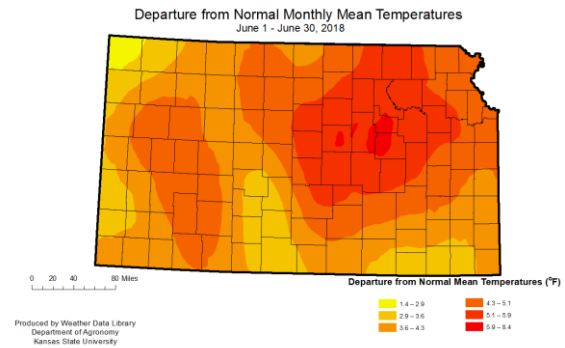


KANSAS CLIMATE SUMMARY

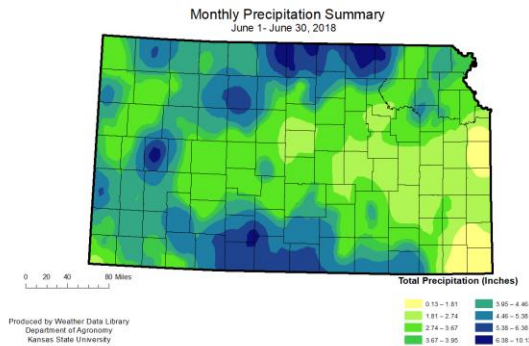
June 2018

Continued Heat

While the heat wasn't as dramatic as in May, June still came in as the 7th warmest since 1895. The state-wide average for the month was 77.9 °F. This was 4.2 degrees warmer than normal. The Central Division had the greatest departure with an average of 79.8 °F which was a departure of +5.5 degrees. The Northwest and Southeast divisions came closest to normal with departures of +3.9 degrees. For the Northwest that was with an average temperature of 74.7 °F, while the Southeast had an average of 78.1 °F. There were 50 new record daily warm maximum temperatures. The real warmth came in the low temperatures where there were 116 new daily record warm minimum temperatures. Two of those set records for the warmest minimum temperatures for June at those locations. Despite the heat, there were 19 new record coldest maximums and 2 record coldest minimum temperatures. This nighttime warmth is one reason that the monthly average was so much warmer than normal with relatively few record highs. The warmest temperature reported during the month was 107 °F at Abilene, Dickinson County on the 28th. The coldest temperature reported during June was 41 °F, reported at Plainville 4WNW, Rooks County, on the 28th.

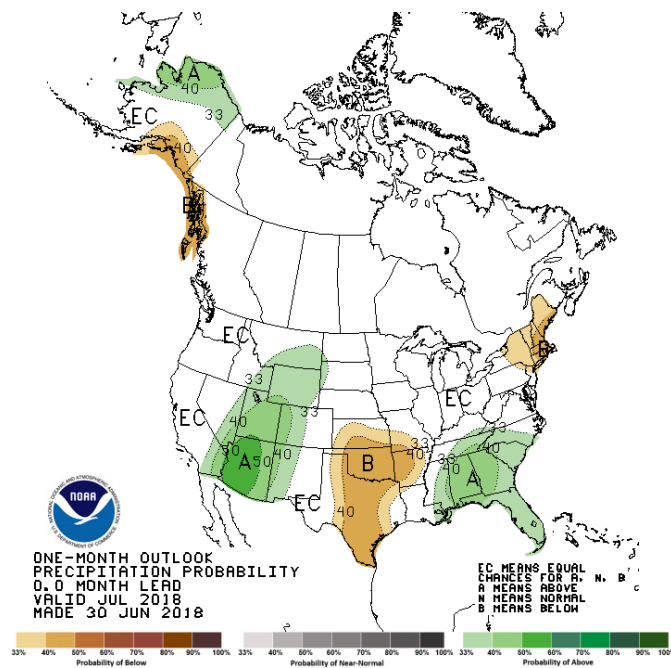
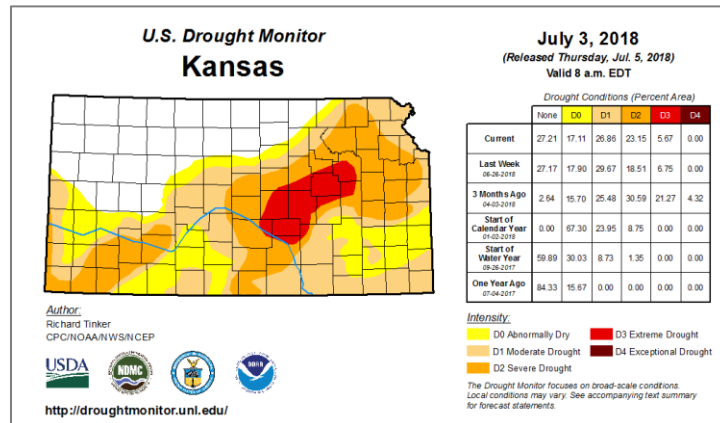


June precipitation came very close to normal, although the distribution was uneven. The state-wide average precipitation was 4.24 inches which was 99 percent of normal. As the month was much warmer than normal, the benefit from that precipitation was less than it might have been. The division with the largest surplus was the Northwest Division, with an average of 4.03, or 143 percent of normal. The Southeast Division had the greatest departure, with an average of 3.61 inches for a deficit of 2.31 inches. That is 61 percent of normal. The greatest monthly total for a National Weather Service Cooperative station was at Scott City, Scott County, with 7.29 inches on the 20th. The Community Collaborative Rain, Hail and Snow network station with the greatest monthly precipitation was Courtland 6.1 N, Republic County, with 6.81 inches, also on the 20th. Among the Kansas Mesonet stations, the Viola station in Sumner County had the greatest total at 6.81 inches.



With the resurgence of moisture, severe weather reports during the month also increased. Tornado numbers were lower than in May with only 4 tornadoes reported. Unfortunately one hit the town of Eureka. Eight people were injured and damage was widespread. In addition to the tornado damage, there were significant damages from the hail and wind storms. Total storm reports: 4 tornadoes, 105 hail events, and 268 reports of damaging wind.

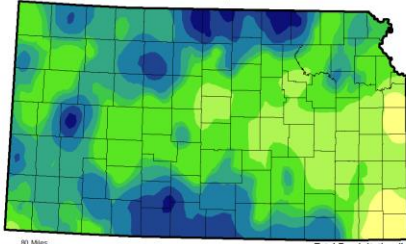
With the near normal rains, and above normal rains in the west, the drought picture has changed significantly. Extreme drought has shifted into Central Kansas, while the drought free area of the state has expanded. Currently, 27 percent of the state is drought free, while only 6 percent remains in extreme drought. The July outlook has a slight chance for drier than normal conditions across the state. The temperature outlook is for warmer than normal temperatures statewide. That combination is unlikely to result in significant improvement of the drought conditions.



Appendix:

Precipitation and Temperature Maps

Monthly Precipitation Summary
June 1- June 30, 2018

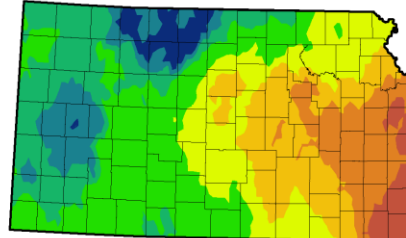


Total Precipitation (Inches)

0.15 - 1.01	3.95 - 4.46
1.01 - 2.74	4.46 - 5.38
2.74 - 3.67	5.38 - 6.38
3.67 - 3.95	6.38 - 10.13

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Department of Agronomy
Kansas State University

Percent of Normal Monthly Precipitation
June 1- June 30, 2018

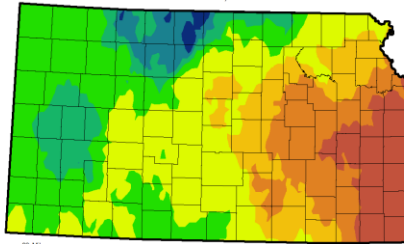


Percent of Normal Precipitation (100=Normal)

3% - 52%	86% - 128%
52% - 59%	128% - 153%
59% - 70%	153% - 175%
70% - 96%	175% - 348%

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Kansas State University

Departure from Normal Monthly Precipitation
June 1- June 30, 2018

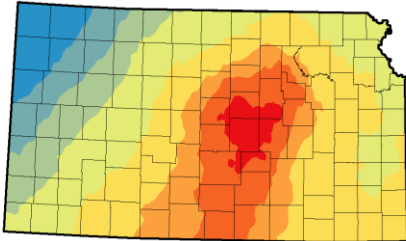


Departure from Normal Precipitation (Inches)

-5.31 - -3.45	0.47 - 1.38
-3.45 - -2.14	1.38 - 2.21
-2.14 - -1.24	2.21 - 2.35
-1.24 - 0.47	2.76 - 7.22

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Monthly Mean Temperatures
June 1 - June 30, 2018

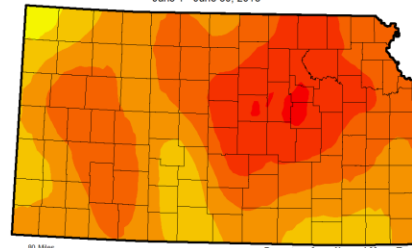


Mean Temperatures (°F)

72.1 - 74.9	76.0 - 78.6
74.9 - 76.0	78.6 - 79.3
76.0 - 76.9	79.3 - 79.9
76.9 - 78.0	79.9 - 83.7

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Departure from Normal Monthly Mean Temperatures
June 1 - June 30, 2018



Departure from Normal Mean Temperatures (°F)

1.4 - 2.9	4.3 - 5.1
2.9 - 3.6	5.1 - 5.9
3.6 - 4.3	5.9 - 6.4

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Department of Agronomy
Kansas State University

Table 1.

Table 1										
Jun-18										
Kansas Climate Division Summary										
Division	Precipitation (inches)						Temperature (°F)			
	Jun-18			2018 through Jun			Ave	Dep. ¹	Monthly Extremes	
	Total	Dep. ¹	% Normal	Total	Dep. ¹	% Normal			Max	Min
Northwest	4.03	1.20	143	9.60	-1.07	89	74.7	3.9	104	41
West Central	3.89	1.08	139	9.70	-0.55	93	76.8	5.1	107	46
Southwest	4.34	1.13	136	8.42	-1.54	84	77.8	4.4	105	42
North Central	5.09	1.26	132	11.93	-1.99	86	78.5	5.2	105	41
Central	3.24	-0.84	81	9.88	-5.09	67	79.8	5.5	107	48
South Central	5.40	0.61	115	13.46	-3.04	82	79.2	4.2	101	50
Northeast	4.76	-0.38	99	11.87	-5.52	71	78.1	5.2	106	53
East Central	3.65	-1.93	64	11.93	-7.28	61	78.4	5.2	104	52
Southeast	3.61	-2.33	61	15.95	-5.65	74	78.1	3.9	100	54
STATE	4.24	-0.02	99	11.47	-3.47	78	77.9	4.7	107	41

1. Departure from 1981-2010 normal value

2. State Highest temperature: 107 oF at Abilene 1W, Dickinson County, on the 28th.

3. State Lowest temperature: 41 oF Plainville 4WNW, Rooks County, on the 28th.

4. Greatest 24hr: 7.29 inches at Scott City, Scott County, on the 20th (NWS); 6.81 inches at Courtland 6.1 N, Republic County, on the 20th. (CoCoRaHS).

Source: KSU Weather Data Library

June Summary							
Station ¹	Precipitation (inches)			Temperature of F			
	Total	Departure	Percent Normal	Mean	Departure	Extreme (Date)	
						Highest	Lowest
West							
Burlington, CO	3.31	0.43	115%	73.1	4.6	102 (28)	47 (3)
Dodge City	2.85	-0.39	88%	79.4	5.5	104 (10)	53 (3)
Garden City	4.20	0.72	121%	77.4	4.6	103 (10)	49 (3)
Goodland	4.63	1.38	142%	73.7	4.0	101 (28,14)	49 (3)
Guymon, OK	4.34	1.40	148%	78.1	4.0	102 (10,1)	49 (3)
Hill City	0.81	6.05	-15%	77.1	4.2	105 (28)	48 (3)
Lamar, CO	0.93	-1.42	40%	78.9	7.3	109 (28,27)	47 (5)
McCook, NE	4.91	1.53	145%	75.1	5.2	106 (28)	45 (3)
Springfield, CO	1.65	-0.85	66%	74.8	3.5	103 (27)	45 (3)
Central							
Concordia	4.92	0.87	121%	78.8	5.4	101 (14,10)	55 (3)
Hebron, NE	4.78	0.00	100%	78.8	6.8	103 (10)	54 (3)
Medicine Lodge	6.32	2.21	154%	80.2	3.6	100 (28,27)	53 (3)
Ponca City, OK	3.40	-1.66	67%	81.0	4.4	99 (28,27)	56 (4,3)
Salina	3.23	-0.88	79%	81.9	6.2	103 (28,14)	53 (3)
Wichita (ICT)	3.41	-1.79	66%	81.4	5.5	100 (28,27)	57 (3)
East							
Bartlesville, OK	3.86	-1.51	72%	78.1	1.9	96 (28)	54 (4)
Chanute	3.97	-2.06	66%	78.4	3.8	97 (28)	57 (4,3)
Falls City, NE	4.52	-0.36	93%	76.7	3.4	99 (29)	53 (3)
Johnson Co. Exec. Apt	1.18	-4.60	20%	77.9	4.5	98 (28)	58 (5,4)
Joplin, MO	2.99	-2.87	51%	79.5	4.0	97 (28)	54 (4)
Kansas City (MCI), MO	3.71	-1.52	71%	77.8	4.3	99 (28)	56 (5)
St. Joseph, MO	4.64	0.46	111%	78.0	4.4	97 (29,28)	54 (5)
Topeka (TOP)	4.60	-0.80	85%	80.1	5.9	100 (28)	58 (4)
1. Airport Automated Observation Stations (NWS/FAA) 2. Departure from 1981-2010 normal value T - Trace; M - Missing; --- no normal value from which to calculate departure or percent of normal Source: National Weather Service F-6 Climate Summaries							

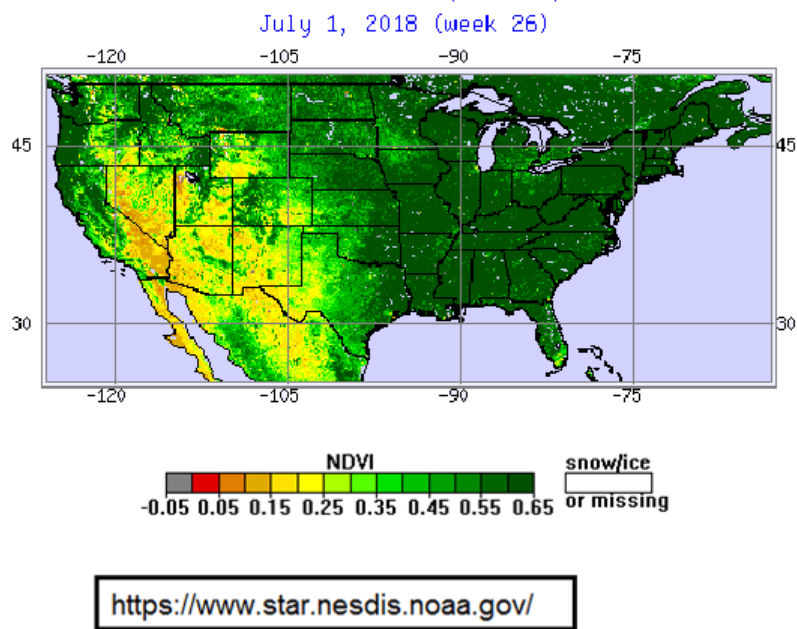


Figure 1. Current Greenness Map (NOAA)

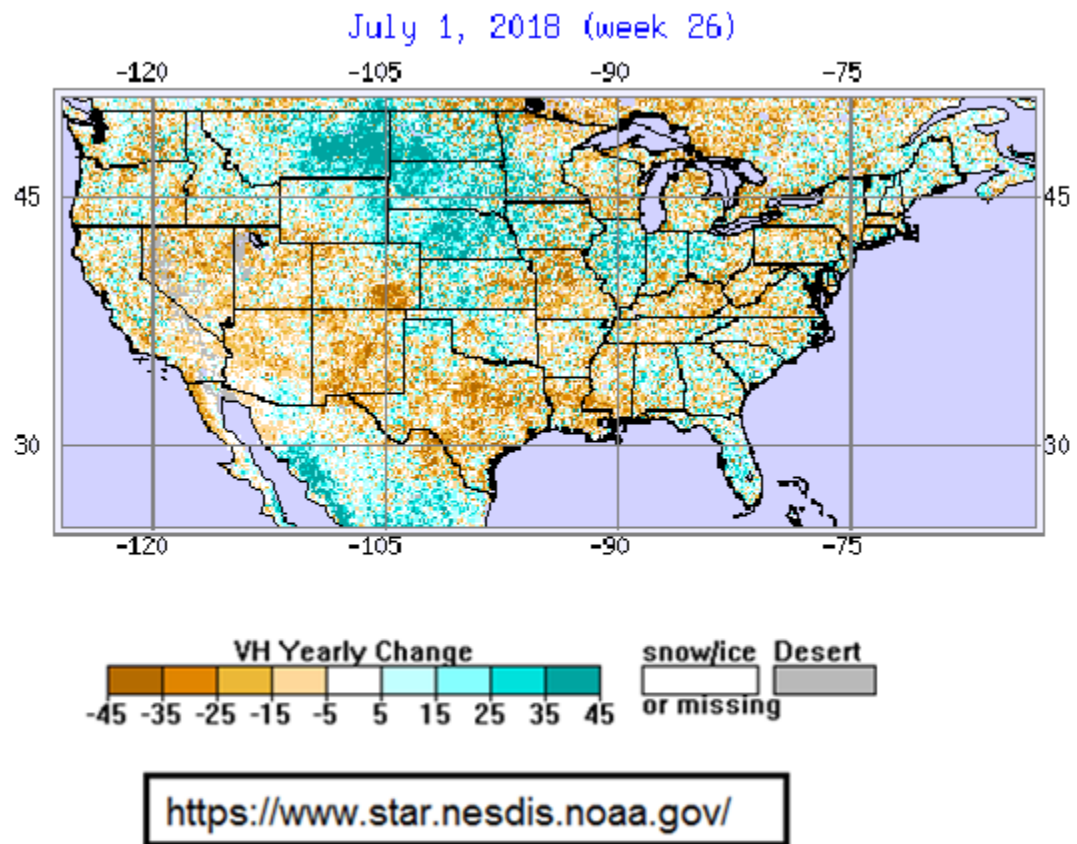


Figure 2. Change in Vegetative Health from 2017