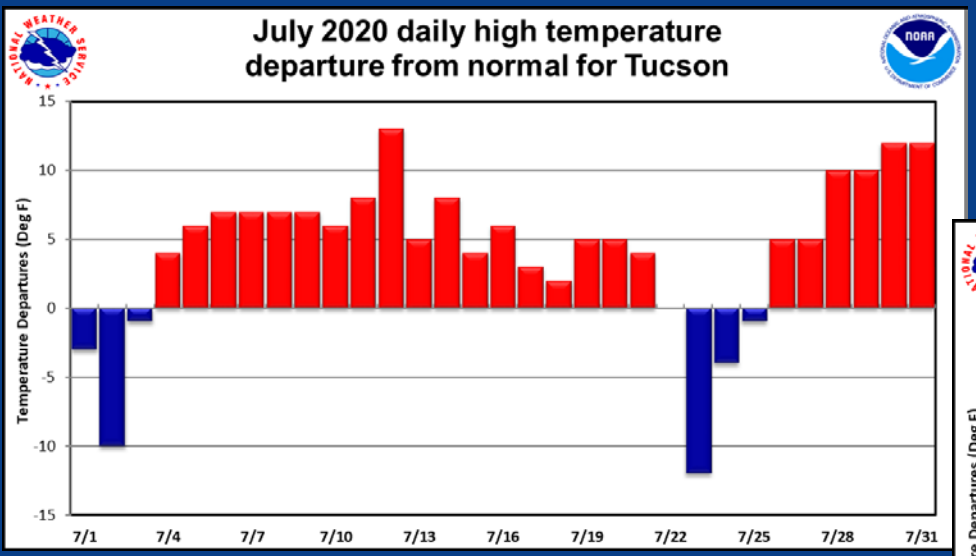
June Departure from Normal Precipitation

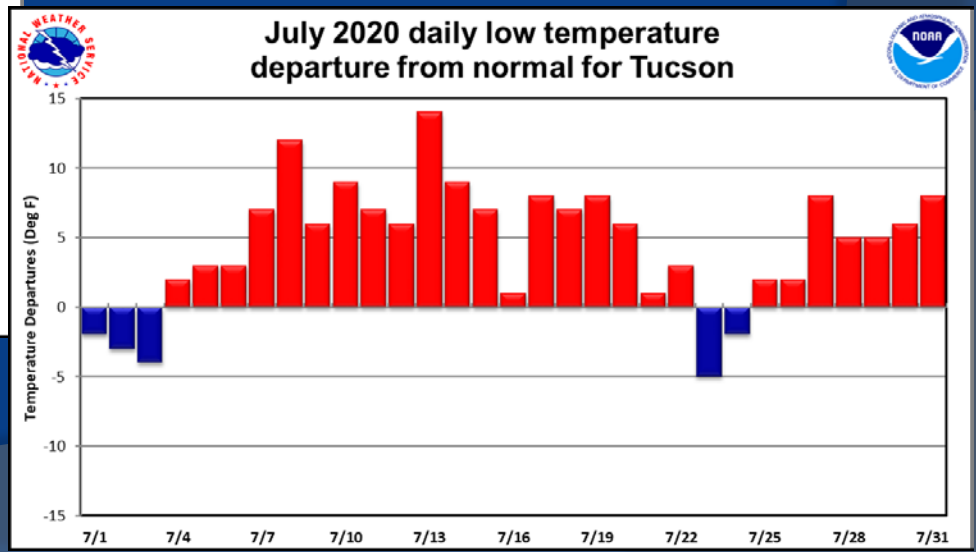


Tucson, AZ: June, 2020 Monthly Departure from Normal Precipitation

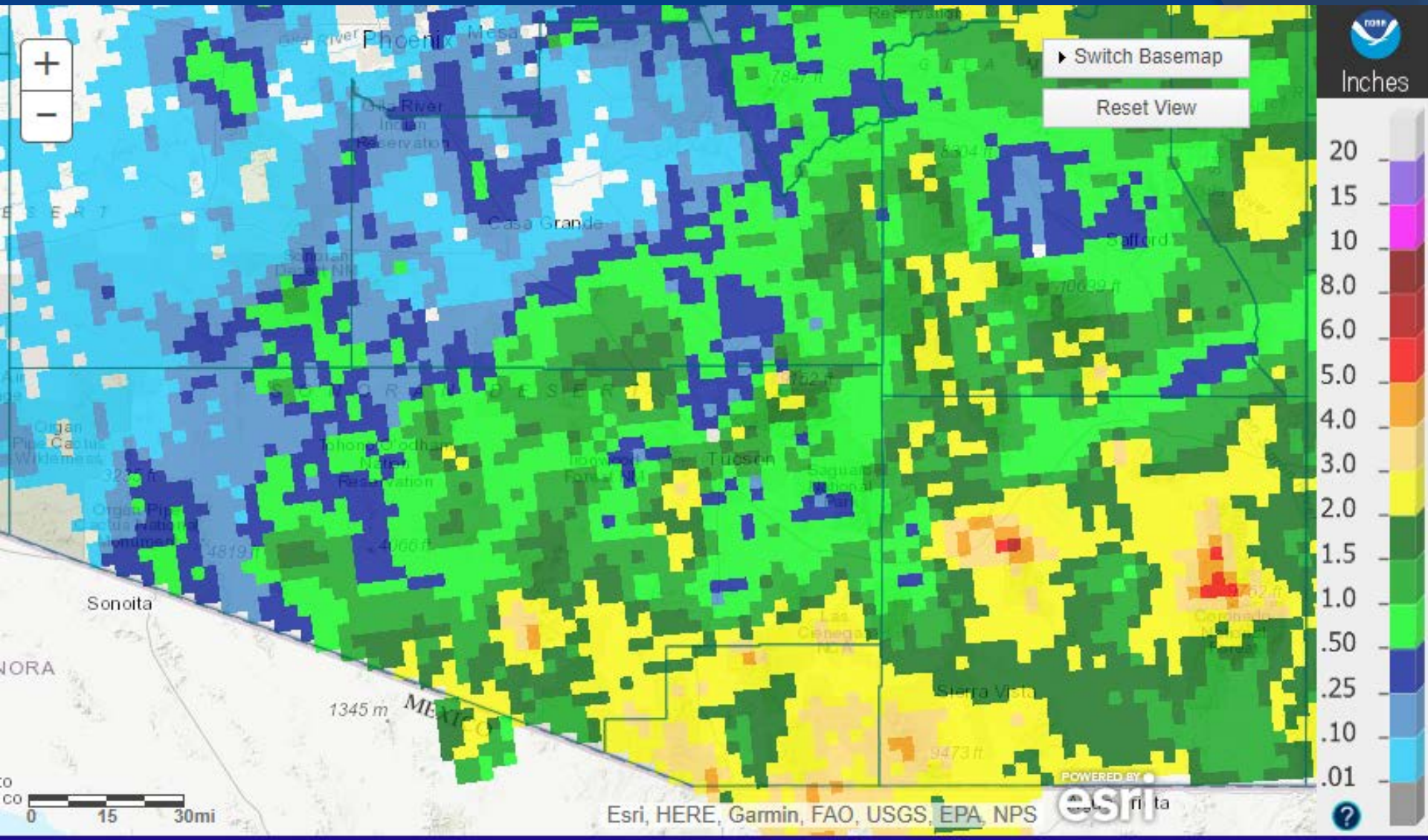
JULY

- **HOTTEST** with 4.5ºF above average temperature
- 4 hottest Julys occurred in past 5 years
- 10th Driest: 0.46” rainfall at Tucson Airport, normal is 2.25”
- Rainlog & Pima ALERT gages recorded 0.20” to 3.50”
- July 23rd Bighorn Fire 100% contained at 119,987 acres



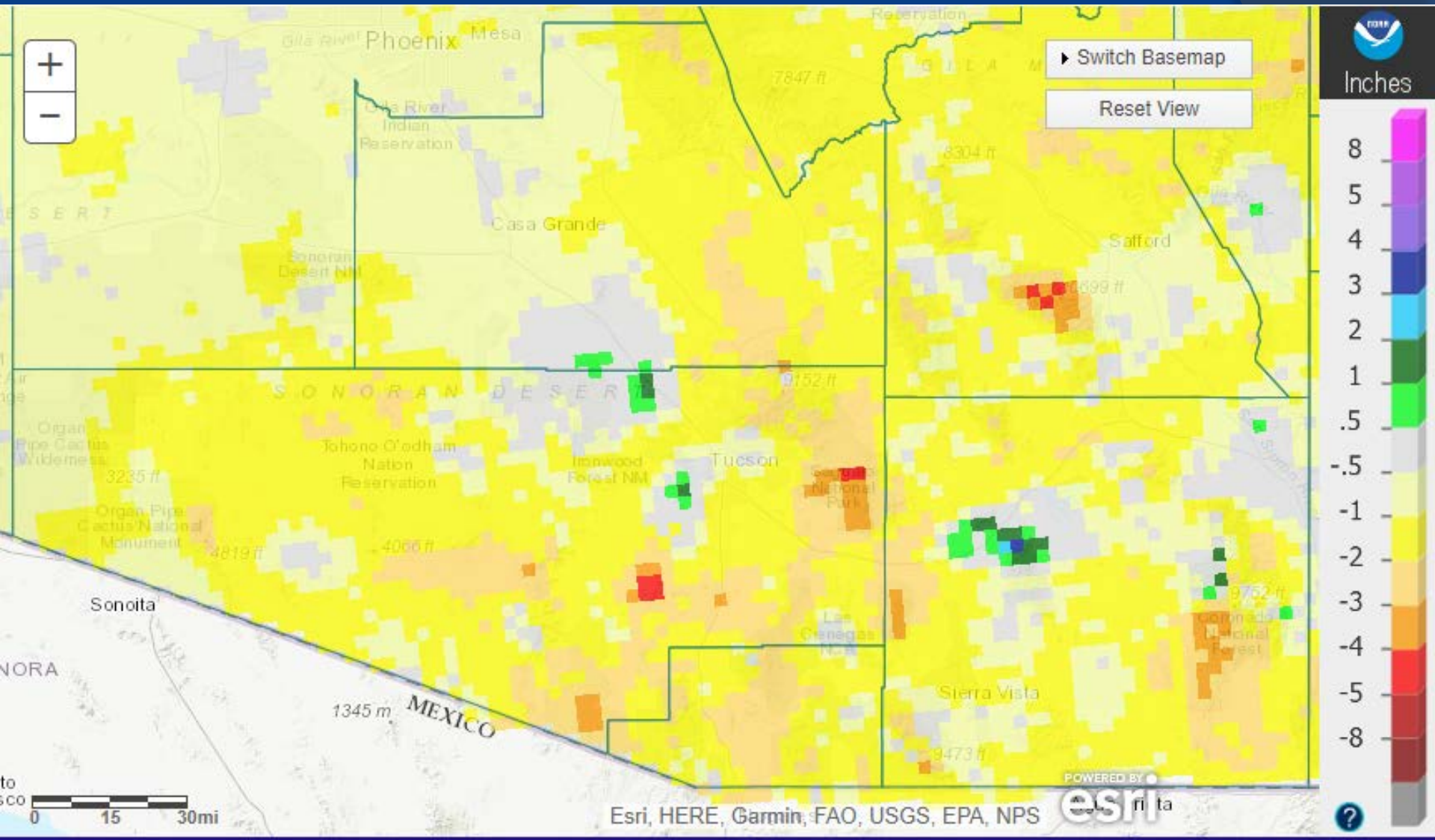


July Observed Precipitation



Tucson, AZ: July, 2020 Monthly Observed Precipitation

July Departure from Normal Precipitation



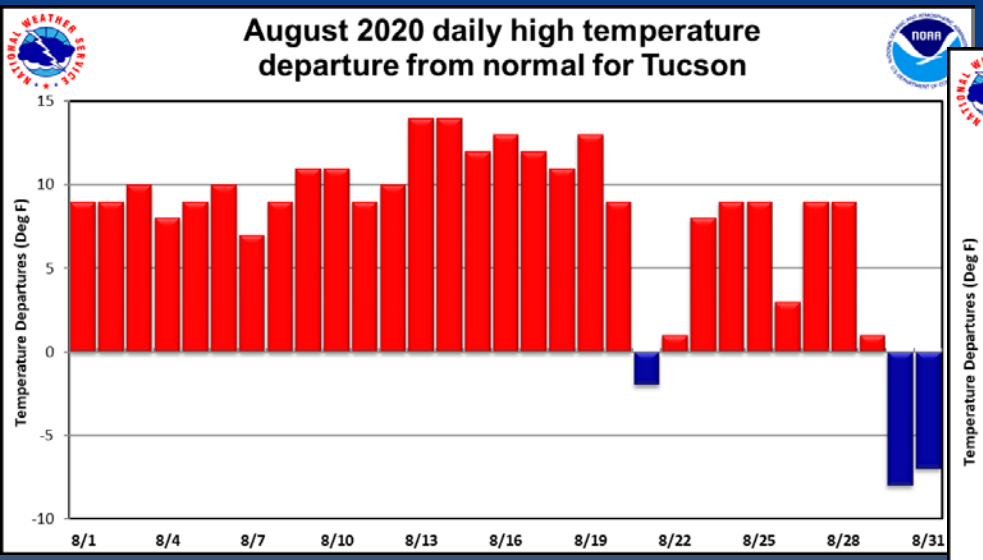
Tucson, AZ: July, 2020 Monthly Departure from Normal Precipitation

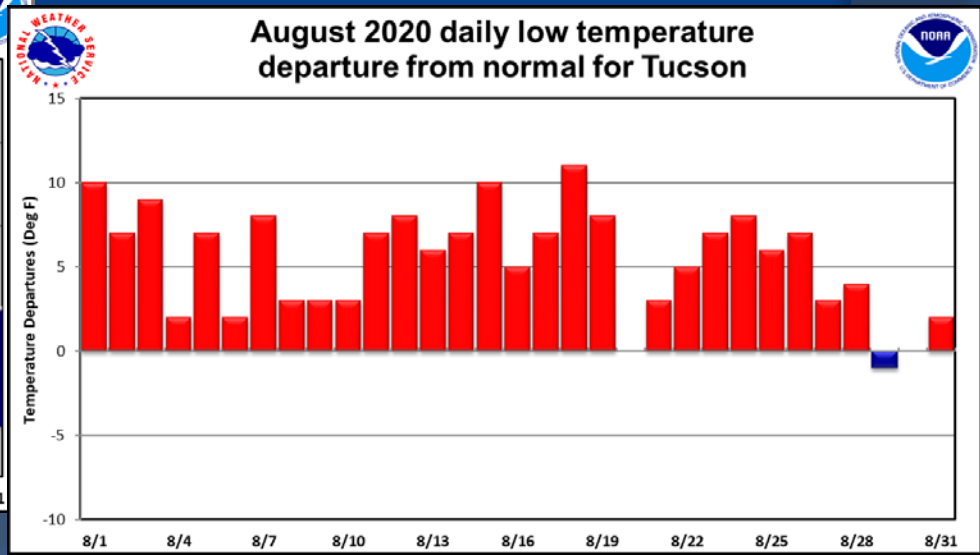
AUGUST

- **HOTTEST** 6.7°F above normal & record hottest single month
- 30th Driest with 1.16” rainfall at Tucson Airport, normal is 2.39”
- Rainlog & Pima ALERT gages recorded 0.2” to 2.25”
- Tucson Airport Rainfall through August

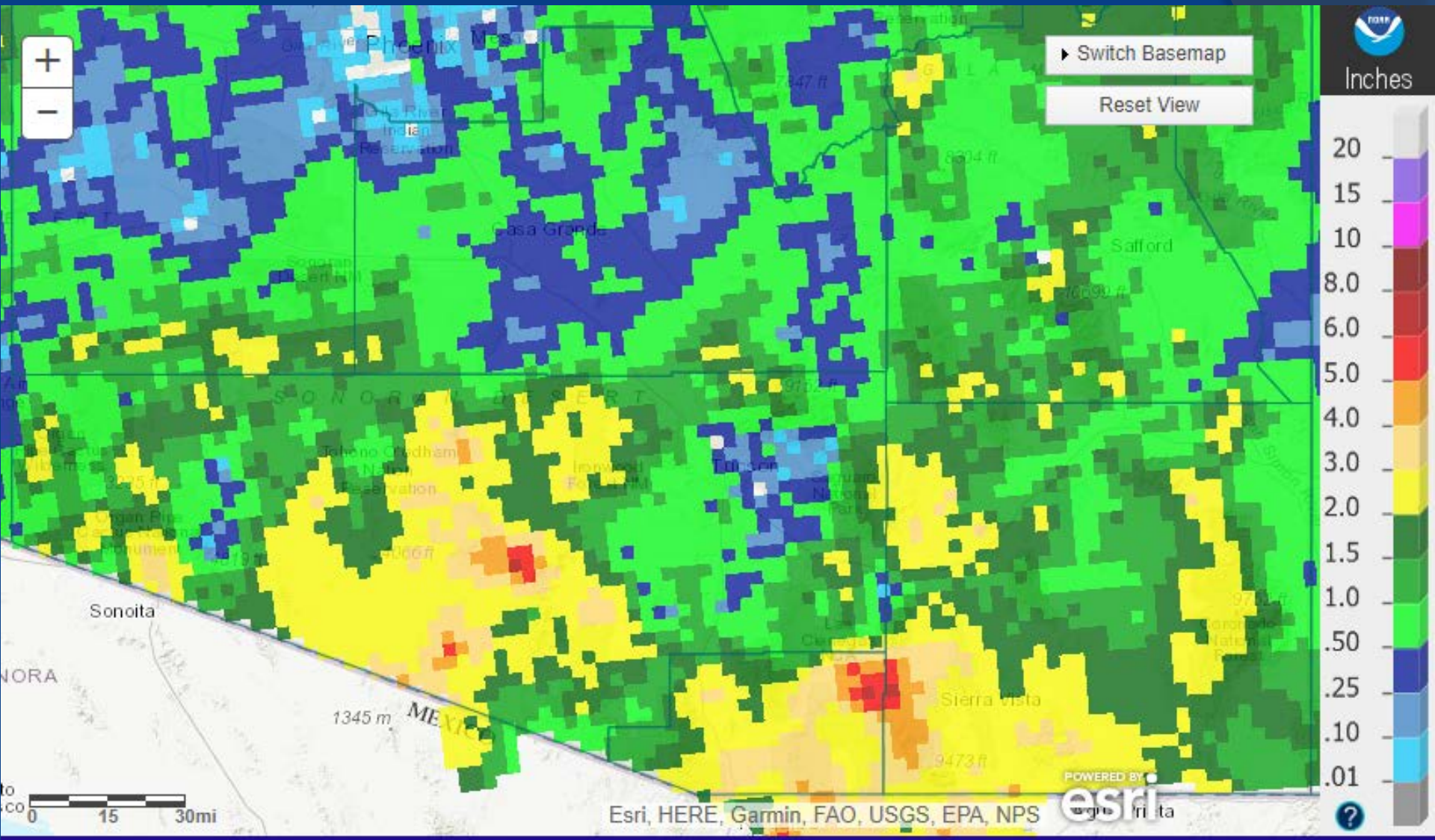
  Calendar Year = 3.77”

  Water Year = 7.3” (11.59” Normal for year)



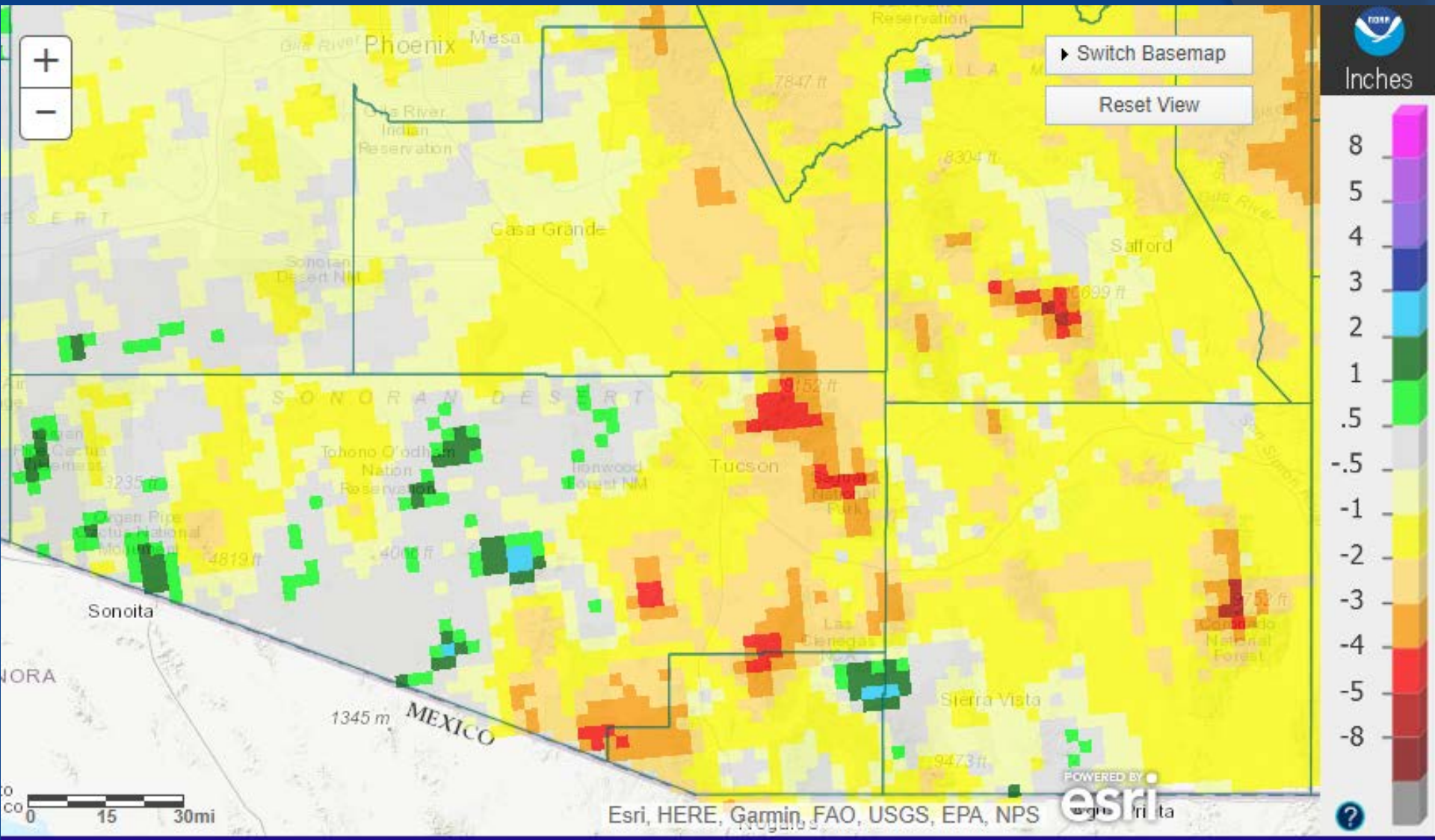


August Observed Precipitation



Tucson, AZ: August, 2020 Monthly Observed Precipitation

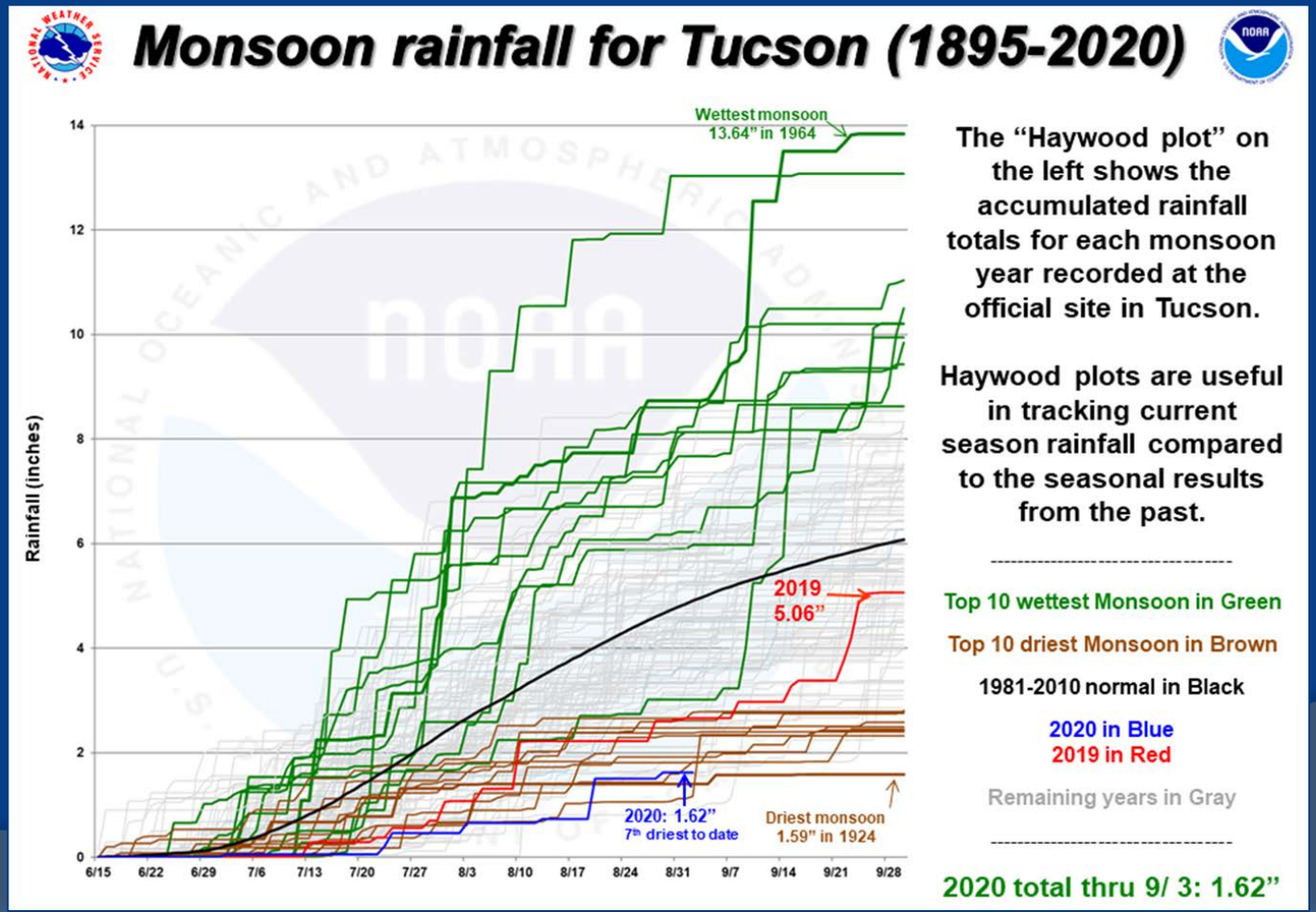
August Departure from Normal Precipitation



Tucson, AZ: August, 2020 Monthly Departure from Normal Precipitation

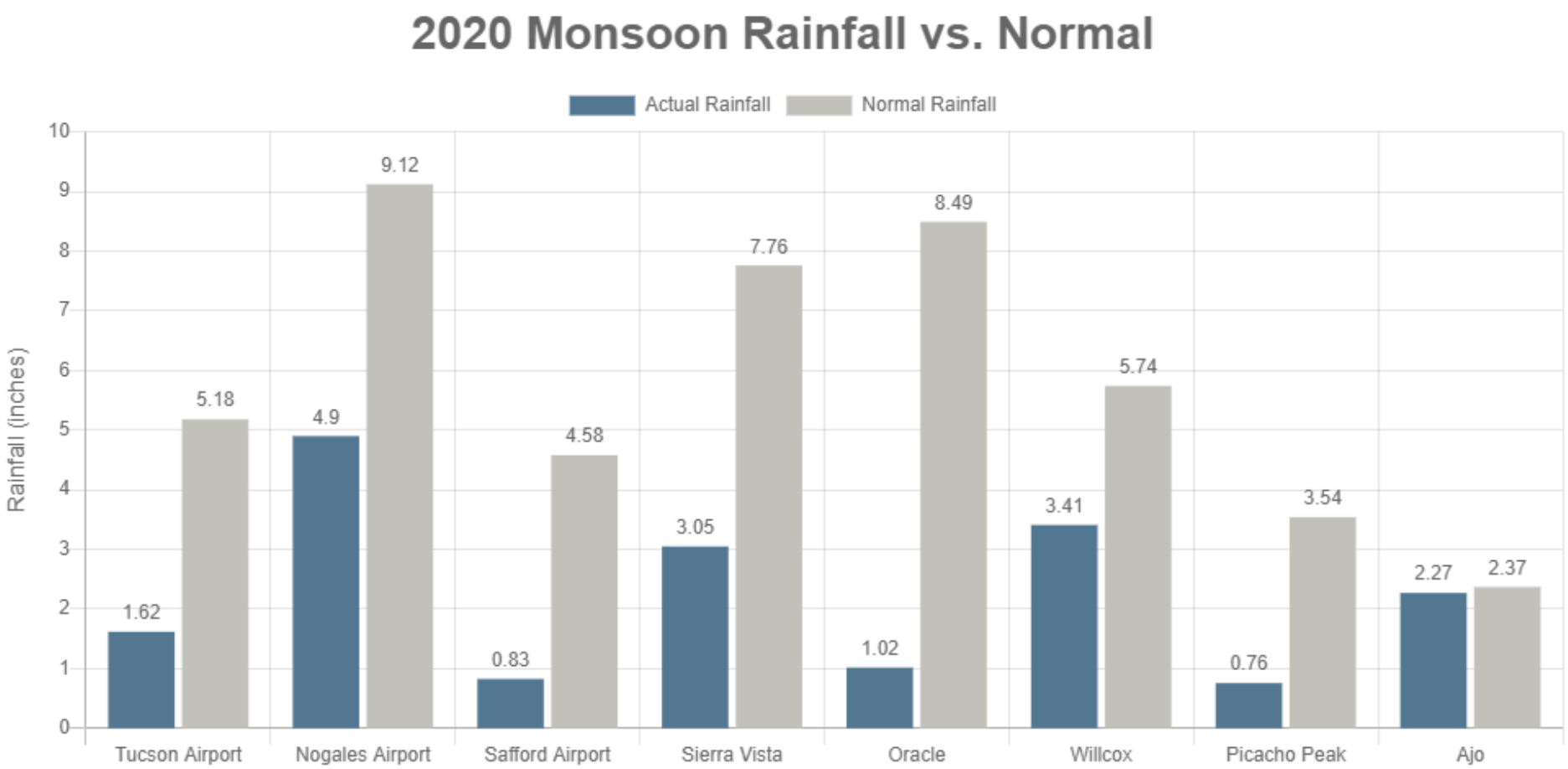
Monsoon Season 2020

- 1.62” of rainfall from June 15 to September 7
- 2nd driest if no additional rain in September
- Nearly all of AZ below normal
- Strong high pressure kept moisture to the south



Top 10 Driest Monsoon	
1) 1.59"/1924	6) 2.50"/1902
2) 2.33"/1973	7) 2.58"/1994
3) 2.40"/1989	8) 2.75"/1913
4) 2.42"/2004	9) 2.79"/1918
5) 2.45"/1900	10) 2.81"/2001

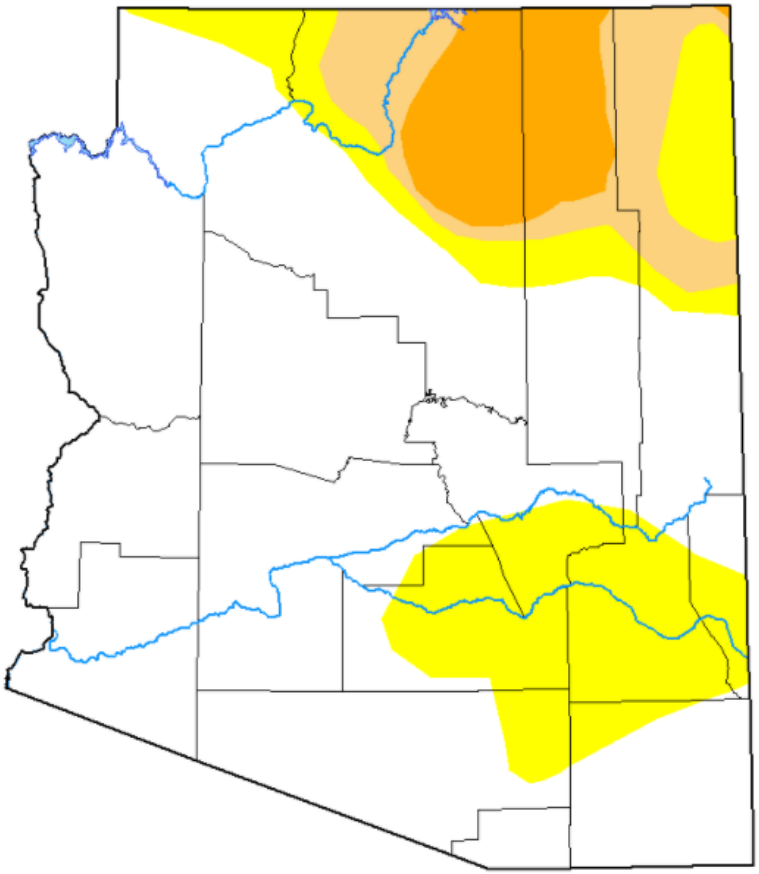
Monsoon Season
through September 7th



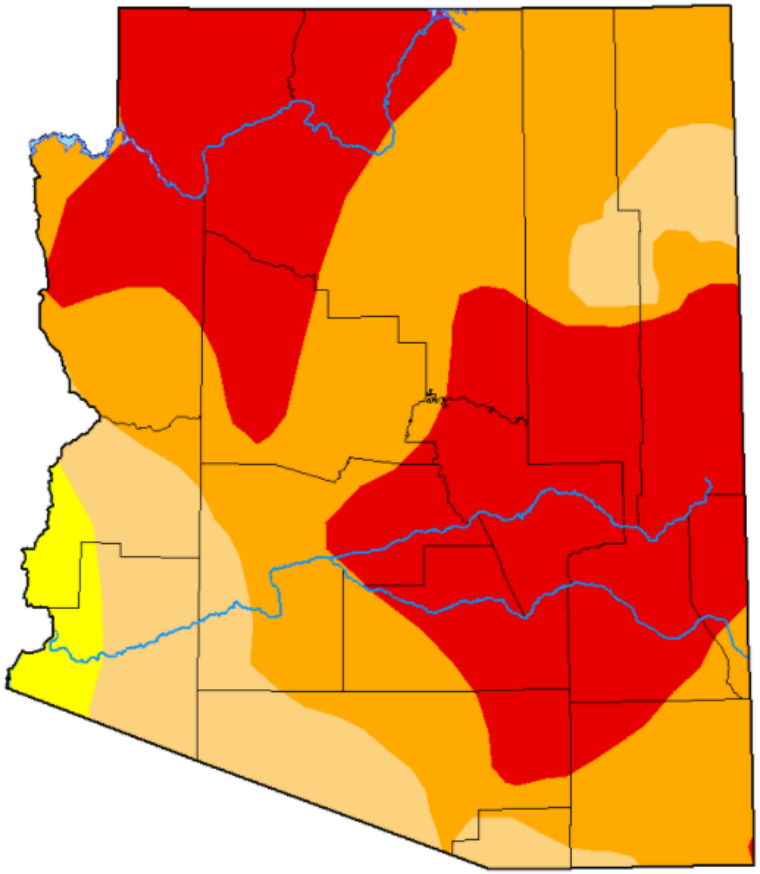
Change in Drought Conditions

Drought Classification

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data



June 16, 2020

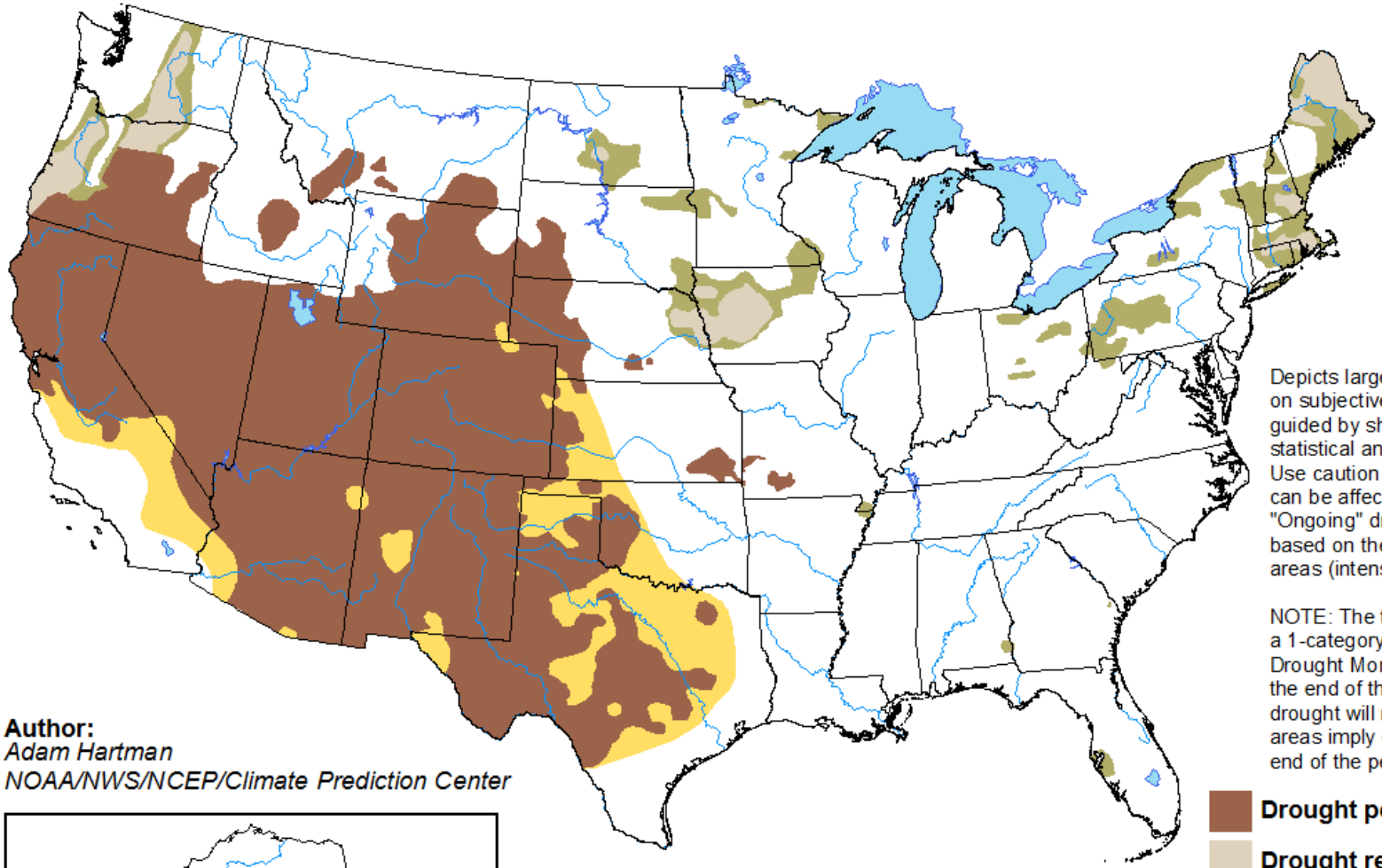


September 1, 2020

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for August 20 - November 30, 2020
Released August 20



Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

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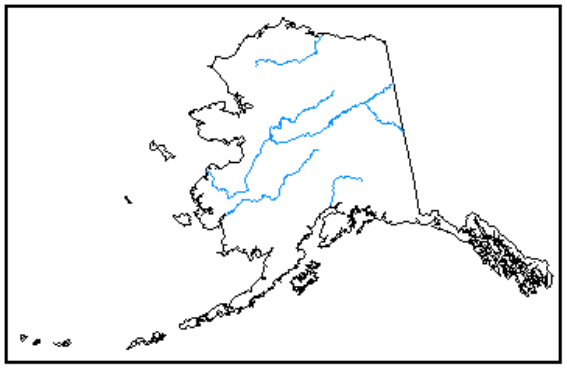
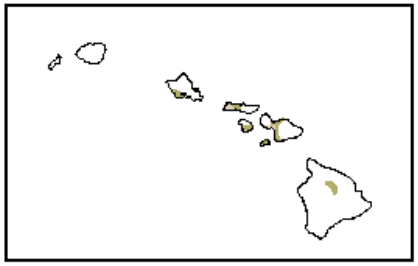
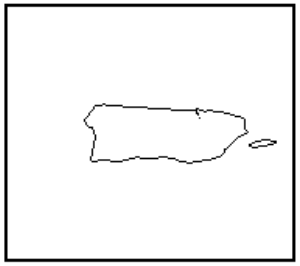
NOAA/NWS/NCEP/Climate Prediction Center



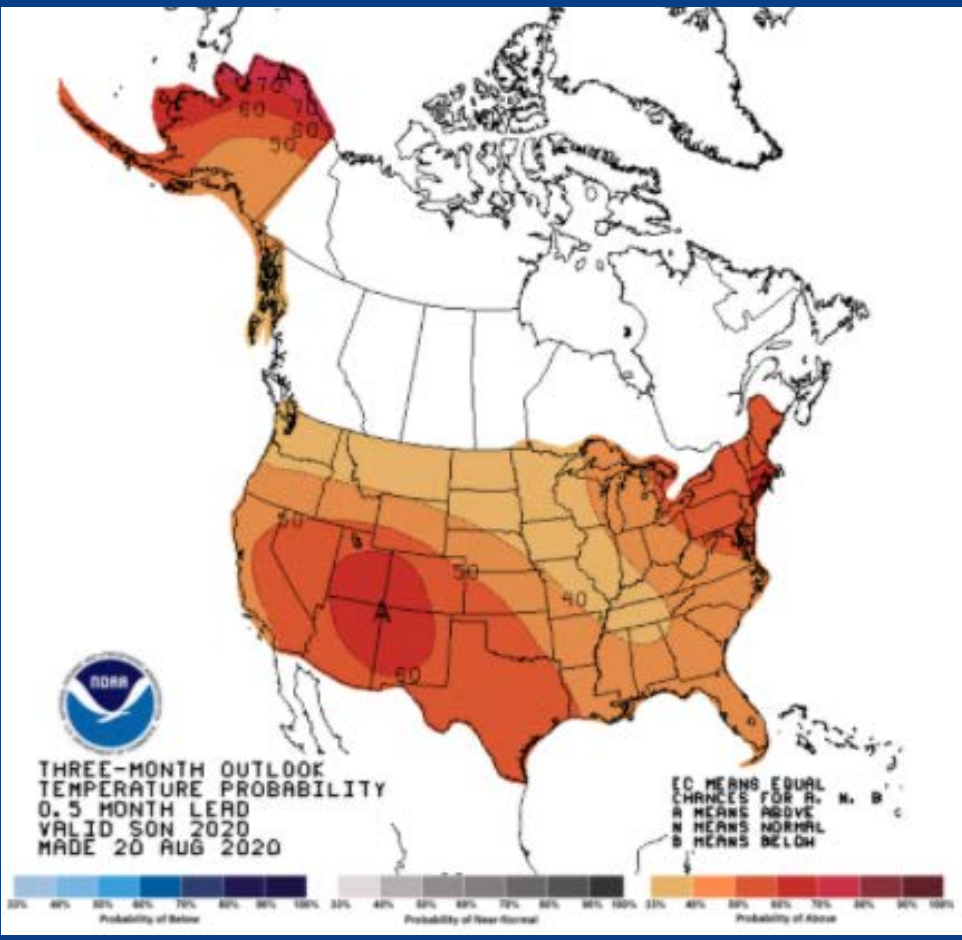


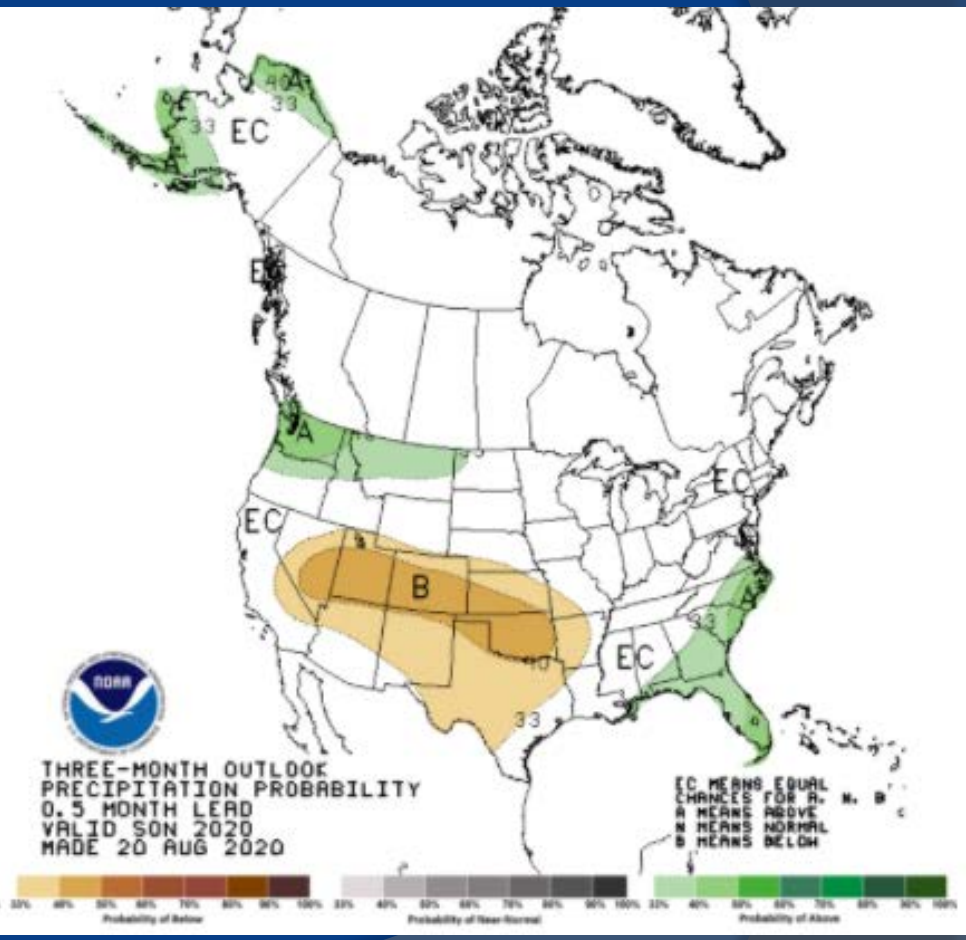


- **Drought persists**
- **Drought remains but improves**
- **Drought removal likely**
- **Drought development likely**

http://go.usa.gov/3eZ73

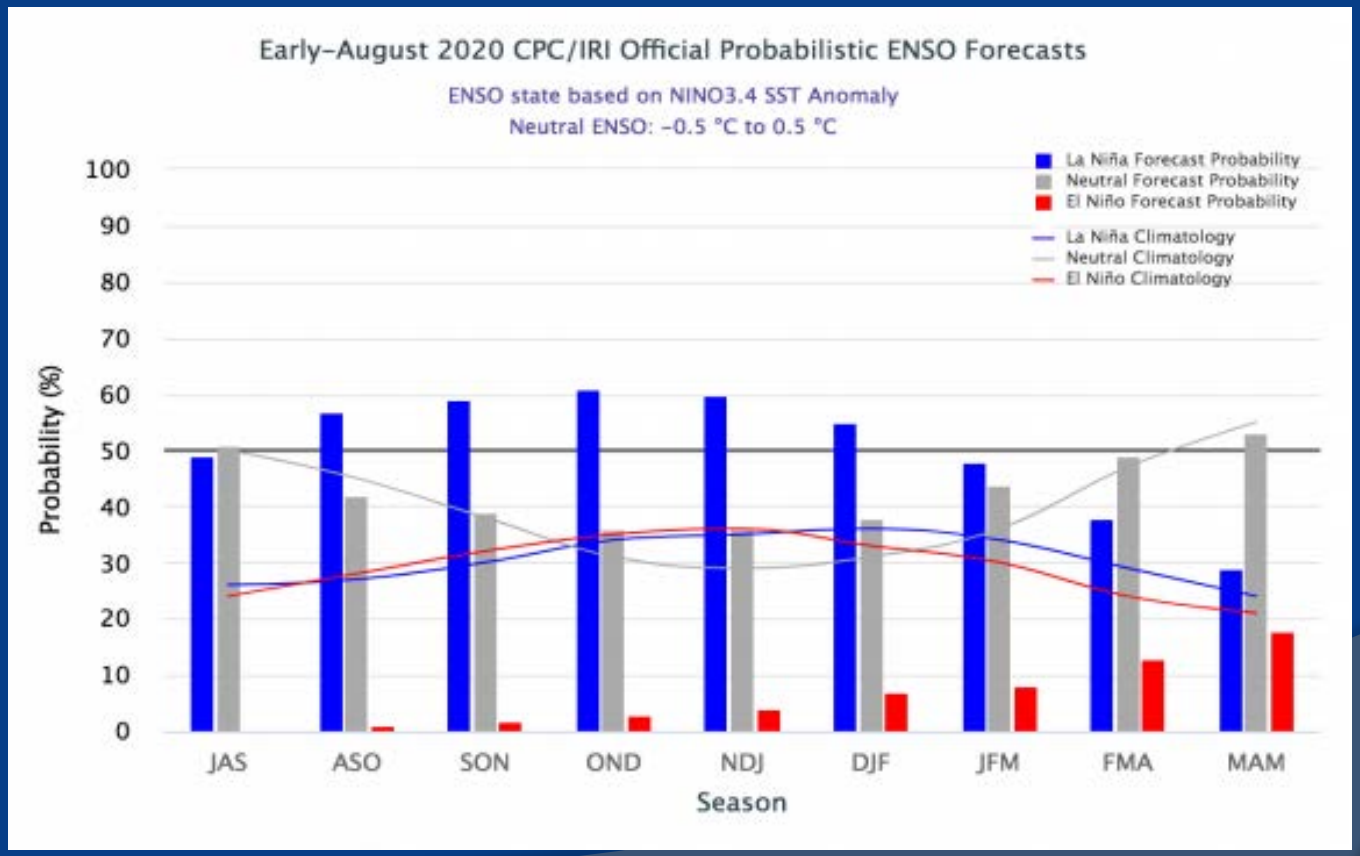
September - November Outlook





La Nina

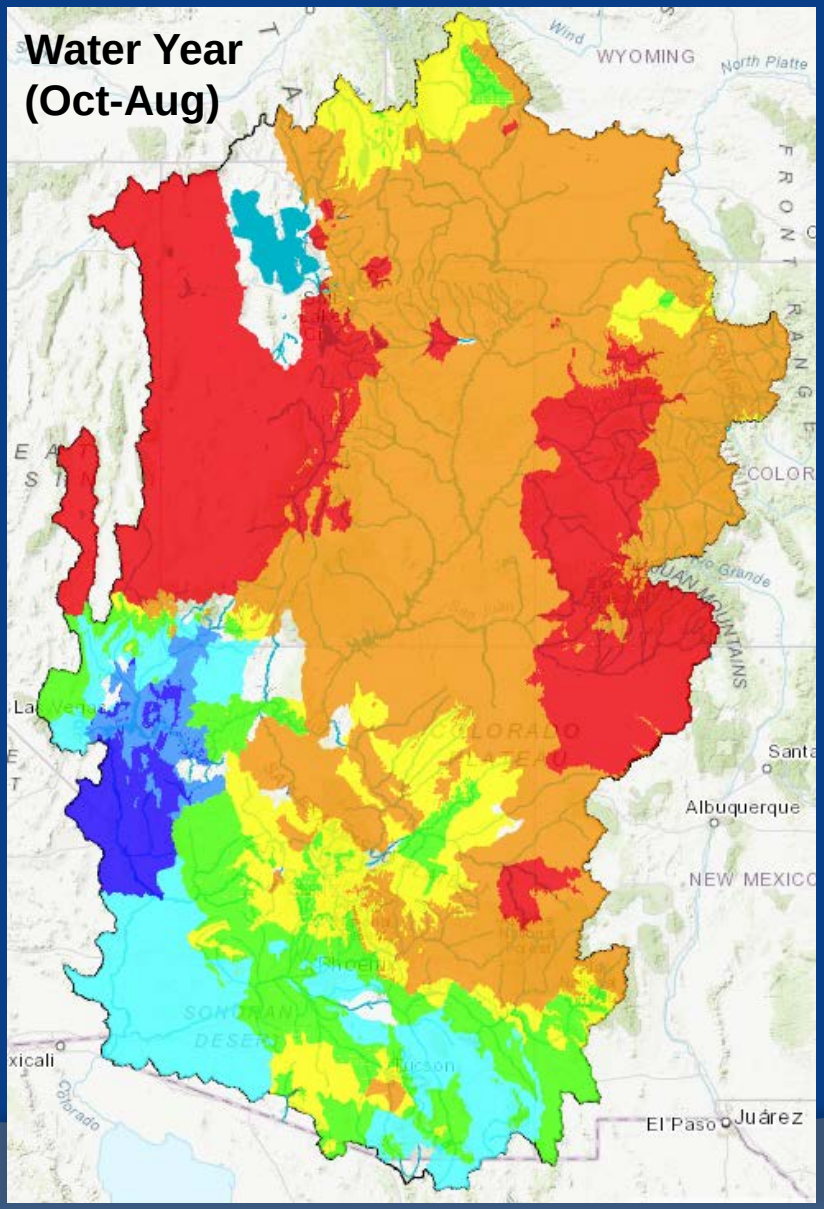
- 60% chance La Nina developing Fall 2020
- 55% chance continue into the winter

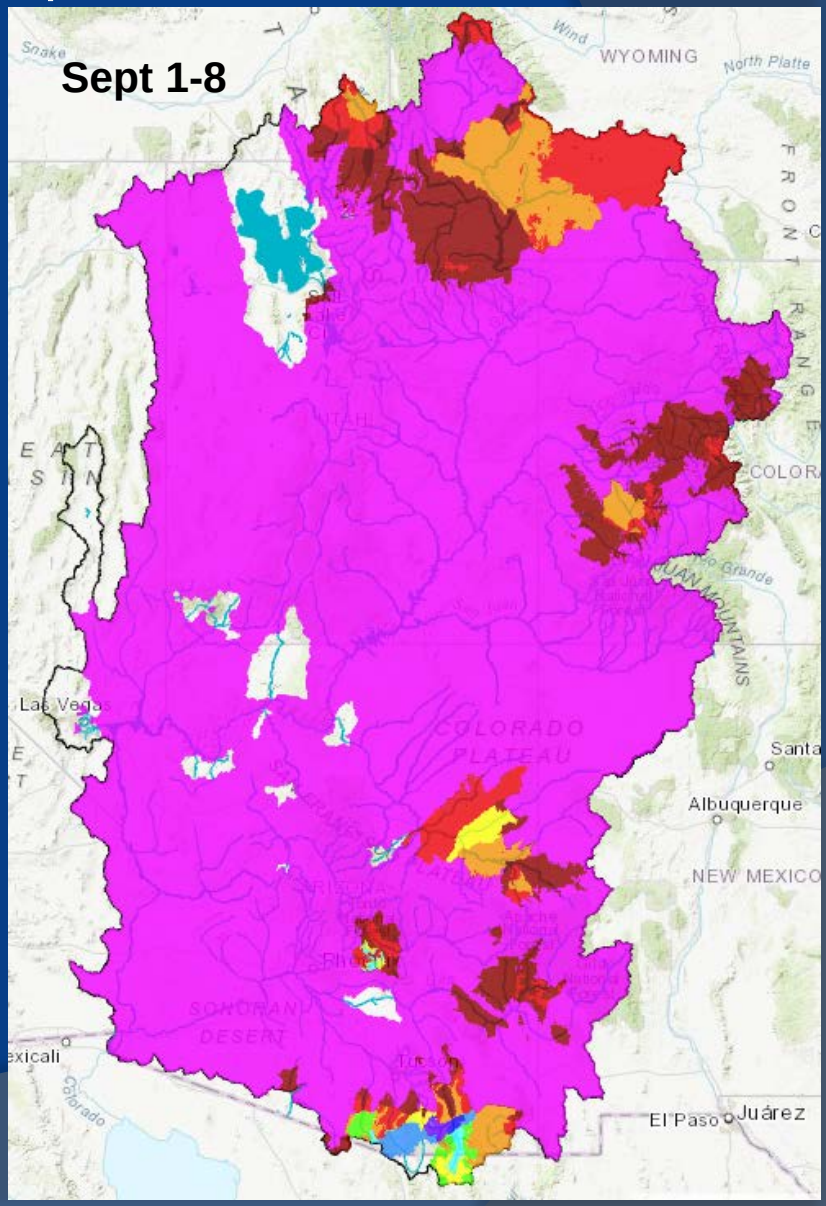


COLORADO BASIN RIVER FORECAST CENTER

NATIONAL WEATHER SERVICE / NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Colorado Basin Precipitation



% Average

- >500%
- 300-500%
- 200-300%
- 150-200%
- 130-150%
- 110-130%
- 100-110%
- 90-100%
- 70-90%
- 50-70%
- 30-50%
- 0-30%