

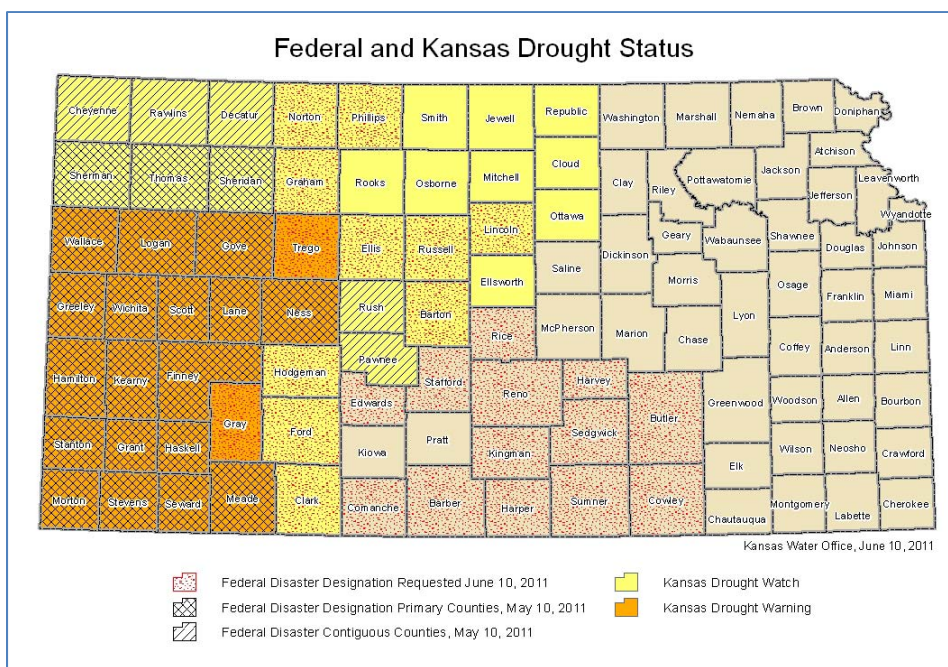
KANSAS CLIMATE SUMMARY AND DROUGHT REPORT

Current Conditions, Drought Impacts and Outlook

May 2011

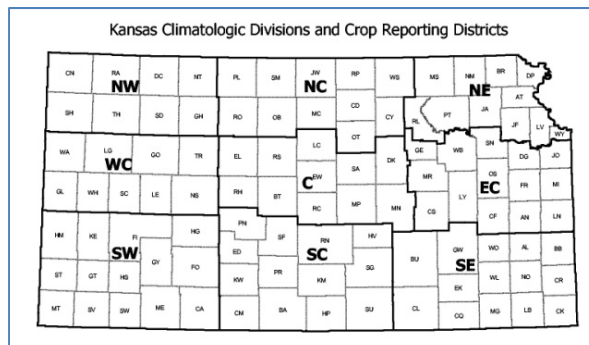
Temperature Roller Coaster

Continuing the spring pattern, May was a mild month with wide temperature swings. The state-wide average temperature was slightly cooler than normal, with the average 1.1 degrees cooler than normal. This marked it as the 39th coolest May on record. The latest U. S. Drought Monitor saw little change in drought conditions. Currently, 75 percent of the state is reported as abnormally dry to exceptional drought. Most of western Kansas' conditions worsened leading to the exceptional and extreme stages for the southwest corner (Morton County), with severe drought continuing in the remaining areas of southwest and west central Kansas. **The drought watch or drought warning for 47 counties in western Kansas declared on April 7 by the Governor remains in effect.** On May 10th, U.S. Department of Agriculture (USDA) Secretary Tom Vilsack granted the Governor's request for agricultural disaster declaration for 21 Kansas counties as well as 18 contiguous counties. USDA agricultural disaster declarations are based on anticipated crop losses, while Kansas drought stages are based primarily on water resource conditions. **On June 10, the Governor requested the addition of 25 counties to the USDA agricultural disaster declaration due to drought, high winds and excessive temperatures.** This request is pending. The designated and requested counties are shown on the map below.



Preliminary statewide average precipitation for May was 2.52 inches, which was 61 percent of normal. Only the north central division exceeded normal at 115 percent for the month. The southwestern division fared worst of the western divisions, with an average of only 0.62 inches or 20 percent of normal. The south central division fared slightly better, with an average of 1.36, which is just 35 percent of normal for the month. The eastern three divisions were also below average, with the northeast division having the greatest average precipitation at 3.64 inches, 79 percent of normal. Only two days saw no location in the state report measurable precipitation, and on an additional seven days the state-wide average was zero, with only isolated reports of moisture.

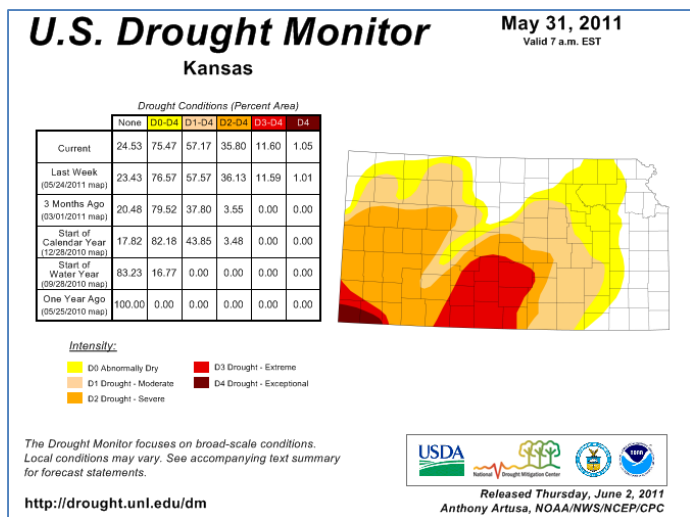
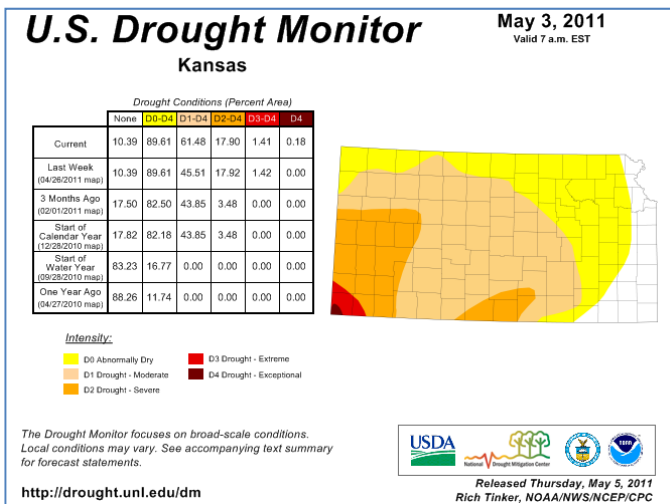
The latest Drought Monitor showed little change in the area of abnormally dry and moderate drought conditions. However, the areas of extreme and exceptional drought increased slightly. Currently, 75 percent of the state is reported as abnormally dry to exceptional drought. The latest Drought Outlook has indicated drought conditions are expected to improve throughout the state in the coming months. The La Niña conditions are weakening, and are expected to fade - transitioning to neutral by June.



Temperatures broke 100 degrees in most divisions. In the remaining divisions highs were in the upper 90s. Ashland in Clark County reached 106 °F, the warmest reading in the state. Daily record highs were set at 99 locations and tied at 19 others, an increase in the number of new records from April. In addition, three of those records were new records for the month. However, no all time record highs were set in May. On the other side, 66 locations set record low maximum temperatures and 14 tied records. Thirty-one locations set new record low minimums and 21 records were tied. Sixty-two locations set new records for daily high minimum temperatures. On May 31 Hudson (Stafford County) set a new record high minimum for May of 75 °F. Again, state-wide monthly average temperatures were only 1.1 °F cooler than normal, with the coolest area in the northwest with a departure of -2.4 °F. The warmest division was the south central division, which averaged 0.9 °F above normal.

DROUGHT MONITORING AND INDICES

The U.S. Drought Monitor ([current map](#)) is a composite of several observed weather variables and drought indices that is updated weekly. The May 3 map indicates the only area of near normal conditions were along the eastern border of the State. By May 31 the only area of near normal conditions were along the eastern and northern borders of the State.



The table accompanying the map compares the percentage of the state currently affected by drought conditions with several points during the past year. In the Kansas county drought stage scheme, a Drought Watch equates roughly to moderate drought in the U.S. Drought Monitor, while a Drought Warning is the equivalent of severe drought. A Drought Emergency is reserved for extreme or exceptional drought. (1)

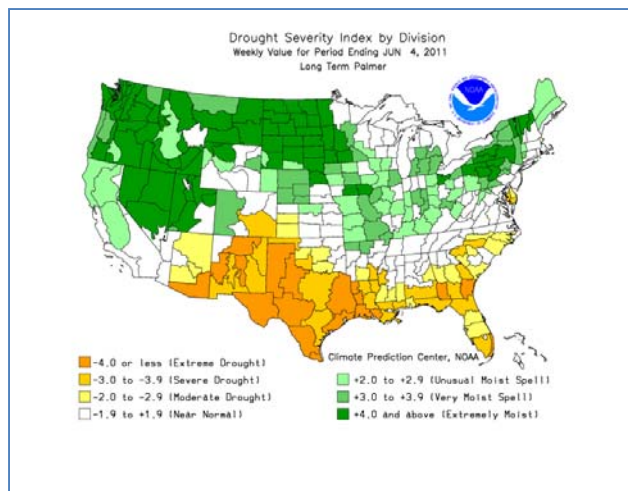
Palmer Drought Severity Index (PDSI) is an indicator used in the U.S. Drought Monitor. The statewide average PDSI for the week ending May 31 was -0.09 (near normal). Divisional PDSI values ranged from -2.45, which translates to extreme drought, in the southwestern division to 1.63 in the north central division, which corresponds to near normal. In the southwest division 4.73 inches of precipitation would be needed to bring the conditions back to near normal. The long-term average during June in the area is 2.87 inches.

CURRENT COUNTY DECLARATIONS – State and Federal

On April 7, county drought stage declarations were issued by the Governor. County drought stages remain in effect until revised or rescinded by executive order.

Counties under the state drought warning include: Finney, Grant, Gray, Greeley, Gove, Hamilton, Haskell, Kearny, Lane, Logan, Meade, Morton, Ness, Scott, Seward, Stanton, Stevens, Trego, Wallace and Wichita. The state drought watch includes the counties of Barton, Cheyenne, Clark, Cloud, Decatur, Ellis, Ellsworth, Ford, Graham, Hodgeman, Jewel, Lincoln, Mitchell, Norton, Osborne, Ottawa, Pawnee, Phillips, Rawlins, Republic, Rooks, Rush, Russell, Sherman, Sheridan, Smith and Thomas.

April 11, the Governor issued a state of disaster emergency due to fires in Ellsworth (4/10/11), Haskell (4/8/11), Saline (4/10/11), Stanton (3/22/11) and Stevens (4/8/11) counties.



U.S. Department of Agriculture (USDA) Secretary Tom Vilsack notified the Governor May 10 the request was granted for drought disaster declaration for 21 Kansas counties as well as 18 contiguous counties. The declaration is based on drought, wildfire and high winds. The 21 counties designated are: Finney, Gove, Grant, Greeley, Hamilton, Haskell, Kearny, Lane, Logan, Meade, Morton, Ness, Scott, Seward, Sheridan, Sherman, Stanton, Stevens, Thomas, Wallace and Wichita. On June 10, the Governor requested the addition of 25 counties due to losses based on drought, wildfire and high winds. These counties include Barber, Barton, Butler, Clark, Comanche, Cowley, Edwards, Ellis, Ford, Graham, Gray, Harper, Harvey, Hodgeman, Kingman, Lincoln, Norton, Phillips, Reno, Rice, Russell, Sedgwick, Stafford, Sumner and Trego. The U.S. Department of Agriculture takes action based on an evaluation related to crop losses.

A state receives primary (federal) disaster declaration when the principal disaster occurs within the state. Counties within Kansas and counties in bordering states that are adjacent to them are identified as "contiguous." Up-to-date information regarding designated counties and assistance available due to these declarations is available through the Federal Emergency Management Agency (FEMA). Assistance is available for varying periods of time after the disaster designation is affirmed. Disaster designations will be dropped from this list as the relief period ends. For additional information regarding these USDA designations, please see: <http://www.fema.gov/dhsusda/index.jsp>.

Presidential major disaster declarations affecting Kansas:

Presidential Major Disaster Declarations in Kansas					
FEMA Disaster ID	Cause	Date	Kansas Centered	Adjoining State Where Disaster is Centered (Kansas Counties affected)	Termination Date
M1985	SWS, S	01/31/2011	No	Oklahoma (CQ, CK, CL, LB, MG)	01/13/2012
M1961	SWS, S	01/31/2011	No	Missouri (AT, BB, CK, CR, DP, JO, LV, LN, MI, WY)	11/23/2011
M1945	SS, T, F, SL	09/13/10-09/14/10	No	Nebraska (BR, DP, MS, NM)	06/21/2011

SWS: severe winter storm; SS: severe storm; T: tornado; F: flood; S: snowstorm; IJ: ice jams; Straight-line Winds: SL

U.S. Secretary of Agriculture Tom Vilsack has made the following Primary Natural Disaster Area designations in Kansas:

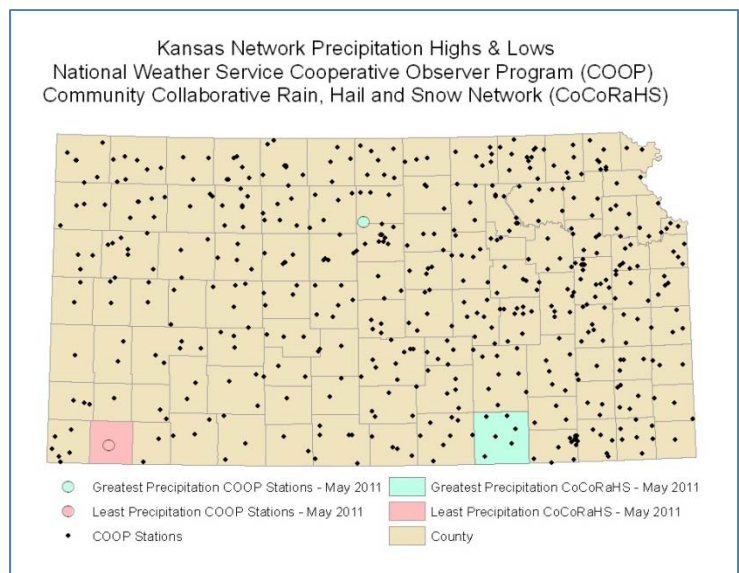
Secretarial Major Disaster Declarations in Kansas					
FEMA Disaster ID	Cause	Date	Kansas Centered	Adjoining State Where Disaster is Centered (Kansas Counties affected)	Termination Date
S3117	D	01/01/2011	Yes	21 Primary KS Counties, 18 Contiguous	01/10/2012
S3098	R, Heat, D	4/23/10-11/01/10	Yes	4 Primary KS Counties, 13 Contiguous	09/26/2011
S3080	D, Heat, W	11/1/09-10-31-10	No	Oklahoma (BA, CA, CM, HP, MT)	08/29/2011
S3061	D, Heat	6/27/10-9/11/10	Yes	1 Primary KS County (RO), 6 Contiguous	7/26/2011
S3054	D	5/01/10 - 9/30/10	No	Missouri (LN, MI)	07/12/2011
S3050	W, H, R, FF	7/10/10 - 7/12/10	Yes	2 Primary KS Counties, 9 Contiguous	07/05/2011
S3041	SS, H, T	6/21/10 - 6/21/10	No	Colorado (CN)	05/31/2011
S3030	R, F, W, H	5/06/10-6/20/10	Yes	2 Primary KS Counties, 8 Contiguous	05/09/2011

SS: severe storm; R: excessive rainfall; FF: flash flooding; F: flooding; W: wind; H: hail; L: lightning; T: tornados; D: drought; FR: frost

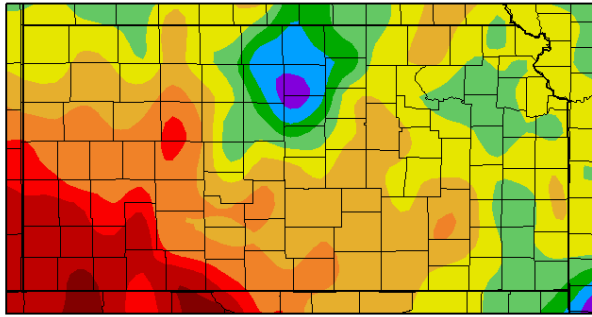
Precipitation and Climate Conditions

May ranks as the 19th driest on record (1895-2010) in Kansas with a statewide average total precipitation of 2.52 inches. This is 61 percent of normal. Based on preliminary reports, the greatest total precipitation received in May from the National Weather Service COOP network stations was 9.74 inches at Hunter, Mitchell County. Greatest for the Community Collaborative Rain, Hail and Snow Network (CoCoRaHS) in May was 5.48 inches at Cherokee 0.3, Crawford County. On the low end of the NWS reporting stations was Hugoton (Stevens County) with just 0.11 inches. For the CoCoRaHS network, the lowest was recorded at Moscow, in Stevens County, with 0.00 inches of precipitation. (2)

The maps below show total precipitation received and the percent of normal across the state in May. These and others are available at the [High Plains Regional Climate Center](#).



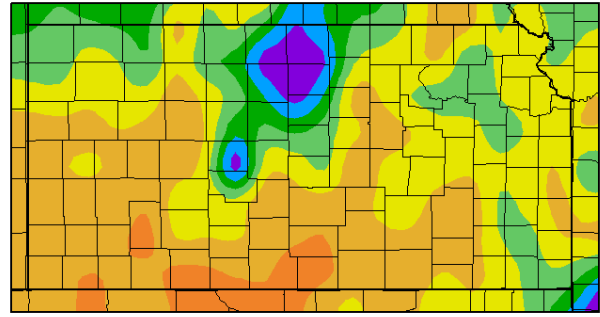
Precipitation (in)
5/1/2011 – 5/31/2011



Generated 6/2/2011 at HPRCC using provisional data.

Regional Climate Centers

Departure from Normal Precipitation (in)
5/1/2011 – 5/31/2011



Generated 6/2/2011 at HPRCC using provisional data.

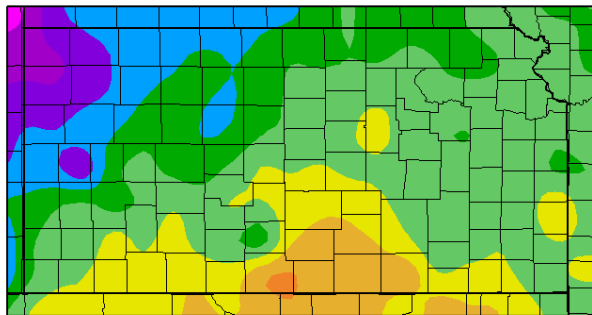
Regional Climate Centers

The statewide average temperature of 62.1 °F was 1.1 degrees below normal. This was the 39th coolest May of record (1895-2010) for Kansas. May 1917 was the coolest with a statewide average temperature of 56.7 °F. May 1962 was the warmest with a statewide average temperature of 71.2 °F.

Average monthly temperatures at individual reporting locations ranged from 67.2 °F at Medicine Lodge (Barber County) to 54.2 °F at Brewster 4W (Thomas County). The highest temperature recorded in Kansas during May was 106 °F at Ashland (Clark County) on the 30th. The coolest reading observed in the state during May was 23 °F at Tribune 14N (Greeley County) on the 4nd. Ashland (Clark County) saw the greatest temperature range going from 28 °F on the May 3 to 106 °F May 30, for a 78 degree swing.

The following maps show average monthly temperature and the departure from normal across Kansas during May 2011.

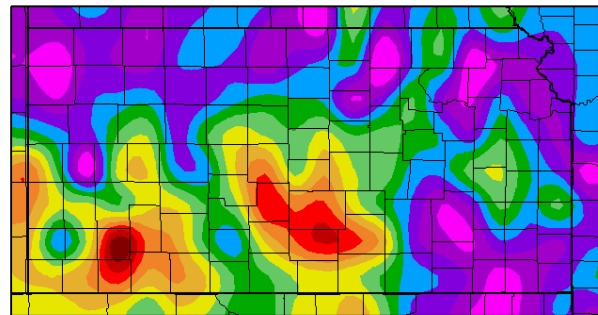
Temperature (F)
5/1/2011 – 5/31/2011



Generated 6/2/2011 at HPRCC using provisional data.

Regional Climate Centers

Departure from Normal Temperature (F)
5/1/2011 – 5/31/2011



Generated 6/2/2011 at HPRCC using provisional data.

Regional Climate Centers

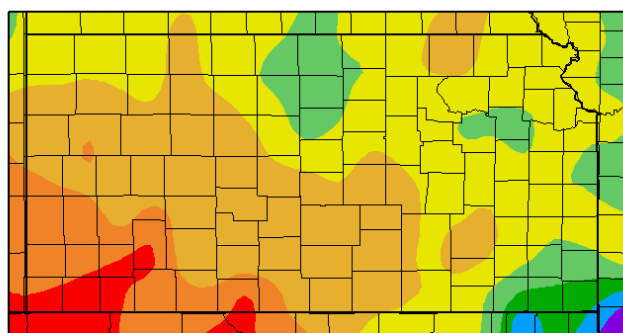
Table 1 summarizes May temperature and precipitation conditions by climate division while Appendix A provides a summary for principal reporting locations within and adjacent to Kansas. Please note the data used in compiling Table 1 and Appendix A is preliminary and comes from different sources. This may result in slight differences in the average or extreme values presented.

Table 1 May 2011 Kansas Climate Division Summary										
Division	Precipitation (inches)						Temperature (°F)			
	May 2011			2011 through May 31			Average	Dep. ¹	Monthly Extremes	
	Total	Dep. ¹	% Norm	Total	Dep. ¹	% Norm			Highest	Lowest
Northwest	2.20	-1.31	62	5.12	-2.36	67	57.3	-2.4	98	27
West Central	1.14	-2.01	36	4.02	-2.97	57	59.6	-1.6	104	23
Southwest	0.62	-2.38	20	2.65	-4.10	39	63.4	0.2	106	28
North Central	4.55	0.60	115	8.36	-1.14	88	62.0	-1.1	101	30
Central	3.23	-0.59	87	6.97	-2.98	70	63.2	-0.6	103	30
South Central	1.36	-2.41	35	4.52	-5.41	44	65.6	0.9	103	30
Northeast	3.64	-0.98	79	9.67	-1.99	82	62.1	-1.9	100	28
East Central	3.27	-1.40	70	10.16	-2.41	81	62.7	-1.5	99	33
Southeast	3.54	-1.49	69	11.82	-1.96	84	63.4	-1.8	97	32
STATE	2.52	-1.40	61	6.86	-2.95	66	62.1	-1.1	106	23

1. Departure from 1971-2000 normal value
2. State Highest temperature of 106 °F, Ashland (Clark County) on the 30th and Dodge City (Ford County) on the 29th.
3. State Lowest temperature of 23 °F at Tribune 14N (Greeley County) on the 4th.
4. Greatest 24hr rainfall: 4.86 inches on the 20th at Wilson Lake, Russell County (NWS).
Source: KSU Weather Data Library <http://www.ksre.k-state.edu/wdl/>

Longer-Term Precipitation Trends - The following two maps show the percentage of normal precipitation received across Kansas during the past three months (March 2011 – May 2011) and the departure from normal during the past 12 months (June 2010 – May 2011).

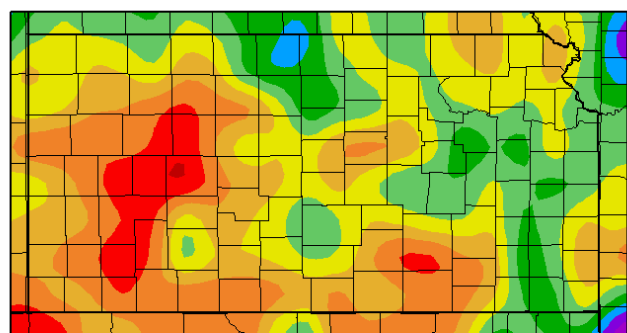
Precipitation (in)
3/1/2011 – 5/31/2011



Generated 6/5/2011 at HPRCC using provisional data.

Regional Climate Centers

Departure from Normal Precipitation (in)
6/1/2010 – 5/31/2011



Generated 6/5/2011 at HPRCC using provisional data.

Regional Climate Centers

Radar-based [precipitation estimate maps](#) covering multiple time periods are available from the National Weather Service. These maps are updated daily. Monthly and annual individual county [precipitation data](#) is available from the Weather Data Library at Kansas State University.

DROUGHT IMPACTS AND RESPONSE

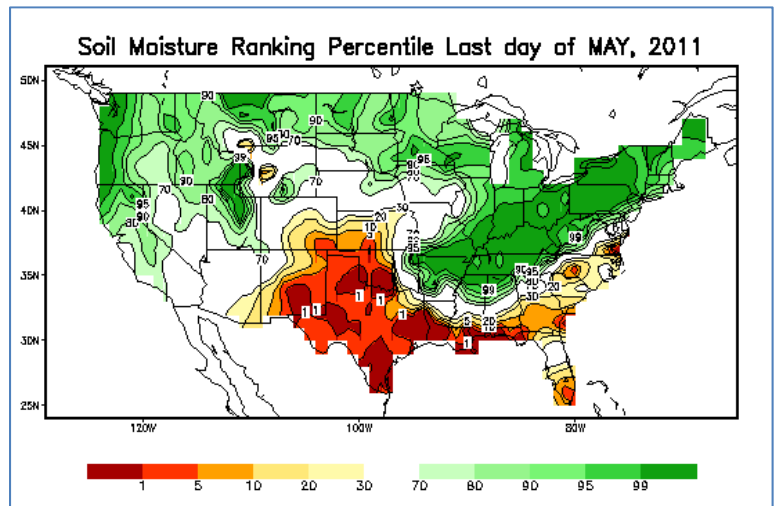
Agriculture

Only a few areas in Kansas received beneficial moisture from last week's storms as producers in many areas continue to need moisture. Dry conditions in the western districts as well as the south central district are a sharp contrast to the conditions in the southeast where some areas have seen excessive rainfall.

As of May 29, topsoil moisture supplies improved for a second week and were rated at 18 percent very short, 17 percent short, 50 percent adequate and 15 percent surplus. Topsoil in the southwest district remained at 100 percent short to very short, followed by the south central at 83 percent and the west central at 67 percent short to very short. In contrast, the three eastern districts were all over 90 percent adequate to surplus. In the northwest district, topsoil moisture improved 36 points to 85 percent adequate to surplus. The Kansas subsoil moisture supplies were rated 23 percent very short, 23 percent short, 47 percent adequate and 7 percent surplus. (3)

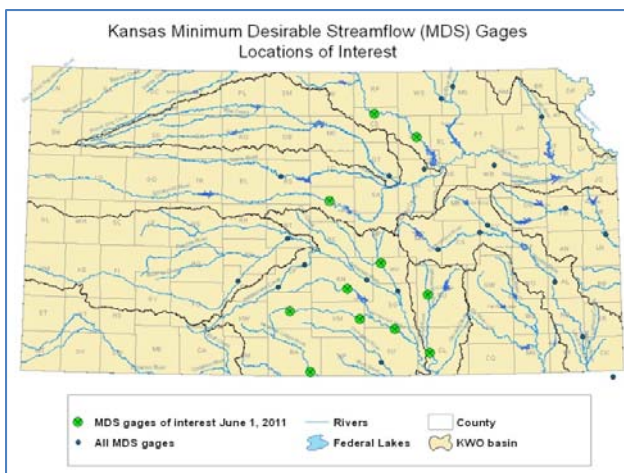
The cool, wet weather has improved the **winter wheat** condition marginally with the crop rated at 25 percent very poor, 29 percent poor, 29 percent fair, 15 percent good, and 2 percent excellent. Ninety-seven percent of the crop has headed, compared to 92 percent last year and 95 percent for the 5-year average. Seventeen percent of wheat has turned color, primarily in south central Kansas, ahead of 16 percent in 2010 but behind 22 percent for the five-year average. For more detailed crop information please see the Kansas Department of Agriculture weekly reports. (3)

The Climate Prediction Center at National Oceanic and Atmospheric Administration (NOAA) provides a national ranking of soil moisture. The figure indicates May soil moisture in parts of western Kansas was in the 5-30 percentiles. Soil moisture percentile of 11-20 is one indicator of possible moderate drought conditions.



Kansas Streamflow and Reservoir Levels

Stream flows have been affected by conditions, triggering administration of water rights in areas where flows have been below Minimum Desirable Streamflow (MDS) for at least seven consecutive days. Chief Engineer orders went out requiring certain water rights to cease water diversion in three areas. Orders are effective Thursday, May 12, 2011 for the Smoky Hill River above the Ellsworth USGS gage and below the confluence of Big Creek, the Little Arkansas River above the Alta Mills USGS gage. Effective Friday, May 13, 2011 were orders for the Walnut River, including Whitewater River above the Winfield USGS gage. June 1, the Chief Engineer lifted MDS orders for the Smoky Hill River, the others remain in effect until flows remain above MDS for 14 consecutive days and an order is issued. The table below provides a comparison of these flows and corresponding MDS information.



Stream Flows				
Gaging Station	May 18 Flow	May MDS	June 1 Flow	June MDS
Republican River at Concordia	217	150	2,460	150
Republican River at Clay Center	305	250	3,170	250
Smoky Hill River at Ellsworth	28	35	244	45
Little Arkansas River at Alta Mills	7	8	15	8
North Fork Ninnescah River above Cheney	38	40	78	30
South Fork Ninnescah near Pratt	7	8	9	8
South Fork Ninnescah River near Murdock	105	100	131	50
Ninnescah River near Peck	NA	NA	94	70
Whitewater River near Towanda	16	25	40	25
Walnut River at Winfield	68	100	161	100
Medicine Lodge River near Kiowa	NA	NA	37	30

Table 2 summarizes federal reservoir pool elevations as of May 31 in terms of departure from the top of the conservation/multipurpose pool and pool elevation changes since the beginning of May. (5)

Table 2 Kansas Federal Reservoirs End-of-Month Pool Elevation Summary					
Reservoir	Top MP/C Pool ¹	Pool Elevation (Feet MSL)		End of Period	
		4/29/2011	5/31/2011	Departure from Top Beginning of Month ²	Change from Beginning of May
Kansas River Basin					
Norton ³	2304.3	2297.72	2298.18	-6.58	0.46
Harlan County, NE	1946	1946.54	1947.3	0.54	0.76
Lovewell ³	1582.6	1581.57	1588.23	-1.03	6.66
Milford ³	1144.4	1144.64	1150.02	0.24	5.38
Cedar Bluff	2144	2129.23	2128.93	-14.77	-0.30
Kanopolis ³	1463	1464.24	1468.03	1.24	3.79
Wilson ³	1516	1515.8	1517.02	-0.20	1.22
Webster ³	1892.5	1891.06	1891.51	-1.44	0.45
Kirwin ³	1729.3	1729.32	1730.44	0.02	1.12
Waconda ³	1455.6	1451.98	1460.89	-3.62	8.91
Tuttle Creek ³	1075	1074.63	1086.48	-0.37	11.85
Perry ³	891.5	891.39	896.55	-0.11	5.16
Clinton ³	875.5	875.82	877.25	0.32	1.43
Pomona ³	974	1036.3	1037.37	0.30	1.07
Melvern ³	1036	974.45	976.91	0.45	2.46
Hillsdale ³	917	917.18	919.11	0.18	1.93
Arkansas River Basin					
Cheney	1421.6	1421.54	1421.35	-0.06	-0.19
El Dorado	1339	1338.36	1338.56	-0.64	0.20
Toronto ³	901.5	900.28	903.56	-1.22	3.28
Fall River ³	948.5	948.95	950.36	0.45	1.41
Elk City ³	796	795.83	796.5	-0.17	0.67
Big Hill	858	858.42	858.34	0.42	-0.08
Council Grove ³	1274	1274.23	1274.2	0.23	-0.03
Marion ³	1350.5	1349.09	1349	-1.41	-0.09
John Redmond ³	1039	1038.55	1038.03	-0.45	-0.52
1. Elevations listed are the multi-purpose/conservation pool level. All figures are in comparison to this level, not the seasonal pool operation levels that are in effect at numerous reservoirs. El Dorado has a seasonal pool level. 2. All values are in feet. Negative (-) numbers indicate feet below top. Source: U.S. Army Corps of Engineers 3. Lake level management plan in place					

Public Water Systems

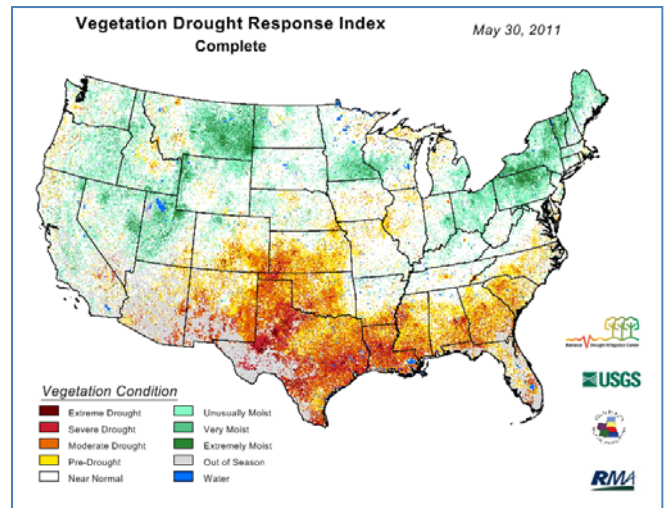
No drought-related public water system impacts are currently being reported. (6)

Vegetation Conditions

The Vegetation Drought Response Index ([VegDRI](#)) indicates vegetation conditions across the nation for a comparison with surrounding states as of May 30. Drought conditions persisted across most parts of Kansas, Oklahoma and Texas. North Dakota and South Dakota were in near-normal.

A more local view is found in the Kansas Vegetation Condition Index Maps, below, included in the Green Report. These maps illustrate vegetation health and levels of plant stress based on current and historic vegetation greenness and surface temperatures. (7)

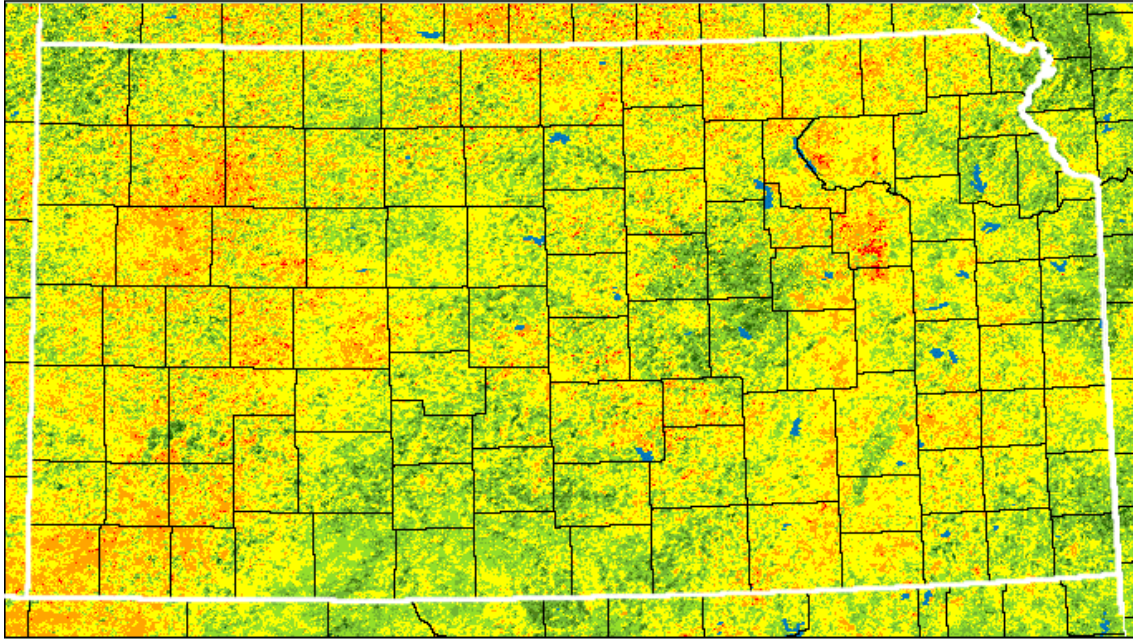
The final week of May, vegetation conditions improved across the northwest and northern half of the state. The east continues to be in great shape. Except for small isolated areas, southwest vegetation has not improved for the whole month.



Appendix B provides a comparison of Kansas vegetative conditions from May 2010 to May 2011.

The *GreenReport*®
Kansas Vegetation Condition Map

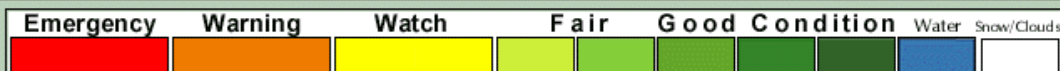
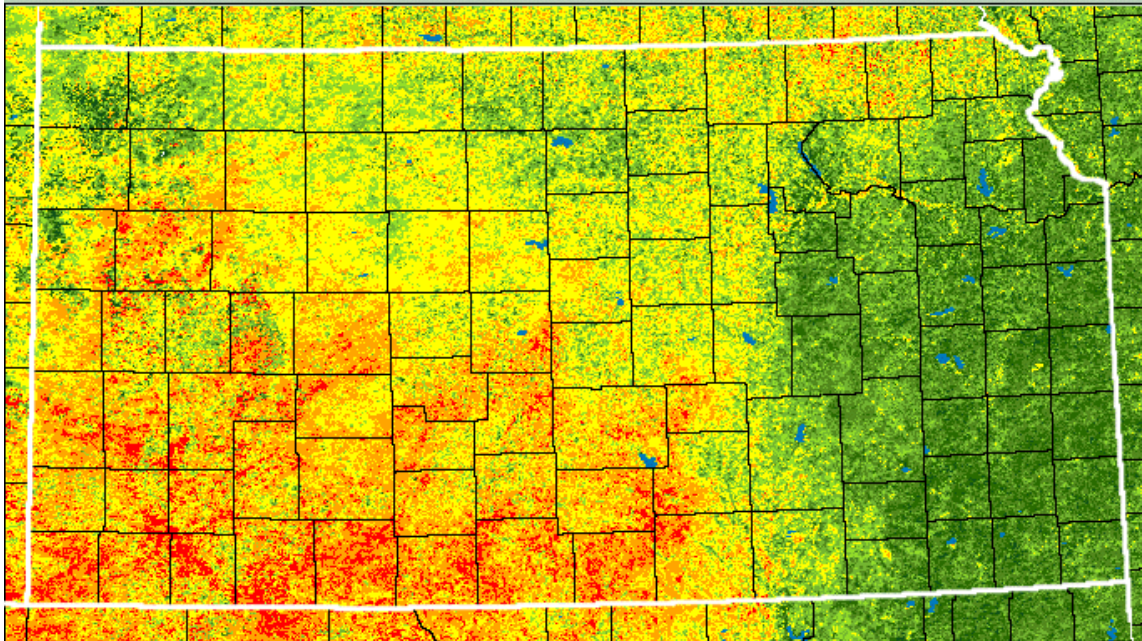
Drought Watch
Period 19 April 26 - May 9, 2011



Kansas Applied Remote Sensing Program

The *GreenReport*®
Kansas Vegetation Condition Map

Drought Watch
Period 22 May 17 - May 30, 2011



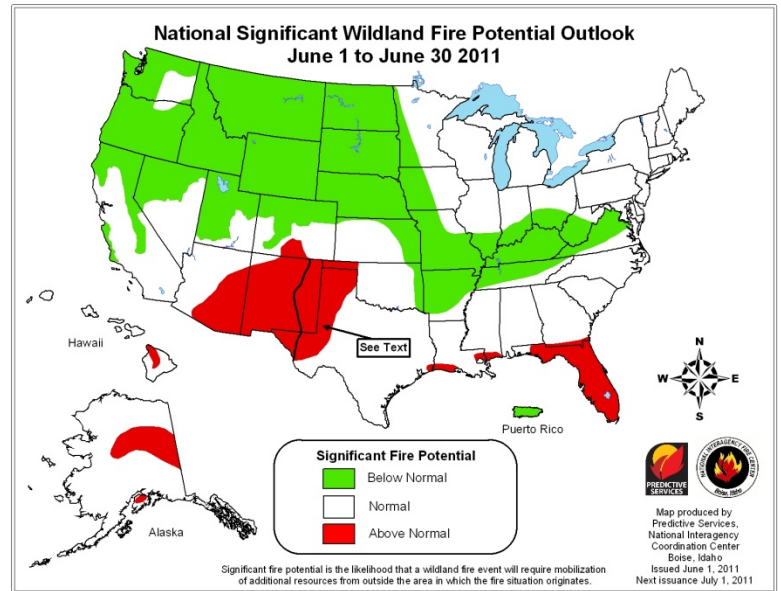
Kansas Applied Remote Sensing Program

Wildfire

Wildfires were reported in May with the availability of dry fuel for burning. A grass fire, on May 8 burned more than 17,000 acres in the Cimarron National Grasslands, Morton County.

Kansas Division of Emergency Management recommends Kansans closely monitor weather conditions, check the fire danger index and use appropriate fire precautions to prevent additional grass fires.

The [Wildland Fire Outlook](#) issued by the National Interagency Fire Center on June 1, foresees normal significant wildfire potential in most of Kansas during June 2011. The forecast for the July to September period is for normal wildfire potential across the state. (8)



LOOKING AHEAD

The U.S. Seasonal Drought Outlook http://www.cpc.ncep.noaa.gov/products/expert_assessment/seasonal_drought.html was released by the NOAA Climate Prediction Center (CPC) June 2. According to the CPC, The outlook for the swath of land from central parts of Texas, Oklahoma and Kansas westward through the southern High Plains was driven exclusively by initial conditions and climatology. Western and northern parts of this region are headed into their wet season as summer progresses,

making it likely that at least some surface moisture improvement will be felt by the end of August, though this forecast should not be interpreted as calling for widespread, significant relief, and conditions may well get worse before they get better. (9)

ADDITIONAL INFORMATION

The Kansas Climate Summary and Drought Report is compiled each month by the Kansas Water Office (KWO) from various federal, state, local and academic sources. Some of the data is preliminary and subject to change once final data is available. The KWO web site, [KWO Drought](#), contains additional drought information including links to other agencies with drought information and past issues of the Kansas Climate Summary and Drought Report. Kansas State Climatologist, Mary

Knapp, is the primary source of the narrative on each month's weather. She works closely with meteorologists throughout the state and region. Details of current conditions at Evapotranspiration (ET) and Mesonet sites across Kansas are available at <http://www.ksre.k-state.edu/wdl/>.

RESOURCES

1. The [U.S. Drought Monitor](#), from the national Drought Mitigation Center at the University of Nebraska-Lincoln, provides a “big picture” perspective of conditions across the nation. In the Kansas county drought stage scheme, a Drought Watch equates roughly to moderate drought in the U.S. Drought Monitor, while a Drought Warning is the equivalent of severe drought. A Drought Emergency is reserved for extreme or exceptional drought.
2. The National Weather Service (NWS) Cooperative Observer Program (COOP) is the Nation's weather and climate observing network made up of observers that send monthly reports of daily temperatures and precipitation to the NWS. <http://www.nws.noaa.gov/om/coop/wfo-rfcmap.htm>
3. CoCoRaHS is a community-based network of volunteers that measure and map precipitation (rain, hail and snow). Locations and daily precipitation observed through the CoCoRaHS system can be seen at: <http://www.cocorahs.org/state.aspx?state=ks>
4. The [Kansas Crop Progress and Condition Report](#) is updated weekly by USDA during the growing season and monthly during the winter. The weekly report is found at: http://www.nass.usda.gov/Statistics_by_State/Kansas/Publications/Crop_Progress_and_Condition .
5. The U.S. Geological Survey [Drought Watch](#) provides information on 7-day average streamflow measured at long-term gaging stations and compares them to normal flows.
6. The water levels of the federal lakes fluctuate during a year according to the management plan. [Lake level management](#) plans are posted on the Kansas Water Office web site www.kwo.org.
7. [Responding to Drought: A Guide for City, County and Water System Officials](#) provides an overview of Kansas county drought stage declarations, local planning and coordination, disaster declarations, and available state and federal assistance. [The 2007 Municipal Water Conservation Plan Guidelines](#) and the [Drought Vulnerability Assessment Report](#), both by Kansas Water Office, provide guidance regarding drought preparedness and response.
8. The Kansas Applied Remote Sensing Program (KARS) at the University of Kansas produces a [Kansas Green Report](#) each week during the growing season. For a full set of national and regional **GreenReport®** maps, go to: <http://www.kars.ku.edu/products/greenreport/greenreport.shtml>
9. The Vegetation Drought Response Index ([VegDRI](#)) by the National Drought Mitigation Center provides another perspective on vegetation conditions across the nation. VegDRI updated bi-weekly, attempts to isolate the impact of drought or other moisture conditions that influence vegetation condition.
10. The [Wildland Fire Outlook](#) is issued by the National Interagency Fire Center.
11. The National Weather Service (NWS) provides fire weather products and services for Kansas that include the Rangeland Fire Danger Index, Fire Weather Forecasts, Red Flag Watches/Warnings, and Spot Forecasts. The five NWS offices that serve Kansas websites may be accessed from the [NWS Offices' page](#).
12. [Fire weather](#) links also are available from the Weather Data Library at Kansas State University, as are prescribed burning guidance publications.
13. The [Seasonal Drought Outlook](#), developed by the NOAA Climate Prediction Center (NOAA CPC), assesses the likelihood for improvement, persistence or deterioration in drought conditions for areas currently experiencing drought as identified by the U.S. Drought Monitor.

Please contact Diane Coe at the Kansas Water Office (785) 296-3185 or diane.coe@kwo.ks.gov should you have any questions or suggestions.

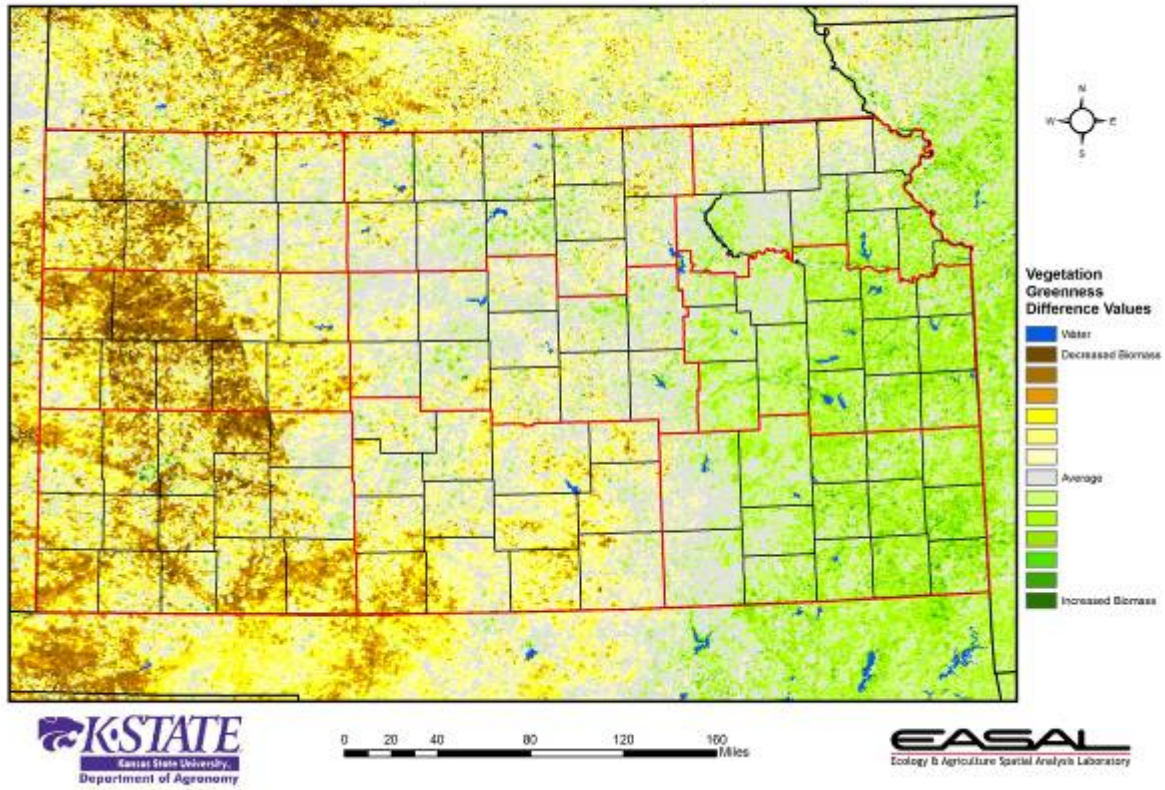
**Appendix A
May 2011
Kansas Regional Climate Summary**

Station ¹	Precipitation (inches)			Temperature (Degrees Fahrenheit)			
	Total	Departure	Percent Normal	Mean	Departure	Extreme (Date)	
						Highest	Lowest
West							
Burlington, CO	3.12	0.24	108%	55.2	-2.4	91 (29)	28 (14,2)
Dodge City	0.68	-2.32	23%	64.0	0.2	106 (29)	33 (14)
Garden City	0.85	-2.24	28%	62.5	-0.5	104 (29)	30 (3)
Goodland	3.45	-0.01	100%	56.5	-2.2	93 (30, 8)	29 (2)
Guymon, OK	0.27	-2.87	9%	66.0	1.8	106 (29)	33 (3)
Hill City	2.59	-1.04	71%	61.1	0.2	97 (9,8)	32 (3)
Lamar, CO	0.02			60.3		102 (29)	26 (2)
McCook, NE	6.09	2.83	187%	58.2	-2.3	95 (30)	28 (3)
Springfield, CO	0.22			60.2		98 (29)	25 (2)
Central							
Concordia	7.98	3.78	190%	62.8	-0.2	99 (9)	33 (3)
Hebron, NE	4.71	0.25	106%	64.2	3.5	98 (9)	32 (3)
Medicine Lodge	1.63	-2.3	41%	67.2	1.6	104 (8)	33 (3)
Ponca City, OK	0.70			67.9	-0.3	94 (9)	34 (2)
Salina	4.30	-0.81	84%	64.6	-0.3	101 (9)	34 (3)
Wichita (ICT)	2.45	-1.71	59%	66.4	1.4	100 (9)	34 (2)
East							
Bartlesville, OK	3.52	-1.24	74%	66.2	-2.5	91 (9)	34 (2)
Chanute	5.54	0.25	105%	64.2	-1.1	89 (9)	34 (3,2)
Fall City, NE	5.12	0.79	118%	63.5	-0.5	97 (9)	33 (3,2)
Johnson Co. Exec. Apt	5.78	0.37	107%	62.7	-2.6	88 (10,9)	37 (2)
Joplin, MO	7.53	2.46	149%	64.6	-1.5	89 (9,8)	36 (3)
Kansas City (MCI), MO	4.82	-0.57	89%	63.0	-1.3	90 (9)	34 (3)
St. Joseph, MO	3.46	-1.49	70%	63.2	-1.6	93 (10,9)	32 (2)
Topeka (TOP)	5.58	0.72	115%	64.6	0.2	95 (9)	34 (3,2)

1. Airport Automated Observation Stations (NWS/FAA)
2. Departure from 1971-2000 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

Appendix B

Kansas Vegetation Condition Comparison Late-May 2011 compared to the 22-Year Average for Late-May



Compared to the 22-year average at this time for Kansas, this year's Vegetation Condition Report for May 17 – 30 from K-State's Ecology and Agriculture Spatial Analysis Laboratory shows the eastern divisions are slightly greener than the long term average. Much of this can be attributed to cooler than average temperatures which moderated the impact of drier than normal conditions. Lower vegetative production in the western third of the state was the result of drier than normal conditions of the state, aggravated by warmer than average temperatures. The warmest reading in May was 106 oF, at Ashland in Clark County on May 30.