

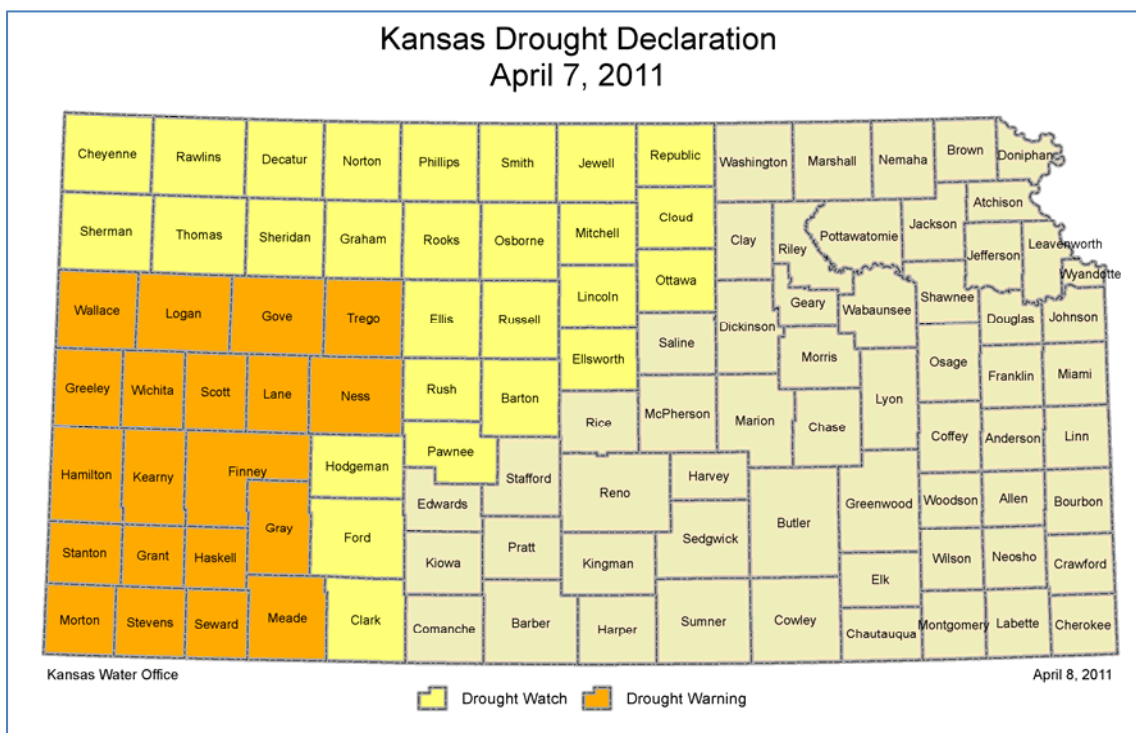
KANSAS CLIMATE SUMMARY AND DROUGHT REPORT

Current Conditions, Drought Impacts and Outlook

April 2011

Brief Warm Up

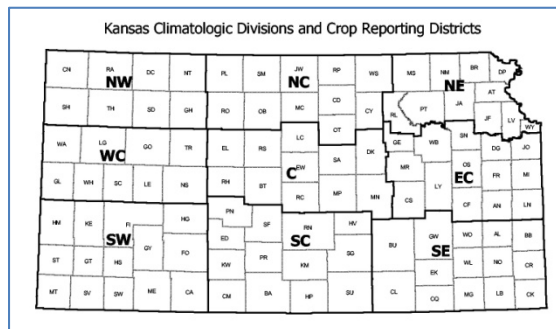
April was a mild month with wide temperature swings. With below average precipitation, the latest U. S. Drought Monitor saw an increase in the area of abnormally dry and moderate drought conditions. **Currently, 90 percent of the state is reported as abnormally dry to exceptional.** Most of western Kansas' 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. Throughout April drought conditions persisted in many parts of Kansas. **On April 7, the Governor declared a drought watch or drought warning for 47 counties in western Kansas.** These are shown on the map below.



Preliminary statewide average precipitation was 1.71 inches, which was 69 percent of normal. The Western division fared better than in previous months, but only the northwest division came close to normal at 94 percent of normal for the month. **The south western division fared the worst of the western divisions, with an average of only 1.06 inches or 66 percent of normal.** The central and south central divisions were the dry locations in April. **South central averaged only 1.02 inches, which is just 41 percent of normal for the month.** The eastern three divisions were also below average, with the east central division having the greatest average precipitation at 2.80 inches, which was 86 percent of normal. There were only four days with no report of measurable precipitation in the state and for nine days the state-wide average was zero, with only isolated reports of moisture.

The latest U.S. Seasonal Drought Outlook has indicated drought conditions are expected to improve in the eastern portion of the state, but to remain or **intensify in the western regions in the coming months.** The La Niña conditions are weakening and are expected to fade transitioning to neutral by June.

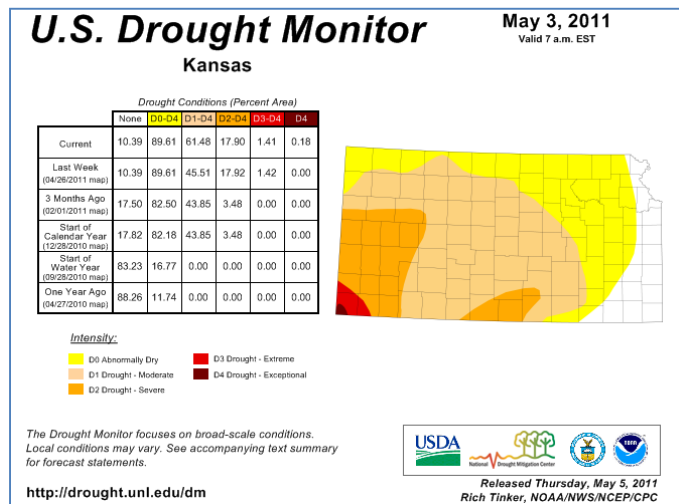
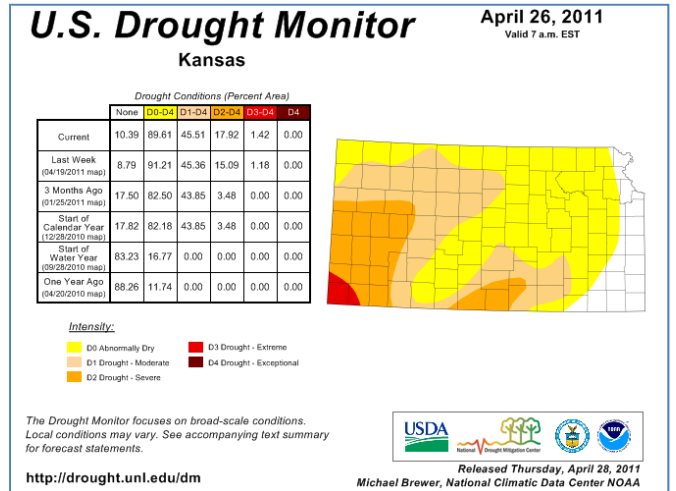
As with March, April was a mild month with wide temperature swings. The state-wide average temperature was slightly warmer than normal, with the average a half a degree warmer than normal, placing it at 48 for the warmest April on record. Temperatures reached the 90s in all except the Southeast. Hudson in Stafford County and



Medicine Lodge in Barber County reached 99°F, the warmest reading in the state. Daily record highs were set at 79 locations and tied with 21 others, an increase in the number of new records from March. However, no all time record highs were set in April. On the other hand, 26 locations set record low maximum temperatures and 17 tied records. Richfield (Morton County) set a record low daily minimum temperature of 23 °F April 16. Thirty-four locations set new records for daily high minimum temperatures. Hutchinson 10SW (Reno County) set a new record high minimum for April of 68 °F on the April 18. State-wide monthly average temperatures were only 0.5 °F warmer than normal, with the warmest area in the northeast with a departure of +1.6 °F. The coolest division was the northwest division, which averaged 0.7 °F below normal.

DROUGHT MONITORING AND INDICES

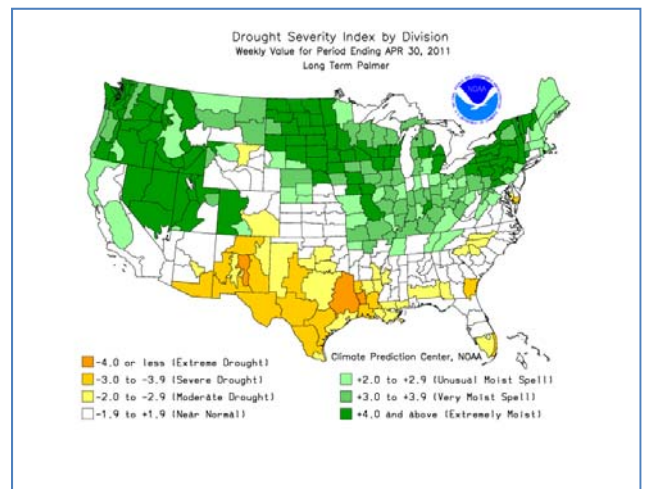
The U.S. Drought Monitor ([current map](#)) is a composite of several observed weather variables and drought indices that is updated weekly. The April 26 map indicates only ten percent of Kansas with near normal conditions (the eastern edge of Kansas and a portion of southeastern Kansas). The map indicates drought or dry conditions in western and south central Kansas. The table accompanying the map compares the percentage of the state currently affected by drought conditions with several points during the past year. At the end of April 26, 1.42 percent in extreme drought, 16.5 percent of the state was considered to be in severe drought, 27.59 percent moderate and 44.1 percent abnormally dry.



The May 3 map indicates the only area of near normal conditions are along the eastern border of the State.

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 3 was -0.71 (near normal). Divisional PDSI values ranged from -2.09, which translates to moderate drought, in the West Central division to 0.67 in East Central division, which corresponds to near normal. In the West Central division 3.44 inches of precipitation would be needed to bring the conditions back to near normal. The long-term average during April in the area is only 1.84 inches. The long-term average during May in the area is 2.96 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.

April 27, the Governor made a request to U.S. Department of Agriculture Secretary Tom Vilsack for a drought disaster declaration for 21 western Kansas counties. The request is based on drought, wildfire and high winds. The 21 counties included in the request are: Finney, Gove, Grant, Greeley, Hamilton, Haskell, Kearny, Lane, Logan, Meade, Morton, Ness, Scott, Seward, Sheridan, Sherman, Stanton, Stevens, Thomas, Wallace and Wichita. The U.S. Department of Agriculture will take action based on their information evaluation, primarily 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
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
M1934	SS, T, F	6/12/10-7/31/10	No	Missouri (AT, DP, JO, MI, WY)	4/18/2011
M1932	SS, T, F	6/7/10-7/21/10	Yes	45 Primary KS Counties, 27 Contiguous	4/11/2011

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:

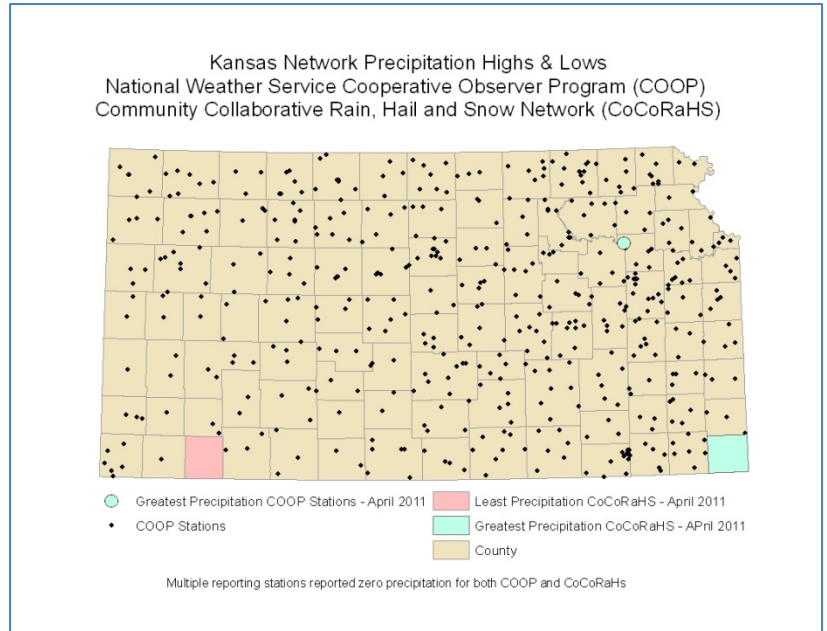
Secretarial Major Disaster Declarations in Kansas					
FEMA Disaster ID	Cause	Date	Kansas Centered	Adjoining State Where Disaster is Centered (Kansas Counties affected)	Termination Date
S3098	R, Heat, D	4/23/10-11/01/10	Yes	4 Primary KS Counties, 13 Contiguous	09/26/2011
S3080	D, Heat, W	11/1/09-10-31-10	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
S3020	R, FF, F, W	2/1/10-7/15/10	No	Missouri (AT, BB, CR, DP, JO, LV, LN, MI, WY)	4/20/2011
S3019	R, W, H, F, L, T	5/6/10-6/20/10	Yes	9 Primary KS Counties, 25 Contiguous	4/20/2011

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

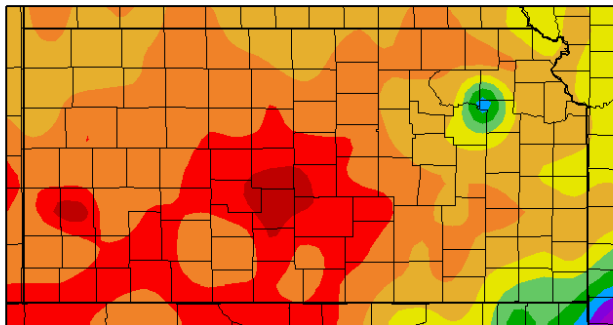
April ranks 26 as the driest on record (1895-2010) in Kansas with a statewide average total precipitation of 1.71 inches. This is 69 percent of normal. Based on preliminary reports, the greatest total precipitation received in April from the National Weather Service (NWS) COOP network stations was 12.31 inches at Rossville, Shawnee County. Greatest for the Community Collaborative Rain, Hail and Snow Network (CoCoRaHS) in April was 5.48 inches at Cherokee, Crawford County. On the low end of the NWS reporting were a number of west central and central stations which reported no precipitation at all for the month. For the CoCoRaHS network, the lowest was recorded at Hutchinson 8.7 SW, in Seward County, with 0.42 inches of precipitation. (2)

April was also a month of severe storms. Appendix B provides an overview of those reported by the Storm Prediction Center of the NOAA.



The maps below show total precipitation received and the percent of normal across the state in April. These and others are available at the [High Plains Regional Climate Center](http://www.highplainsclimatecenter.org).

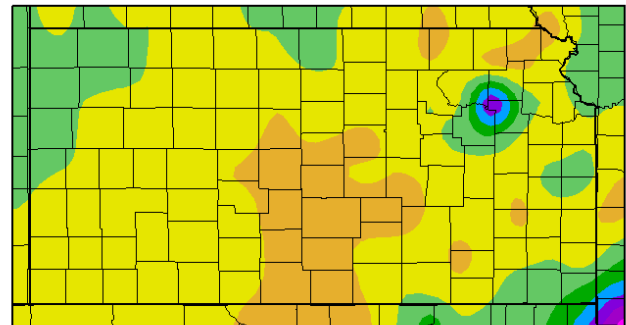
Precipitation (in)
4/1/2011 - 4/30/2011



Generated 5/1/2011 at HPRCC using provisional data.

Regional Climate Centers

Departure from Normal Precipitation (in)
4/1/2011 - 4/30/2011



Generated 5/1/2011 at HPRCC using provisional data.

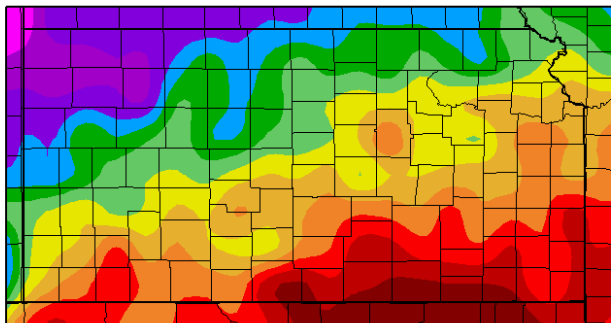
Regional Climate Centers

The statewide average temperature of 54.1 °F was 0.5 degrees above normal. This ranks 48 on the warmest April on record (1895-2010) for Kansas. April 1981 was the warmest with a statewide average temperature of 61.4 °F. April 1983 was the coldest with a statewide average temperature of just 46.9 °F.

Average monthly temperatures at individual reporting locations ranged from 59.1 °F at Sedan (Chautauqua County) to 48.5 °F at Brewster 4W (Thomas County). The highest temperature recorded in Kansas during April was 99 °F at Hudson (Stafford County) and Medicine Lodge (Barber County) on April 4. The coolest reading observed in the state during April was 16 °F at Tribune 14N (Greeley County) on the 2nd. Ashland (Clark County) saw the greatest temperature range going from 97 °F April 4 to 23 °F April 5, for a 74 degree swing.

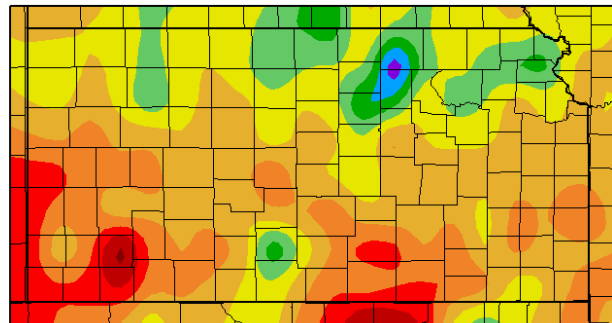
The following maps show average monthly temperature and the departure from normal across Kansas during April 2011.

Temperature (F)
4/1/2011 – 4/30/2011



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

Departure from Normal Temperature (F)
4/1/2011 – 4/30/2011



Regional Climate Centers Generated 5/5/2011 at HPRCC using provisional data.

Regional Climate Centers

Table 1 summarizes April 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
April 2011
Kansas Climate Division Summary

Division	Precipitation (inches)						Temperature (°F)			
	April 2011			2011 through April 30			Average	Dep. ¹	Monthly Extremes	
	Total	Dep. ¹	% Norm	Total	Dep. ¹	% Norm			Highest	Lowest
Northwest	1.67	-0.10	94	2.81	-1.16	70	49.8	-0.7	92	23
West Central	1.21	-0.43	74	2.74	-1.10	70	52.5	-0.1	94	24
Southwest	1.06	-0.56	66	1.99	-1.77	53	53.6	0.1	93	27
North Central	1.63	-0.70	70	3.80	-1.75	68	51.8	0.4	94	16
Central	1.16	-1.39	44	3.72	-2.41	59	54.4	0.2	98	27
South Central	1.02	-1.45	41	3.13	-3.04	49	55.2	0.5	92	28
Northeast	2.51	-0.47	83	6.03	-1.01	84	55.3	1.6	97	23
East Central	2.80	-0.47	86	6.83	-1.07	87	56.6	1.4	99	25
Southeast	2.76	-0.56	80	8.28	-0.47	92	57.3	0.9	89	28
STATE	1.71	-0.71	69	4.30	-1.59	68	54.1	0.5	99	16

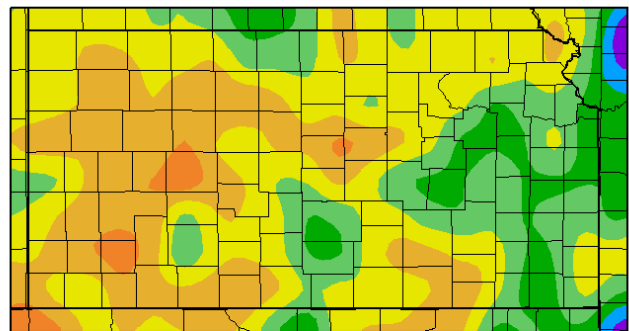
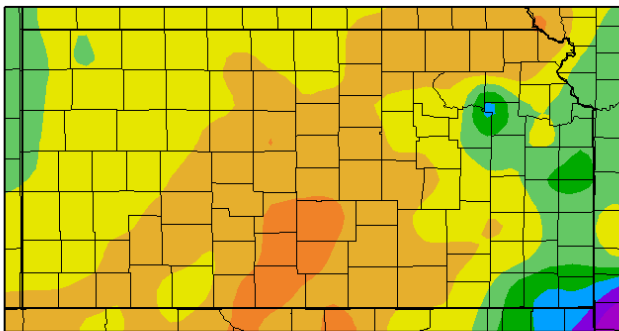
1. Departure from 1971-2000 normal value
2. State Highest temperature of 99 °F, Hudson (Stafford County) and Medicine Lodge (Barber) on the 4th.
3. State Lowest temperature of 16 °F at Tribune 14N (Greeley County) on the 2nd.
4. Greatest 24hr rainfall: 7.6 inches on the 22nd at Rossville, Shawnee County (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 (February 2011 – April 2011) and during the past 12 months (May 2010 – April 2011).

Departure from Normal Precipitation (in)
2/1/2011 – 4/30/2011

Departure from Normal Precipitation (in)
5/1/2010 – 4/30/2011



Generated 5/1/2011 at HPRCC using provisional data.

Regional Climate Centers

Generated 5/1/2011 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

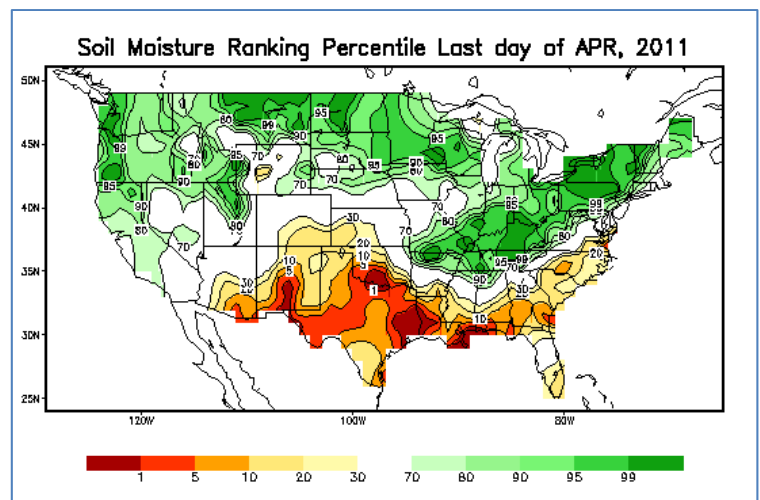
Agriculture

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 along with the south central district are a sharp contrast to the conditions in the southeast where some areas have seen excessive rainfall.**

As of May 1, topsoil moisture supplies statewide were rated as 18 percent very short, 24 percent short, 52 percent adequate, and 6 percent surplus. The southwest district was the driest with 96 percent short to very short, while the west central and south central were each less than 80 percent short to very short. In contrast, the northeast and east central districts were at least 90 percent adequate to surplus. The subsoil moisture supplies were rated 21 percent very short, 28 percent short, 48 percent adequate and 3 percent surplus. (3)

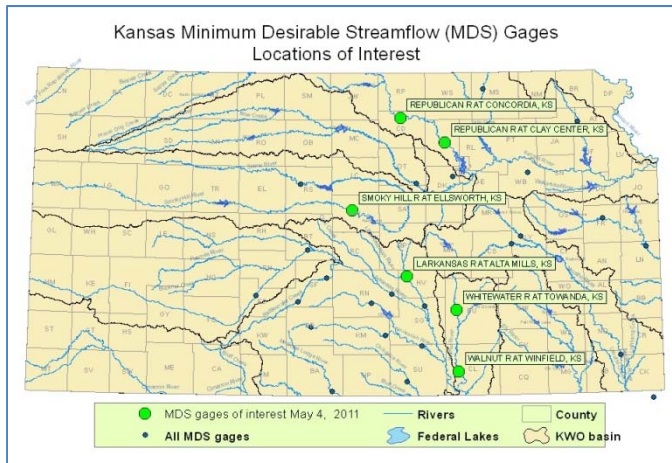
The persistent, dry weather in the western districts and south central district has taken its toll and caused the **winter wheat** crop condition to decline to 19 percent very poor, 26 percent poor, 34 percent fair, 19 percent good and only two percent excellent. For more detailed crop information please see the Kansas Department of Agriculture weekly reports. Range and pasture condition was rated at 10 percent very poor, 19 percent poor, 38 percent fair, 31 percent good, and two percent excellent.(3)

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



Kansas Streamflow and Reservoir Levels

No streams were under Minimum Desirable Streamflow (MDS) administration at the end of April. The table below provides a comparison of these flows and corresponding MDS information. The flow at the Alta Mills gage rose above MDS briefly on Sunday, April 24, again on Monday and has remained above since. The flow in the Smoky Hill River has fluctuated about the MDS value for several days prior to May 4. The Little Arkansas River fell below MDS during the evening on May 2. The Whitewater River has been below MDS since late in the evening on April 28. The Walnut River fell below MDS early in the morning of May 3. **Unless conditions improve, the Chief Engineer may determine that orders are necessary for these basins.**



Stream Flows				
Gaging Station	April 27 ^h Flow	Apr MDS	May 4 th Flow	May MDS
Republican River at Concordia	547	150	435	150
Republican River at Clay Center	690	250	573	250
Smoky Hill River at Ellsworth	42	30	35	35
Little Arkansas River at Alta Mills	9	8	7.5	8
Whitewater River near Towanda	27	20	18	25
Walnut River at Winfield	136	65	90	100

Table 2 summarizes federal reservoir pool elevations as of April 29 in terms of departure from the top of the conservation/multipurpose pool and pool elevation changes since the beginning of April. (5)

Reservoir	Top MP/C Pool ¹	Pool Elevation (Feet MSL)		End of Period	
		4/1/2011	4/29/2011	Departure from Top Beginning of Month ²	Change from Beginning of April
Kansas River Basin					
Norton ³	2304.3	2297.6	2297.72	-6.70	0.12
Harlan County, NE	1946	1946.73	1946.54	0.73	-0.19
Lovewell ³	1582.6	1581.04	1581.57	-1.56	0.53
Milford ³	1144.4	1144.54	1144.64	0.14	0.10
Cedar Bluff	2144	2129.4	2129.23	-14.60	-0.17
Kanopolis ³	1463	1464.43	1464.24	1.43	-0.19
Wilson ³	1516	1515.84	1515.8	-0.16	-0.04
Webster ³	1892.5	1890.64	1891.06	-1.86	0.42
Kirwin ³	1729.3	1729.48	1729.32	0.18	-0.16
Waconda ³	1455.6	1452.01	1451.98	-3.59	-0.03
Tuttle Creek ³	1075	1072.89	1074.63	-2.11	1.74
Perry ³	891.5	890.01	891.39	-1.49	1.38
Clinton ³	875.5	875.28	875.82	-0.22	0.54
Pomona ³	974	1034.74	1036.3	-1.26	1.56
Melvorn ³	1036	973.03	974.45	-0.97	1.42
Hillsdale ³	917	916.69	917.18	-0.31	0.49
Arkansas River Basin					

Reservoir	Top MP/C Pool ¹	Pool Elevation (Feet MSL)		End of Period	
		4/1/2011	4/29/2011	Departure from Top Beginning of Month ²	Change from Beginning of April
Cheney	1421.6	1421.63	1421.54	0.03	-0.09
El Dorado	1339	1338.44	1338.36	-0.56	-0.08
Toronto ³	901.5	899.76	900.28	-1.74	0.52
Fall River ³	948.5	949.05	948.95	0.55	-0.10
Elk City ³	796	794.4	795.83	-1.60	1.43
Big Hill	858	858.17	858.42	0.17	0.25
Council Grove ³	1274	1272.49	1274.23	-1.51	1.74
Marion ³	1350.5	1349.18	1349.09	-1.32	-0.09
John Redmond ³	1039	1037.77	1038.55	-1.23	0.78

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

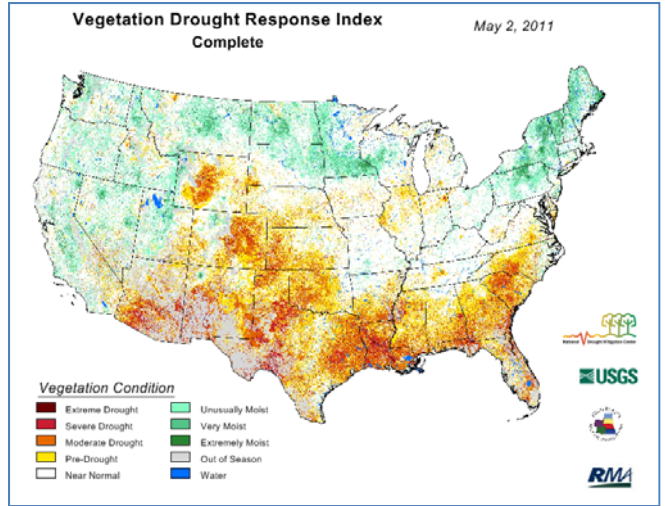
No drought-related public water system impacts are currently being reported. (6)

Vegetation Conditions

The Vegetation Drought Response Index ([VegDRI](#)) indicates vegetation conditions across the nation for a comparison with surrounding states as of May 2. Drought conditions persisted across most parts of Kansas, Oklahoma and Texas. North Dakota and South Dakota were in near-normal. Recent beneficial rains alleviated the drought conditions in the western and central parts of Nebraska. However, southwestern and eastern Nebraska remained abnormally dry.

See Appendix C for larger map of Kansas conditions.

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)

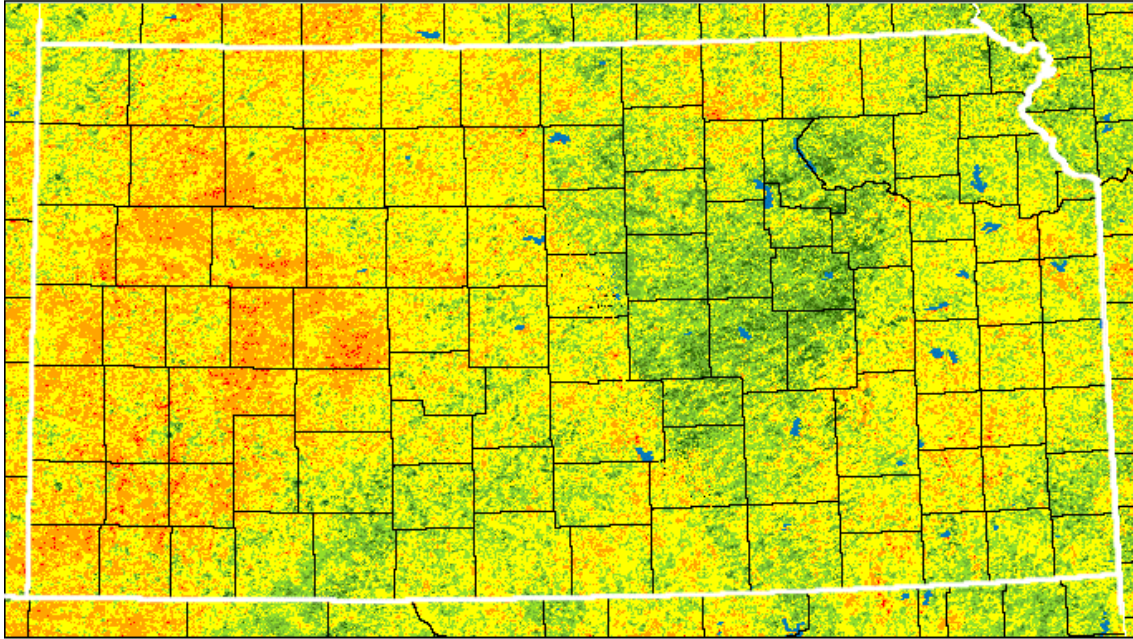


In mid-April vegetation in many western counties was indicative of the drought warning stage. By the beginning of May some improvement from these conditions occurred in the northwest, central and Flint Hills areas.

Appendix C provides a comparison of vegetative conditions from April 2010 to April 2011.

The *GreenReport*®
Kansas Vegetation Condition Map

Drought Watch
Period 15 March 29 - April 11, 2011

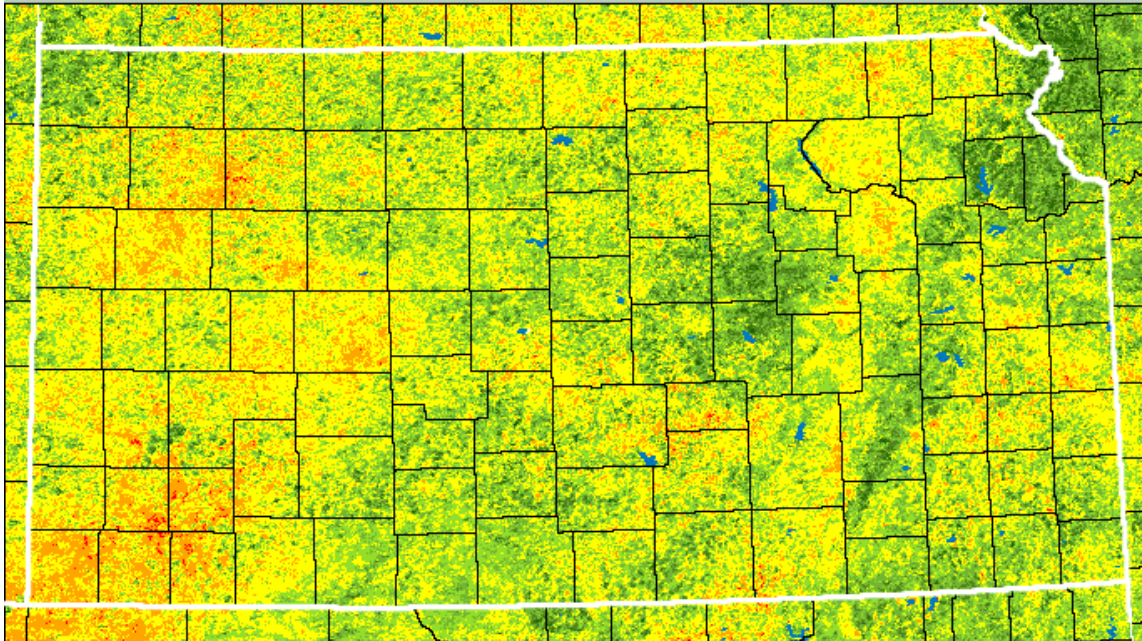


Kansas Applied Remote Sensing Program



The *GreenReport*®
Kansas Vegetation Condition Map

Drought Watch
Period 18 April 19 - May 2, 2011



Kansas Applied Remote Sensing Program

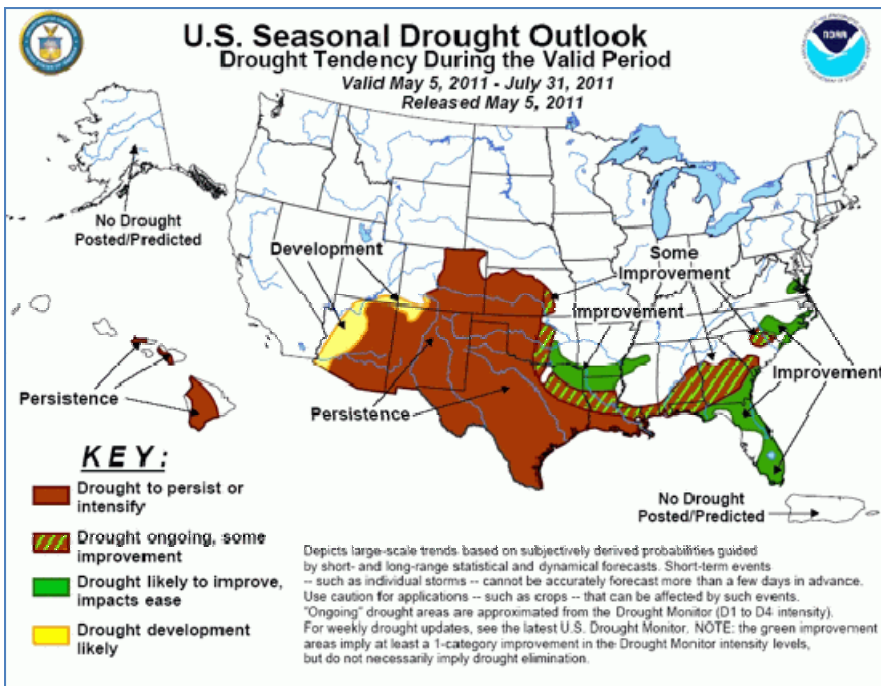
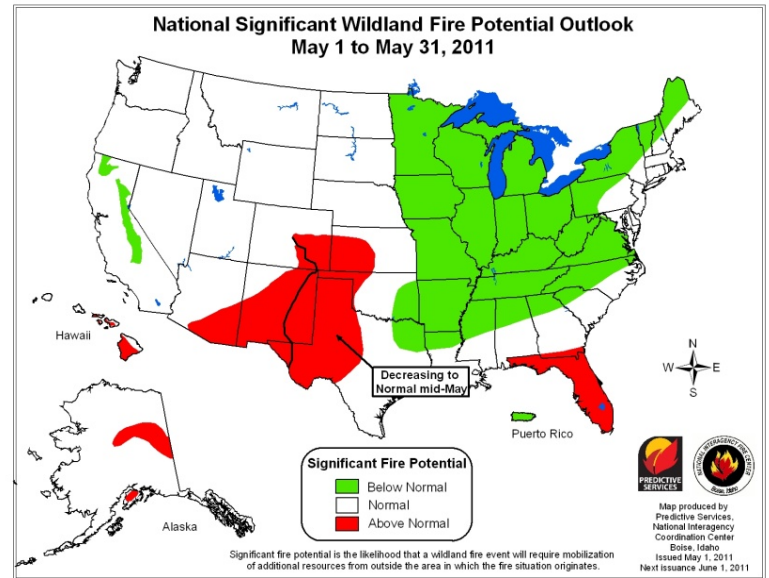


Wildfire

Wildfires were reported in April with the availability of dry fuel for burning. Near Satanta, a grass fire burned 9,600 acres in Haskell and Stevens counties on April 3. A large wildfire in Ellsworth County burned several thousand acres and threatened the communities of Bavaria and Brooksville in Saline County on April 10. Grass fires also burned approximately 6,000 acres in Reno County on April 10.

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 May 1, foresees **above normal significant wildfire potential in west central and southwest Kansas during May 2011**. The forecast for the June to August 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) May 5. According to the CPC, during the past month, drought persistence is expected west of a line from southern Texas through central Kansas, with CPC one-month precipitation outlooks indicating enhanced odds of below-median precipitation during the climatological peak of spring rains. (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>

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>

3. 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.

4. 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.

5. 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.

6. [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.

7. 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>

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.

8. The [Wildland Fire Outlook](#) is issued by the National Interagency Fire Center.

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](#).

[Fire weather](#) links also are available from the Weather Data Library at Kansas State University, as are prescribed burning guidance publications.

9. 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.

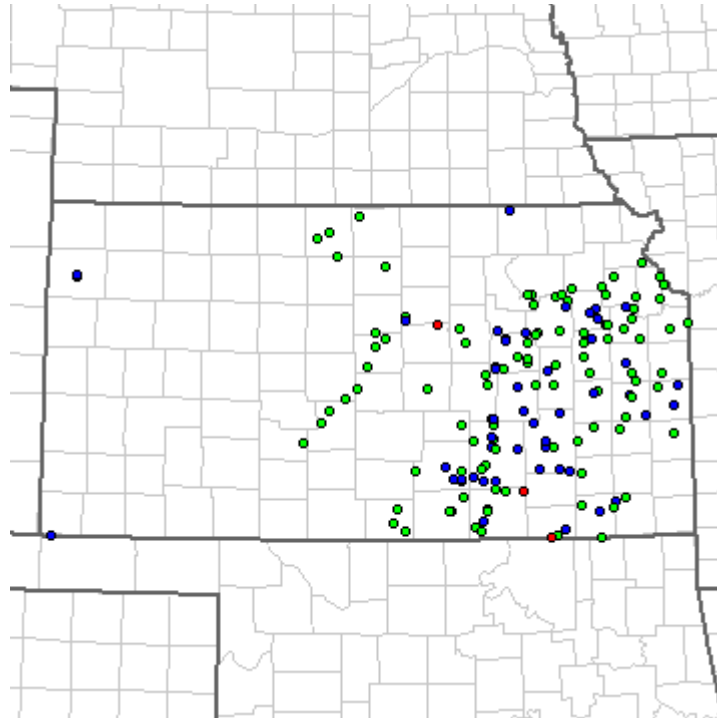
**Appendix A
April 2011
Kansas Regional Climate Summary**

Station ¹	Precipitation (inches)			Temperature (Degrees Fahrenheit)			
	Total	Departure	Percent Normal	Mean	Departure	Extreme (Date)	
						Highest	Lowest
West							
Burlington, CO	2.09	0.74	155%	48.4	0.7	85 (2)	24 (4)
Dodge City	1.01	-1.24	45%	55.8	1.9	94 (9,3)	27 (16)
Garden City	1.44	-0.49	75%	54.6	1.5	92 (9,3)	27 (16)
Goodland	2.40	0.73	144%	49.6	0.8	87 (9)	26 (16,4)
Guymon, OK	0.93	-0.47	66%	58.4	3.5	94 (29,9)	26 (16)
Hill City	1.26	-0.85	60%	52.8	1.7	93 (9)	29 (16,5)
Lamar, CO	0.04		100%	52.6		92 (2)	22 (16)
McCook, NE	1.78	-0.44	80%	50.4	0.0	89 (9)	26 (5)
Springfield, CO	0.28		100%	53.4		89 (29,2)	26 (4)
Central							
Concordia	1.83	-0.62	75%	53.6	0.8	88 (9)	31 (16)
Hebron, NE	2.01	-0.63	76%	53.1	3.2	90 (9)	29 (4)
Medicine Lodge	0.99	-1.71	37%	58.8	3.9	99 (3)	26 (5)
Ponca City, OK	1.14		100%	61.3	2.4	91 (9)	31 (5,4)
Salina	0.93	-2.13	30%	55.2	0.3	92 (3)	28 (5)
Wichita (ICT)	1.46	-1.11	57%	58.5	3.2	90 (9,3)	29 (5)
East							
Bartlesville, OK	4.53	0.69	118%	60.2	-0.3	90 (9)	29 (5)
Chanute	2.54	-1.29	66%	58.9	2.5	88 (3)	30 (5)
Fall City, NE	2.41	-0.77	76%	53.9	1.2	89 (3)	27 (5)
Johnson Co. Exec. Apt	3.06	-0.72	81%	56.2	0.4	88 (3)	30 (5)
Joplin, MO	6.37	2.05	147%	59.9	2.2	88 (9)	30 (5)
Kansas City (MCI), MO	3.43	0.05	101%	55.8	1.4	91 (3)	30 (5)
St. Joseph, MO	2.74	-0.49	85%	54.8	0.7	93 (3)	26 (2)
Topeka (TOP)	3.87	0.73	123%	57.0	2.5	92 (3)	29 (5)

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

Severe Storm Reports during April 2011 in Kansas¹



Total Reports = 171

● Tornadoes = 3

● Hail Reports = 114

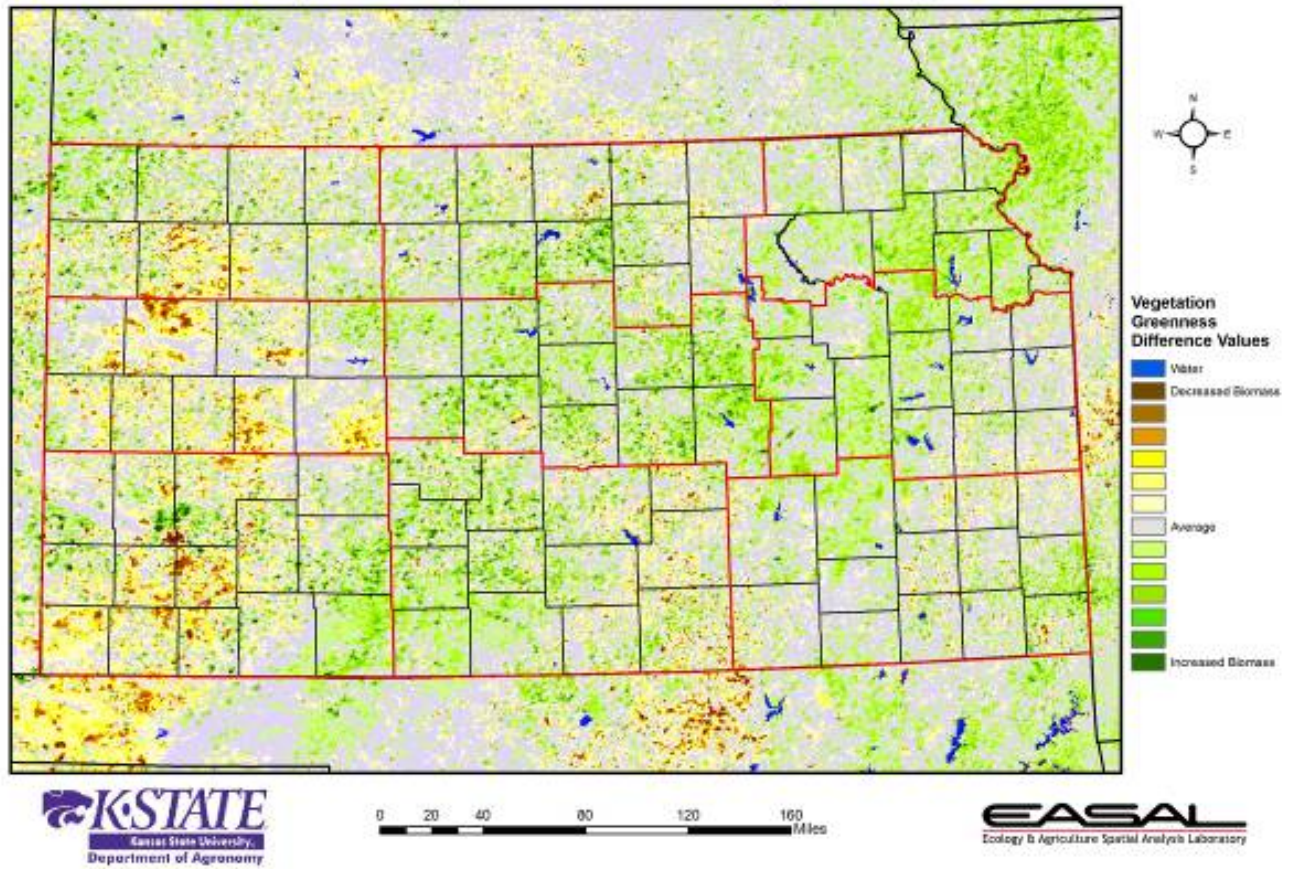
● Wind Reports = 54

Note, consistent with the lack of rainfall in Western KS, very few severe storm reports were documented in the western half of the state.

¹ NOAA / National Weather Service, National Centers for Environmental Prediction, Storm Prediction Center
120 David L. Boren Blvd., Norman, OK 73072 U.S.A.

Appendix C

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



Compared to the 22-year average at this time for Kansas, this year's Vegetation Condition Report for April 19 – May 2 from K-State's Ecology and Agriculture Spatial Analysis Laboratory shows continuing effects of drought in the western Kansas counties, as well as parts of Harvey, Sedgwick, Sumner and Cowley counties. Areas from Meade County northeast to the Missouri border are still benefitting from the November moisture as well as the favorable temperatures.