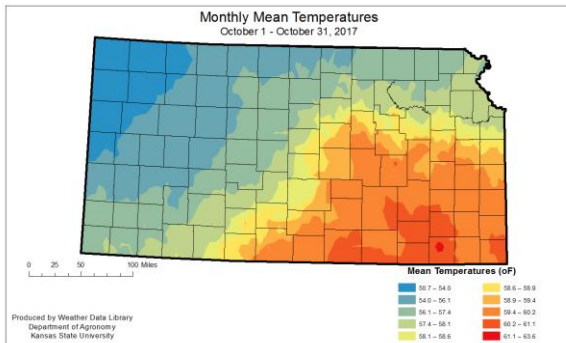


KANSAS CLIMATE SUMMARY

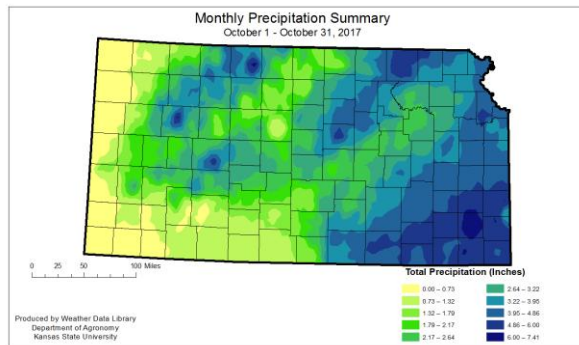
October 2017

Cold End

The cold temperatures that ended October were not enough to balance the warm start to the month. Temperatures averaged warmer than normal across all divisions. Statewide average temperature was 57.2 °F, or 1.5 degrees warmer than normal. The Southwest Division came closest to normal with an average of 56.5 °F, or 0.5 degrees warmer than normal. In contrast, the East Central Division averaged 58.9 °F or 2.5 degrees warmer than normal. The warmest reading for the month was 94 °F recorded at Hillsdale Lake, Miami County, on the 3rd. This set both a new daily record and a new monthly record for the location. The coldest reading was 11 °F reported at both Alton 2SW, Osborne County, and Russell 2E, Russell County, on the 28th. Most of the departure from normal came on the low temperature side. There were 17 new daily records for warm minimum temperatures, and only 6 new daily records for high maximum temperatures. Despite the warmth, there were 6 new record cold minimum temperatures and 8 new record low maximum temperatures. The 15 oF low reported at Great Bend 3W on the 31st set not only a record low for the date, but also a record low for the month at that location.



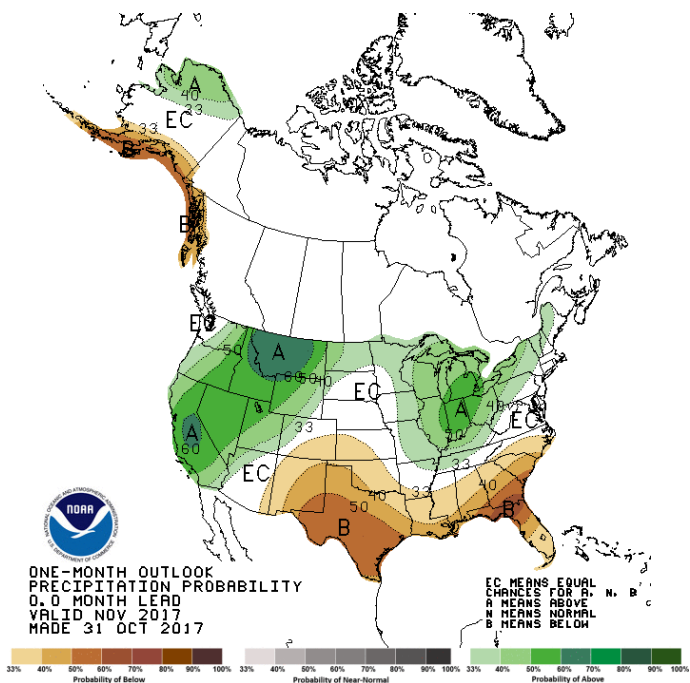
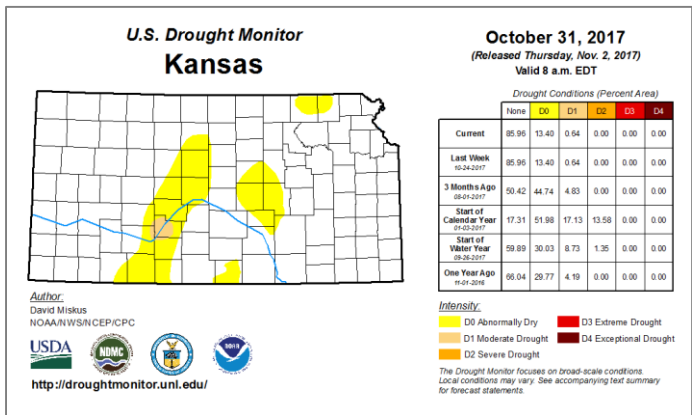
Extreme western Kansas saw a break in the heavy precipitation that dominated September, but heavy amounts were reported in the North Central Division, as well as the eastern three divisions. Only the Southwestern Division had less than normal precipitation for the month. That division averaged 1.21 inches or 83 percent of normal. The September-October precipitation total for the Southwest Division is still averaging 3.66 inches or 120 percent of normal. Statewide average precipitation was 2.78 inches or 118 percent of normal. The greatest monthly total at a National Weather Service Coop (NWS) station was 7.08 inches at Chanute 4E, Neosho County. The greatest monthly total at a Community Collaborative Rain Hail and Snow (CoCoRaHS) network station was 7.41 inches at Phillipsburg 5.7 E, Phillips County. The greatest daily totals for each network: 6.37 inches at



Gove 4W, Gove County, on the 3rd (NWS); 5.43 inches at Morland 9.7 S, Graham County, on the 3rd. The daily report at Gove 4W on the 3rd set an all-time record of the station. A second all-time record was set at Hill City 1E with 5.03 inches, also on the 3rd.

Severe weather was more active in October. The preliminary tornado count is 14, with 46 hail reports and 22 reports of damaging winds. The tornadoes came in two outbreaks: on the 2nd in western KS and on the 6th in central KS. In both cases, the tornadoes were classified as EF0 or EF1. Damage was to trees, power poles/lines, and outbuildings. There were no reports of injuries.

The near normal precipitation coupled with only slightly warmer than normal temperatures resulted in improvement in the drought conditions across the state. There was a 26 percent decrease in drought coverage from the end of September through the end of October. The October outlook calls for drier than normal conditions in Southwest KS, with equal chances of above or below normal precipitation across the rest of the state. This is coupled with increased chances of above normal temperatures in the western and southern parts of the state, with equal chances of above or below normal temperatures across the rest of the state.



Appendix:

Precipitation and Temperature Maps

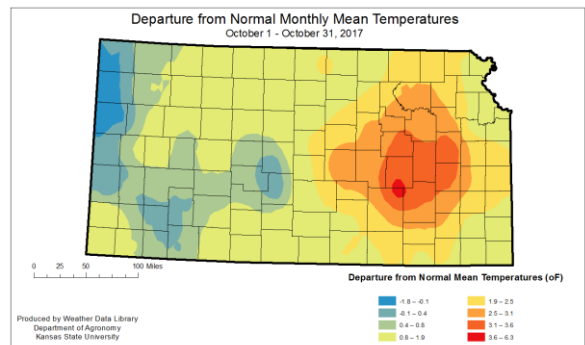
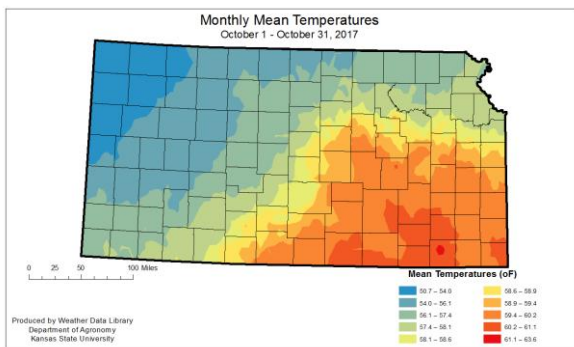
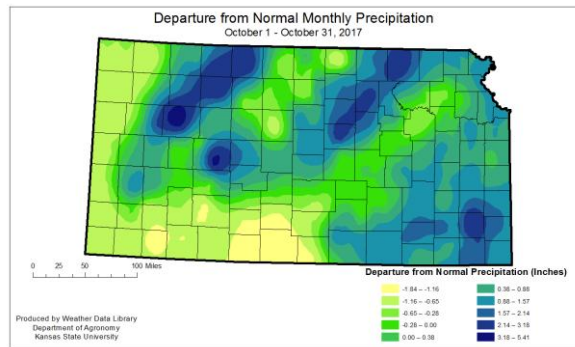
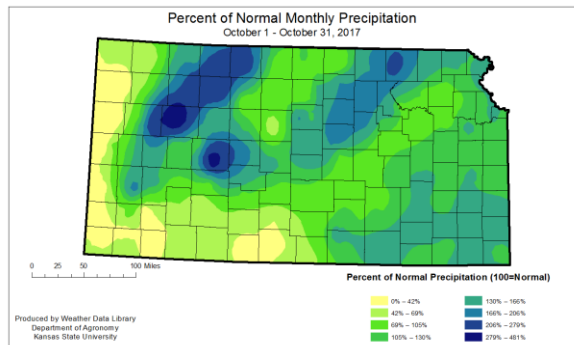
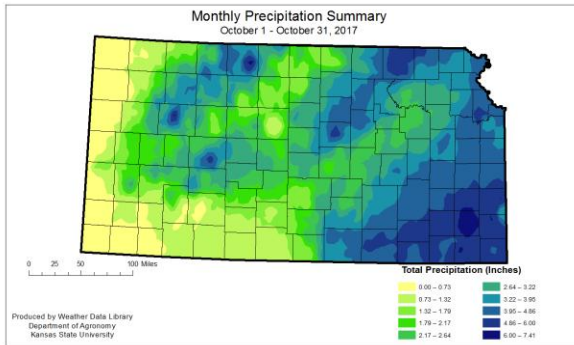


Table 1.

Table 1										
Oct-17										
Kansas Climate Division Summary										
Division	Precipitation (inches)						Temperature (°F)			
	Oct-17			2017 through October			Ave	Dep. 1	Monthly Extremes	
	Total	Dep. 1	% Normal	Total	Dep. 1	% Normal			Max	Min
Northwest	1.94	0.38	122	20.34	0.38	101	53.0	0.7	85	15
West Central	1.99	0.53	135	23.24	3.89	120	54.9	1.3	91	12
Southwest	1.21	-0.31	83	24.32	5.74	131	56.5	0.5	91	16
North Central	2.73	0.75	135	26.18	0.25	100	56.5	1.4	88	14
Central	3.04	0.91	145	25.88	-1.25	96	58.2	1.9	91	11
South Central	2.69	0.05	102	31.04	2.33	108	59.1	1.4	89	15
Northeast	3.07	0.34	113	29.08	-2.92	90	57.6	2.2	88	23
East Central	3.47	0.38	110	32.78	-1.57	94	58.9	2.5	88	22
Southeast	4.97	1.30	135	40.81	3.72	109	59.9	2.0	89	23
STATE	2.78	0.46	118	28.47	1.53	106	57.2	1.5	91	11

1. Departure from 1981-2010 normal value

2. State Highest temperature: 94 °F at Hillsdale Lake, Miami County, on the 3rd.

3. State Lowest temperature: 11 °F at Alton 2SW, Osborne County, and Russell 2E, Russell County, on the 28th.

4. Greatest 24hr: 6.37 inches at Gove 4W, Gove County, on the 3rd (NWS); 5.43 inches at Morland 9.7 S, Graham County, on the 3rd (CoCoRaHS).

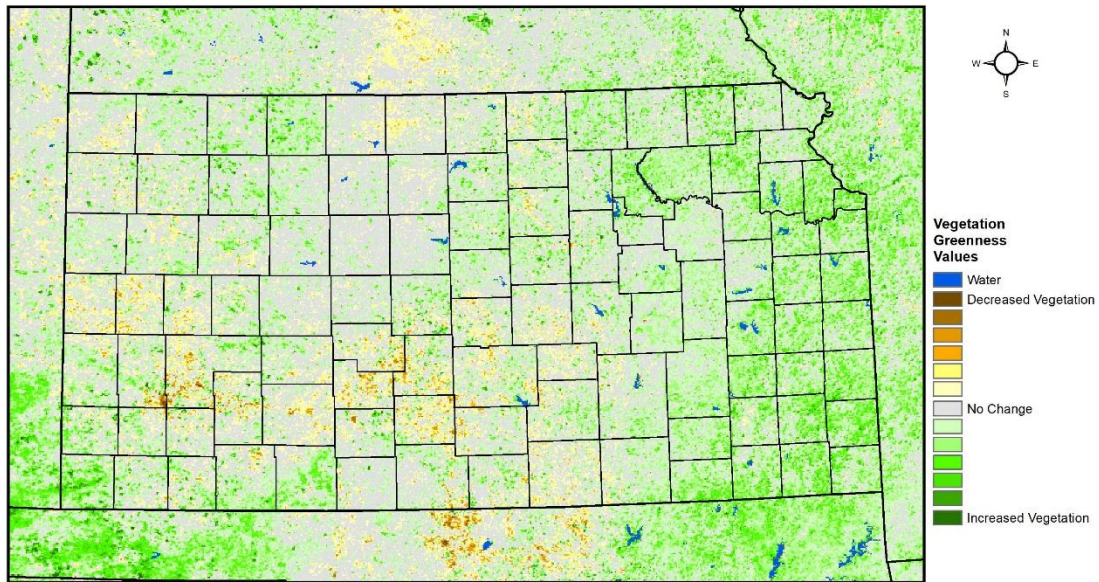
Source: KSU Weather Data Library

October Summary							
Station ¹	Precipitation (inches)			Temperature oF			
	Total	Departure	Percent Normal	Mean	Departure	Extreme (Date)	
						Highest	Lowest
West							
Burlington, CO	0.51	-0.64	44%	51.6	0.6	86 (12)	17 (27)
Dodge City	0.37	-1.37	21%	57.7	1.1	91 (14)	17 (28)
Garden City	1.03	-0.25	80%	56.0	0.6	89 (12)	16 (28)
Goodland	0.44	-0.93	32%	51.8	-0.1	84 (2)	19 (27)
Guymon, OK	1.34	-0.23	85%	58.6	1.2	91 (14)	27 (28,27)
Hill City	5.32	3.80	350%	55.2	1.2	85 (18)	17 (28)
Lamar, CO	0.06	-0.74	8%	54.0	1.1	90 (12)	20 (27)
McCook, NE	1.05	-0.74	59%	52.6	1.3	84 (19)	16 (28)
Springfield, CO	0.37	-1.02	27%	53.8	-0.1	86 (12)	16 (27)
Central							
Concordia	3.50	1.58	182%	56.0	0.6	83 (2)	19 (28)
Hebron, NE	2.28	0.07	103%	55.0	2.1	83 (19,2)	19 (28)
Medicine Lodge	1.09	-1.75	38%	59.1	0.5	87 (2)	18 (28)
Ponca City, OK	4.36	0.98	129%	62.0	1.9	90 (14)	27 (28)
Salina	5.78	3.51	255%	59.6	2.1	90 (2)	23 (28)
Wichita (ICT)	3.60	0.82	129%	60.0	1.7	88 (14)	25 (28)
East							
Bartlesville, OK	4.71	1.24	136%	60.2	0.7	89 (14)	25 (29)
Chanute	5.03	1.37	137%	60.2	1.9	87 (14)	25 (31)
Falls City, NE	4.59	1.95	174%	56.5	1.8	86 (2)	22 (28)
Johnson Co. Exec. Apt	3.80	0.36	110%	57.6	0.6	85 (14,13)	27 (31,29)
Joplin, MO	4.31	0.28	107%	60.6	0.8	88 (9,2)	26 (28)
Kansas City (MCI), MO	4.87	1.71	154%	57.7	1.3	84 (2)	25 (31)
St. Joseph, MO	4.12	1.31	147%	56.8	2.1	87 (2)	23 (31)
Topeka (TOP)	2.94	-0.09	97%	58.7	2.1	88 (2)	25 (31)

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

Vegetative Health Index Map:

Kansas Vegetation Condition Comparison
 Late-October 2017 compared to the 28-Year Average for Late-October

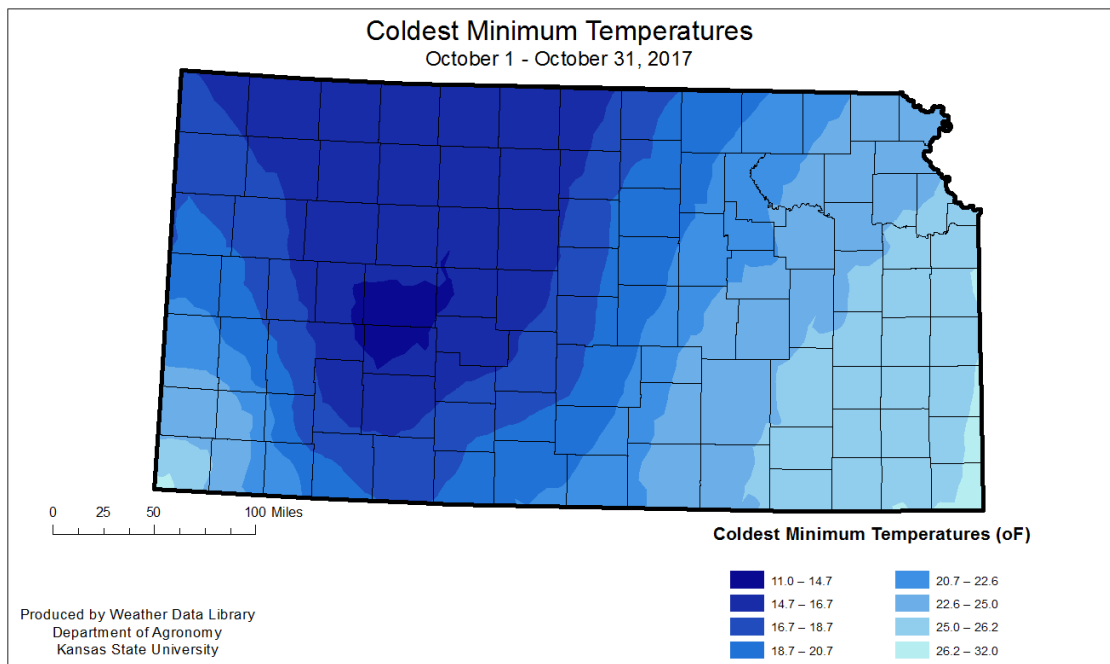


0 25 50 100 150 200 Miles

Nan An, Imaging Scientist, an_198317@hotmail.com
 Antonio Ray Asebedo, Assistant Professor, ara4747@ksu.edu



Coldest Minimum Temperatures
 October 1 - October 31, 2017



Lowest minimum temperatures (°F)