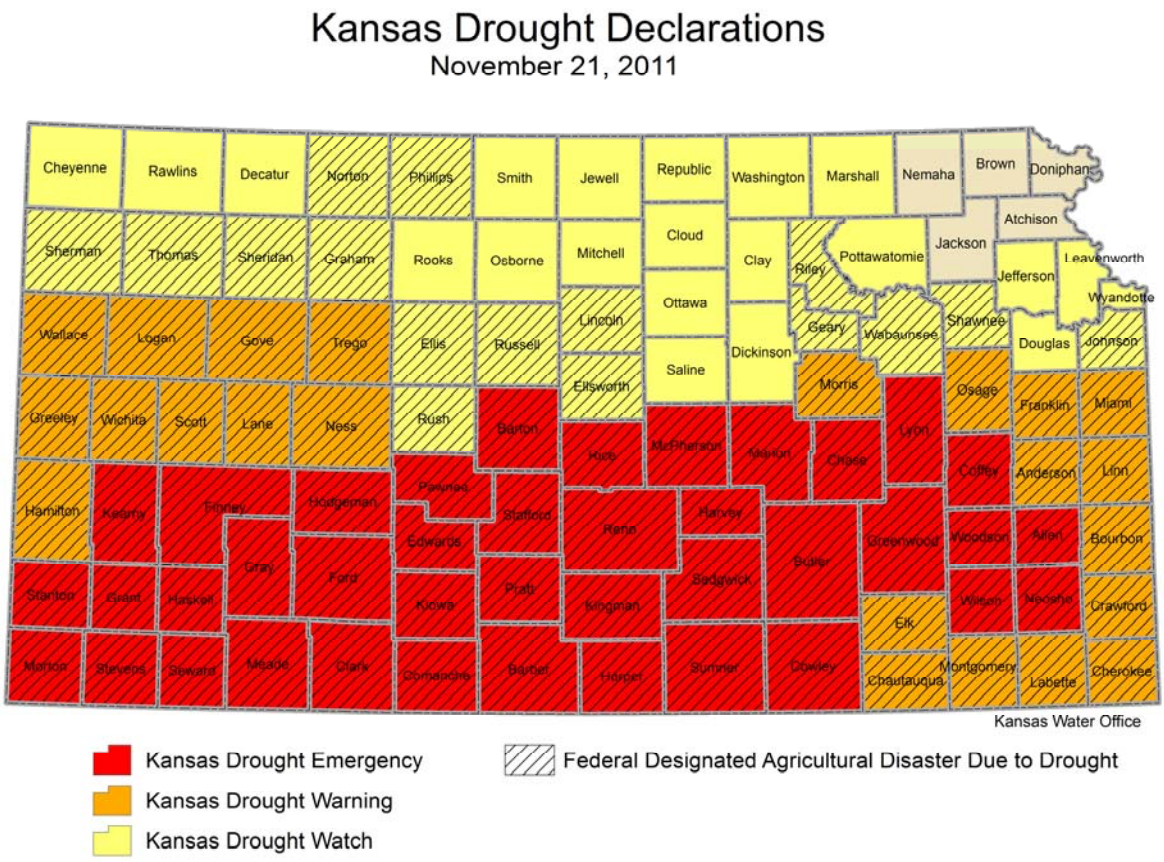
KANSAS 2012 DROUGHT UPDATE – February 3, 2012

Summary of Conditions and Changes for January 2012

- January ranks as the second driest on record (1895-2010) in Kansas with a statewide average total precipitation of 0.05 inches. This is only seven percent of normal.
- This was the 12th warmest January of record (1895-2010) for Kansas. The statewide average temperature of 35.6 ^{o}F was 7.8 degrees above normal.
- Kansas drought declarations remain in effect due to significant moisture deficits reflected in very low soil moisture that has the potential to affect crops in the coming year. For the week ending January 25 precipitation was 19 percent of normal, while for 2012 is only 7 percent of normal.
- The U.S. Drought Monitor for January 31 reflected no change in conditions in Kansas as the Monitor calculates drought.
- General circulation patterns have resulted in less moisture in the central plains as frontal systems bring rapid temperature swings and strong winds.
- Administration of junior water rights to meet Minimum Desirable Stream flows remain in effect on the Little Arkansas above Alta Mills, all other orders have been lifted.

Counties under Kansas drought stages and/or Federal Agriculture Disaster Declarations based on drought in 2011 are shown on the map below. These remain in effect as the overall conditions for plant growth and deficits in precipitation require careful consideration in planning for future water use and needs as well as crop and pasture conditions.



County Drought Declarations: A total of 100 counties are under state drought stages, with 40 counties in an emergency stage, 23 in Warning and 37 in Watch. State Emergency allows public water suppliers aid and opportunities to supplement their water supply, as well as provide opportunity for domestic and livestock water from emergency sources.

Kansas Drought Emergency:
Allen, Barber, Barton, Butler, Chase, Clark, Coffey, Comanche, Cowley**,** Edwards, Finney, Ford, Grant, Gray, Greenwood, Harper, Harvey, Haskell, Hodgeman, Kearny, Kingman, Kiowa, Lyon, Marion, McPherson, Meade, Morton, Neosho, Pawnee, Pratt, Reno, Rice, Sedgwick, Seward, Stafford, Stanton, Stevens, Sumner, Wilson, Woodson

Kansas Drought Warning:
Anderson, Bourbon, Chautauqua, Cherokee, Crawford, Elk, Franklin, Gove, Greeley, Hamilton, Labette, Lane, Linn, Logan, Miami, Montgomery, Morris, Ness, Osage, Scott, Trego, Wallace, Wichita

Kansas Drought Watch:
Cheyenne, Clay, Cloud, Decatur, Dickinson, Douglas, Ellis, Ellsworth, Geary, Graham, Jefferson, Jewel, Johnson, Leavenworth, Lincoln, Marshall, Mitchell, Norton, Osborne, Ottawa, Phillips, Pottawatomie, Rawlins, Republic, Riley, Rooks, Rush, Russell, Saline, Shawnee, Sheridan, Sherman, Smith, Thomas, Wabaunsee, Washington, Wyandotte

Federal: No federal agricultural disaster designations due to drought have been made so far in 2012. USDA agricultural disaster declarations are based on anticipated crop losses, while Kansas drought stages are based primarily on water resource conditions.

A total of 79 counties are designated federal agricultural disasters during 2011 (S3117, S3061, S3156, S3167 & S3189) due to drought, high winds and excessive temperatures and are now eligible for federal programs, along with the contiguous counties. The first 2011 designation (S3117) terminated January 10, 2012. The remaining 2011 designations terminate throughout 2012 ending with S3198, centered in Oklahoma but including four Kansas counties as contiguous, terminating July 9, 2012. Termination date refers to the deadline for applications for assistance such as loans for the disaster. According to USDA, Kansas farmers have received $987.3 million for crops lost in 2011, with more claims expected.

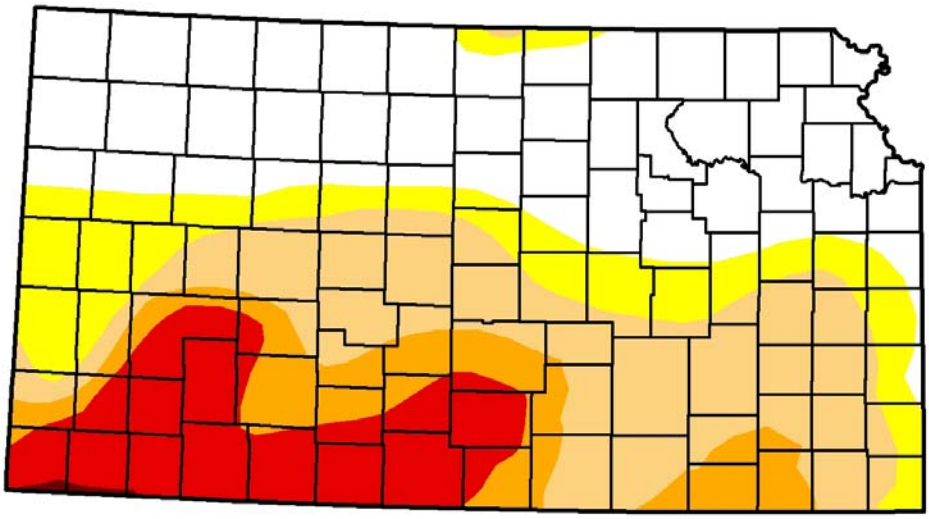
Up-to-date information regarding designated counties and assistance available due to these declarations is available here: http://www.fema.gov/dhsusda/index.jsp.

Brief explanations, program requirements and contact information for disaster relief programs are found at http://www.disasterassistance.gov/federal-agency/2.

General Conditions

U.S. Drought Monitor for January 31 showed a slight decrease in the area of all drought categories. Biggest improvement was a reduction in the area covered by exceptional to extreme drought. The exceptional drought continues at 0.22 percent of the state. Currently, just over 61 percent of the state is reported as abnormally dry to exceptional drought. Drought areas of southern Kansas and southeastern Colorado were dry and warm (10°F or more above normal). Substantial moisture deficits from spring and summer remain especially in southern parts of the state.

More information on the Drought Monitor categories can be found in a separate document under useful links on the KWO drought page.



US Drought Monitor
January 31, 2012

Intensity:

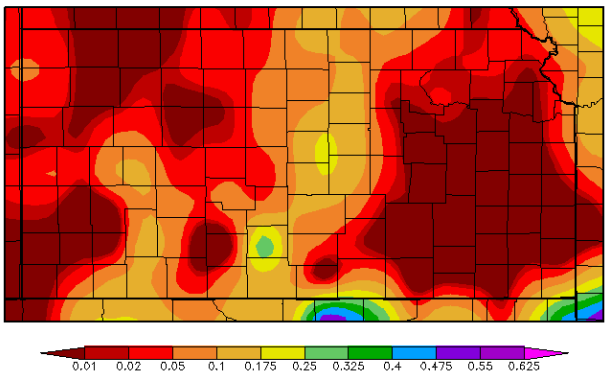
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

Climate (Precipitation and Temperature)

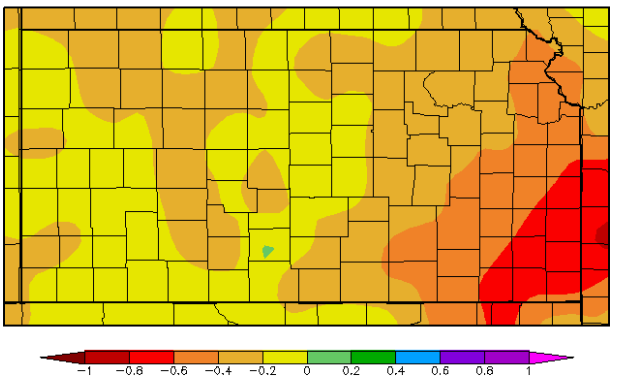
Preliminary statewide average precipitation was 0.05 inches, which was 7 percent of normal. This makes it the second driest January since 1895. The north central division was the wettest in overall precipitation at an average of 0.10 inches or 19 percent of normal. The west central was the driest, with an average precipitation of just 0.01 inches or two percent of normal. Twenty one days saw no reports of precipitation, and on five days the state-wide average was zero, with only isolated reports of moisture. Heaviest rains occurred on January 23 but runoff was limited, and stream flows returned to the low levels quickly. Since January is normally the driest month in the year, and December was much wetter than average, drought conditions changed little during the month. In west central KS, areas that had been near normal saw a deterioration in condition and moved into the drier than average category.

The past two weeks precipitation is summarized by the maps below by the High Plains Regional Climatic Center.

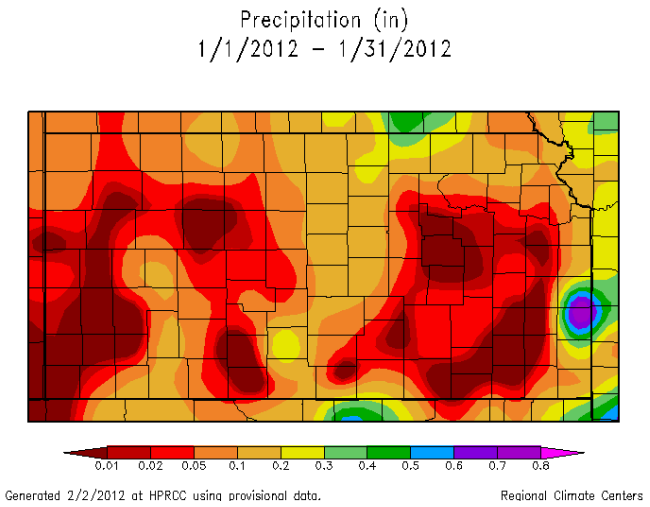
Precipitation (in)
1/19/2012 – 2/1/2012

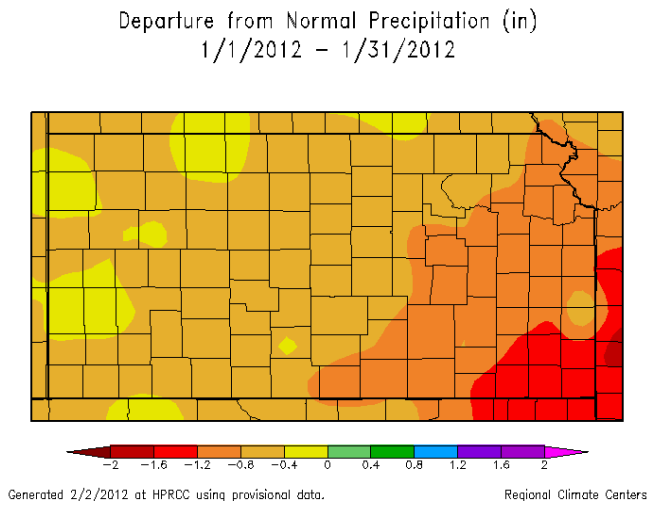


Departure from Normal Precipitation (in)
1/19/2012 – 2/1/2012



The maps below show total precipitation received and the departure from normal across the state in January:





The table below summarizes precipitation by climate division. Please note that the data used in compiling is preliminary and comes from different sources. This may result in slight differences in the average or extreme values presented.

Kansas Climate Division Precipitation Summary (inches)

Climate Division	January 1 - 31			January 1 to January 31			April 1 to January 31			September 1 to January 18		
	Actual	Normal	% Normal	Actual	Normal	% Normal	Actual	Normal	% Normal	Actual	Normal	% Normal
Northwest	0.02	0.39	5%	0.02	0.39	5%	15.76	18.45	84	3.77	4.67	78
West Central	0.01	0.41	2%	0.01	0.41	2%	13.05	17.93	73	4.17	4.77	89
Southwest	0.02	0.38	5%	0.02	0.38	5%	10.03	17.60	57	4.91	4.70	106
North Central	0.10	0.53	19%	0.10	0.53	19%	21.24	24.24	86	4.10	7.42	54
Central	0.09	0.62	15%	0.09	0.62	15%	16.76	25.71	66	5.93	8.31	71
South Central	0.06	0.66	9%	0.06	0.66	9%	13.68	25.31	53	6.91	8.62	77
Northeast	0.03	0.86	3%	0.03	0.86	3%	23.84	31.96	75	7.20	11.28	64
East Central	0.03	1.03	3%	0.03	1.03	3%	19.32	33.15	59	7.64	12.22	65
Southeast	0.05	1.17	4%	0.05	1.17	4%	22.99	34.19	67	10.58	13.46	79
STATE	0.05	0.67	7%	0.05	0.67	7%	17.00	25.22	67	6.21	8.34	77

Note: 1971-2000 normal value, 100 % =normal
Source: KSU Weather Data Library

January was warmer than average, and, much drier than normal across the state. The state-wide average temperature of 35.6 ^{o}F was 7.8 degrees warmer than normal. This marked it as the 12th warmest January on record for the state. The warmest January occurred in 2006, when the state-wide average temperature was 41.2 ^{o}F. The North Central division had the greatest departure from normal, with an average of 35.2 which is 9.9 degrees warmer than normal. The northwestern division, with an average of 33.5 ^{o}F was the coolest at 6.4 degrees above normal. The warmest temperatures were seen both at the beginning and the end of the month. The highest reading was 76 ^{o}F at Atwood 2SW (Rawlins County) on the 6th. Daily record highs were set at 98 locations, and tied at 22 others. On the low temperature side, no record lows were set. The coldest reading for the month was -4 ^{o}F at St. Francis (Cheyenne County) on the 17th.

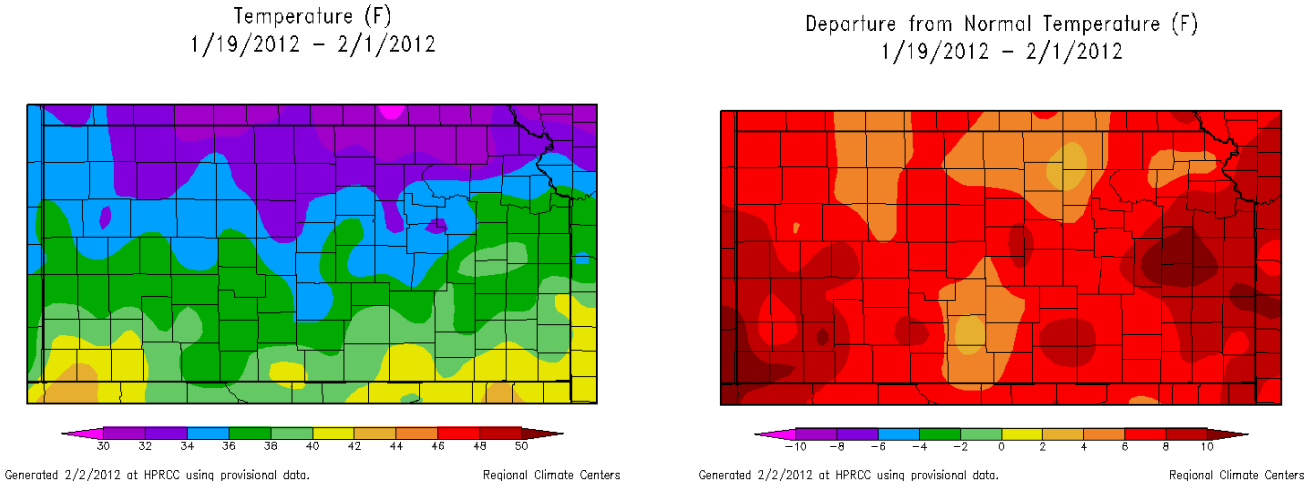
The table below summarizes January temperature and precipitation conditions by climate division while Appendix A provides the January summary for principal reporting locations within and adjacent to Kansas. Please note that the data used in compiling Table 1 and Appendix A is preliminary and comes from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

Kansas Climate Division Summary-Departures from Normal										
	Precipitation (inches)						Temperature (°F)			
	Jan-12			2012 through Jan					Monthly Extremes	
Climate Division	Total	Dep. [1]	% Normal	Total	Dep. [1]	% Normal	Ave	Dep. [1]	Max	Min
Northwest	0.02	-0.37	5	0.02	-0.37	5	33.5	6.4	76	-4
West Central	0.01	-0.40	2	0.01	-0.40	3	34.6	6.7	73	4
Southwest	0.02	-0.36	5	0.02	-0.36	4	36.7	6.7	73	8
North Central	0.10	-0.43	19	0.10	-0.43	17	35.2	9.9	71	3
Central	0.09	-0.53	15	0.09	-0.53	15	35.7	8.1	72	4
South Central	0.06	-0.60	9	0.06	-0.60	10	36.9	7.2	70	6
Northeast	0.03	-0.83	3	0.03	-0.83	4	33.8	8.4	72	5
East Central	0.03	-1.00	3	0.03	-1.00	2	36.1	8.9	70	6
Southeast	0.05	-1.12	4	0.05	-1.12	3	38.1	8.2	72	8
STATE	0.05	-0.62	7	0.05	-0.62	7	35.6	7.8	76	-4

1. Departure from 1981-2010 normal value
2. State Highest temperature: 76 oF at Atwood 2SW (Rawlins County) on the 6th.
3. State Lowest temperature: -4 oF at St. Francis (Cheyenne County) on the 17th.
4. Greatest 24hr rainfall : 0.94 inches at Ft. Scott, Bourbon County (NWS); 0.40 inches atPrairie Village 0.1 SW, Johnson County (CoCoRaHS)

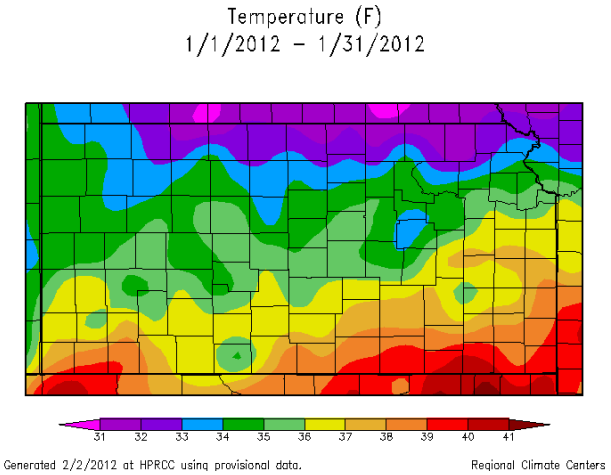
Source: KSU Weather Data Library

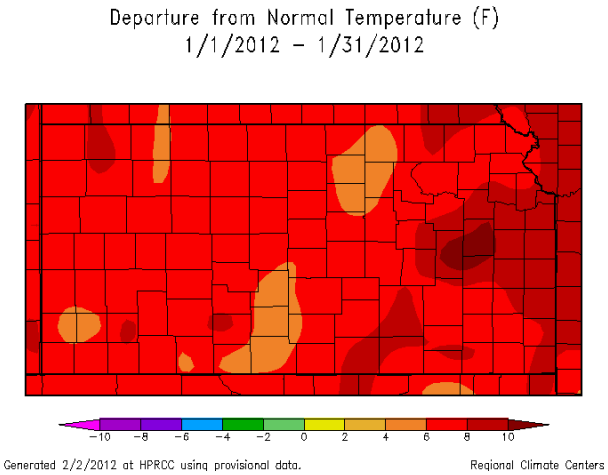
Temperatures for the recent weeks are summarized in the maps below.



The following maps show average monthly temperature and the departure from normal across Kansas during January. The statewide average temperature of 35.6 °F was 7.8 degrees above normal. This was the 12th warmest January of record (1895-2010) for Kansas. January 2006 was the warmest with a statewide average temperature of 41.2 °F. January 1940 was the coolest with a statewide average temperature of 13.9 °F.

Average monthly temperatures at individual reporting locations ranged from 45.5 °F at Great Bend (Barton County) to 31.7 °F at Norton Dam (Norton County). The highest temperature recorded in Kansas during January was 76 °F Atwood 2SW (Rawlins County) on the 6th. The coldest reading observed in the state during January was -4 °F at St. Francis (Cheyenne County) on the 17th.





The Palmer Drought Severity Index (PDSI) is a meteorological drought index, and it responds to weather conditions that have been abnormally dry or abnormally wet. The PDSI is calculated based on precipitation and temperature data, as well as the local Available Water Content (AWC) of the soil. The table below summarizes conditions by climate division. Please note that the data used in compiling is preliminary and comes from different sources. This may result in slight differences in the average or extreme values presented.

The statewide average PDSI for the week ending January 31 was 0.20 (near normal). Divisional PDSI values ranged from -0.02, which translates to near normal, in the southeastern division to -0.79 in the southwestern division, which also corresponds to near normal.

Public Water Supply Conditions

A Memorandum of Understanding (MOU) for emergency use of state fishing lake water under conditions of drought emergency declared by the Governor is in place. This will allow communities and individuals within the emergency counties category to pump water from named state fishing lakes if they are in dire need of water. Individuals and communities need to contact the KWO for a water supply request and they will in turn be referred to the appropriate Kansas Department of Wildlife, Parks and Tourism office to obtain the necessary permit to withdraw the water. The MOU limits the types of water use and a fee may be set for use of the state fishing lakes' water supply. This MOU establishes a use priority of domestic, municipal and then livestock uses, while also protecting the lake's fish population.

The State Fishing Lakes available for withdrawals for Emergency Declared counties include Atchison, Barber, Brown, Bourbon, Butler, Chase, Clark, Crawford, Goodman, Jewell, Kingman, Leavenworth, Lyon, Pott#1, Pott#2, McPherson, Miami, Mined Lands (Pits), Neosho, Osage, Ottawa, Saline, Scott, Shawnee, Sheridan, Washington, Wilson and Woodson Lakes.

Additional water may also be available for Drought Emergency counties from federal lakes. Water from U.S. Army Corps of Engineer lakes is available for domestic, industrial and livestock use but is prohibited for irrigation use. Requests from applicants must go through the KWO. It may also be possible to obtain water under surplus contracts from State owned storage in certain Corps lakes with water available for purchase. Bureau of Reclamation lake water may also be made available by temporary contract under drought conditions

Local Public Water Supply Status

Throughout the past year of drought, at least 38 public water suppliers in 22 counties initiated conservation measures due to drought conditions. These include municipal, rural water districts and a community college. Many of these have lifted restrictions. Although some precipitation has occurred, suppliers are cautioned that supplies remain lower than normal for the time of year. Review of existing supplies and conservation triggers is recommended to all public water suppliers in drought affected counties.

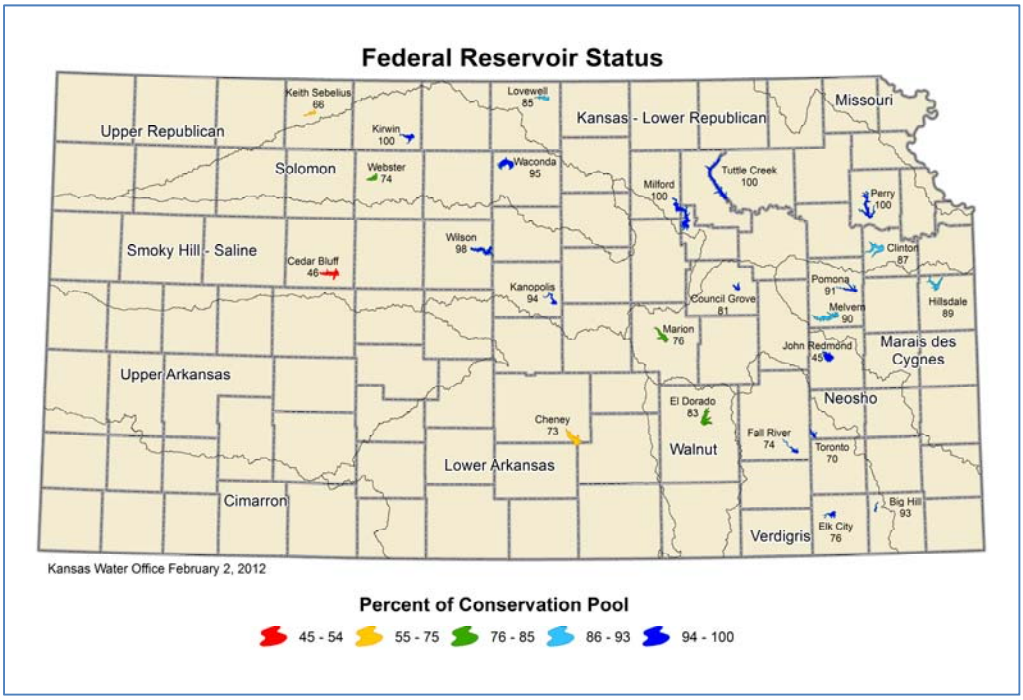
Other Water Supply Conditions

In eastern Kansas, the primary source of water is surface water including: rivers, federal reservoirs, multipurpose small lakes and municipal lakes. Many federal reservoirs store water for public water supply and other uses. The lakes which have water supply through the Water Marketing and/or Water Assurance programs include Big Hill, Clinton, Council Grove, Elk City, Hillsdale, John Redmond, Kanopolis, Marion, Melvern, Milford, Pomona, Perry and Tuttle Creek. Cedar Bluff, Glen Elder and Keith Sebelius reservoirs also contain supply water for a community.

In lakes where all state owned water is not under contract, it may be possible to negotiate for an emergency water supply.

As of February 2, 2012 no releases are being made from state storage in federal reservoirs for downstream needs.

General Reservoir Conditions



Kansas Federal Reservoir Conservation Pool Levels

Reservoir	Top of Multipurpose/Conservation Pool (Feet MSL)	Multipurpose/Conservation Pool Elevation (Feet MSL)	Change from Top of Pool (Feet)
Kansas River Basin		**02/01/2012**	
Norton[1]	2304.3	2298.62	-5.68
Harlan County, NE	1946	1946.66	0.66
Lovewell[1]	1582.6	1581.67	-0.93
Milford[1]	1144.4	1144.50	0.10
Cedar Bluff	2144	2126.28	-17.72
Kanopolis[1]	1463	1462.71	-0.29
Wilson[1]	1516	1515.57	-0.43
Webster[1]	1892.5	1887.67	-4.83
Kirwin[1]	1729.3	1729.42	0.12
Waconda[1]	1455.6	1454.61	-0.99
Tuttle Creek[1]	1075	1075.30	0.30
Perry[1]	891.5	891.35	-0.15
Clinton[1]	875.5	873.53	-1.97
Melvern[1]	1036	1033.50	-2.50
Pomona[1]	974	972.98	-1.02
Hillsdale[1]	917	915.17	-1.83

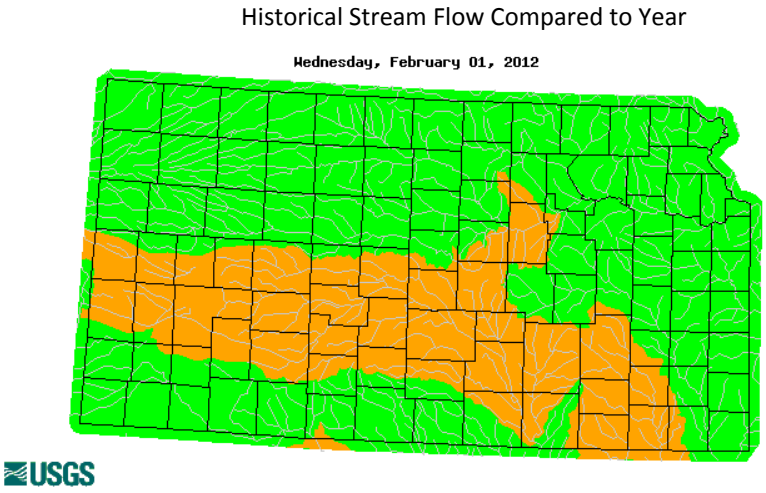
Reservoir	Top of Multipurpose/Conservation Pool (Feet MSL)	Multipurpose/Conservation Pool Elevation (Feet MSL)	Change from Top of Pool (Feet)
Arkansas River Basin		**02/02/2012**	
Cheney	1421.6	1417.28	-4.32
El Dorado	1339	1335.74	-3.26
Toronto[1]	901.5	902.20	0.70
Fall River[1]	948.5	950.33	1.83
Elk City[1]	796	796.97	1.97
Big Hill	858	857.23	-0.77
Council Grove[1]	1274	1273.00	-1.00
Marion[1]	1350.5	1347.81	-2.69
John Redmond[1]	1039	1040.59	1.59

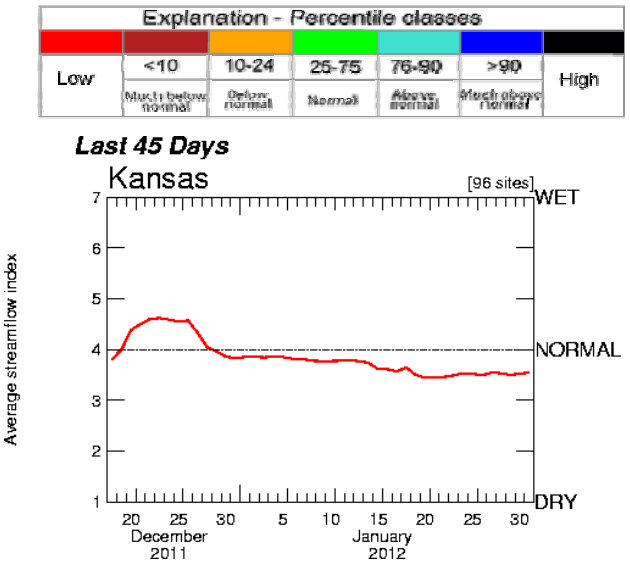
1. Lake level management plan in place
Source: U.S. Army Corps of Engineers

Streamflow Conditions

The comparison of stream flow for February 1, 2012 flows to all days of the year are shown on the map below. Recent flow is compared to the historical streamflow in Kansas for the past 45 days on the USGS graph. Both indicate below normal streamflows.

USGS seven day average stream flow compared to normal flow values recorded for the all days of the year during all years measurements have been collected. In general, a streamflow which is greater than the 75 percentile is considered *above normal*, a streamflow which is between 25 and 75 percentiles is considered *normal* and a streamflow which is less than the 25 percentile is considered *below normal*. Color codes are for basins with streamflow averages less than 25 percent of historic values.





Water Right Administration/Minimum Desirable Streamflow (MDS)

Minimum Desirable Streamflow (MDS) administration has ended on all streams except a portion of the Little Arkansas River above Alta Mills.

The table below shows the gage name for the location on the map where administration is occuring, as well as providing flows in cubic feet per second (cfs) at selected gaging stations as of January 19 for streams where MDS is of interest

Streamflows in cfs

Gaging Station	Janaury 26 Flow (CFS)*	January MDS (CFS)	February 2 Flow (CFS)	February MDS (CFS)	ADMINISTRATION STATUS
Republican River at Concordia	604	100	415	125	
Republican River at Clay Center	286	125	434	150	
Little Arkansas River at Alta Mills	4	8	3	8	5/12/11
Little Arkansas River at Valley Center	17	20	15	20	
Whitewater River near Towanda	16	10	17	15	

Little Arkansas River: Orders were effective May 12 and July 13 requiring cessation of pumping on sections of the Little Arkansas River. These orders pertain to the basin which drains to the Little Arkansas River between Alta Mills and Valley Center respectively. The orders have been lifted above Valley Center but remain in effect for 8 water rights above Alta Mills.

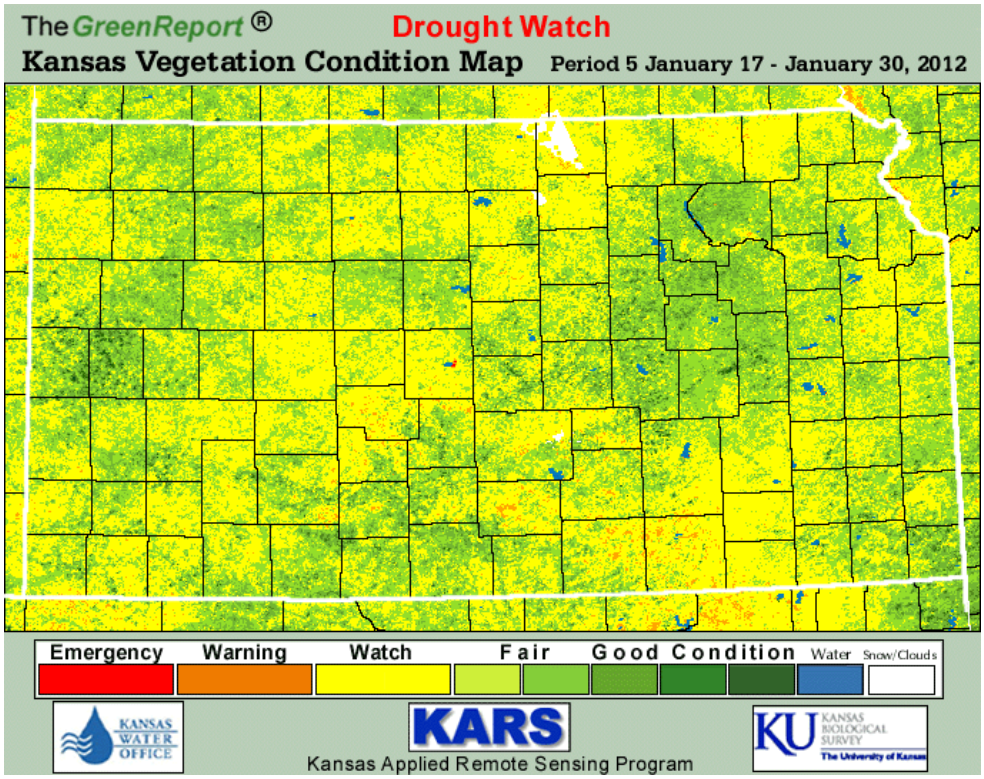
Burn Bans and Fires

Most counties require permits prior to a burn and are controlling burns through that process. A county issues a ban as they deem necessary at any time, for a specific time period or until repealed. Dry conditions in much of Kansas allow fires to start or spread easily. Please contact your county officials before you burn. Conditions continue that allow fires to start easily. The outlooks change daily. See http://www.spc.noaa.gov/fire/ for current information.

January 30, 2012 Atchison County Commissioners issued a burning ban effective until further notice. The ban was initiated due to the warm, dry weather, high winds and a large rural weekend fire.

Kansas Vegetative Conditions

Although drought persists in the southern half of the state, areas of winter wheat are showing good conditions. This winter's mild weather thus far (little snow cover and moderate temperatures) have kept the Kansas wheat crop slowly growing and increasing in greenness. At this time of year, the wheat can survive and remain "green" with little moisture. Even though the Kansas wheat crop currently looks favorable to the satellite because of its advanced stage and higher-than-average greenness, looking ahead toward early spring, the crop's current state is at risk for freeze susceptibility and is in need of moisture earlier in the season. The Flint Hills area in the southeast better reflects the condition of natural vegetation during this period. (Kansas Applied Remote Sensing Program)



Crops, Feed and Livestock

USDA Crop Progress and Condition reports issued monthly during winter. The most recent report, for the ending of January 30, 2012, USDA reports topsoil moisture declined during the month to 13 percent very short, 33 percent short, 53 percent adequate, and 1 percent surplus. A year ago, topsoil moisture supplies were 24 percent very short, 35 percent short, 40 percent adequate, and 1 percent surplus.

The range and pasture condition was rated 28 percent very poor, 25 percent poor, 32 percent fair, and 15 percent good. 29 percent very poor, 25 percent poor, 33 percent fair, and 13 percent good, which indicated a slight decrease from December. Feed grain supplies in Kansas were rated at 11 percent very short, 17 percent short, 69 percent adequate, and 3 percent surplus, whereas hay and forage supplies were rated at 25 percent very short, 29 percent short, 43 percent adequate, and 3 percent surplus. The stock water supplies decreased to 12 percent very short, 24 percent short, 63 percent adequate, and 1 percent surplus.

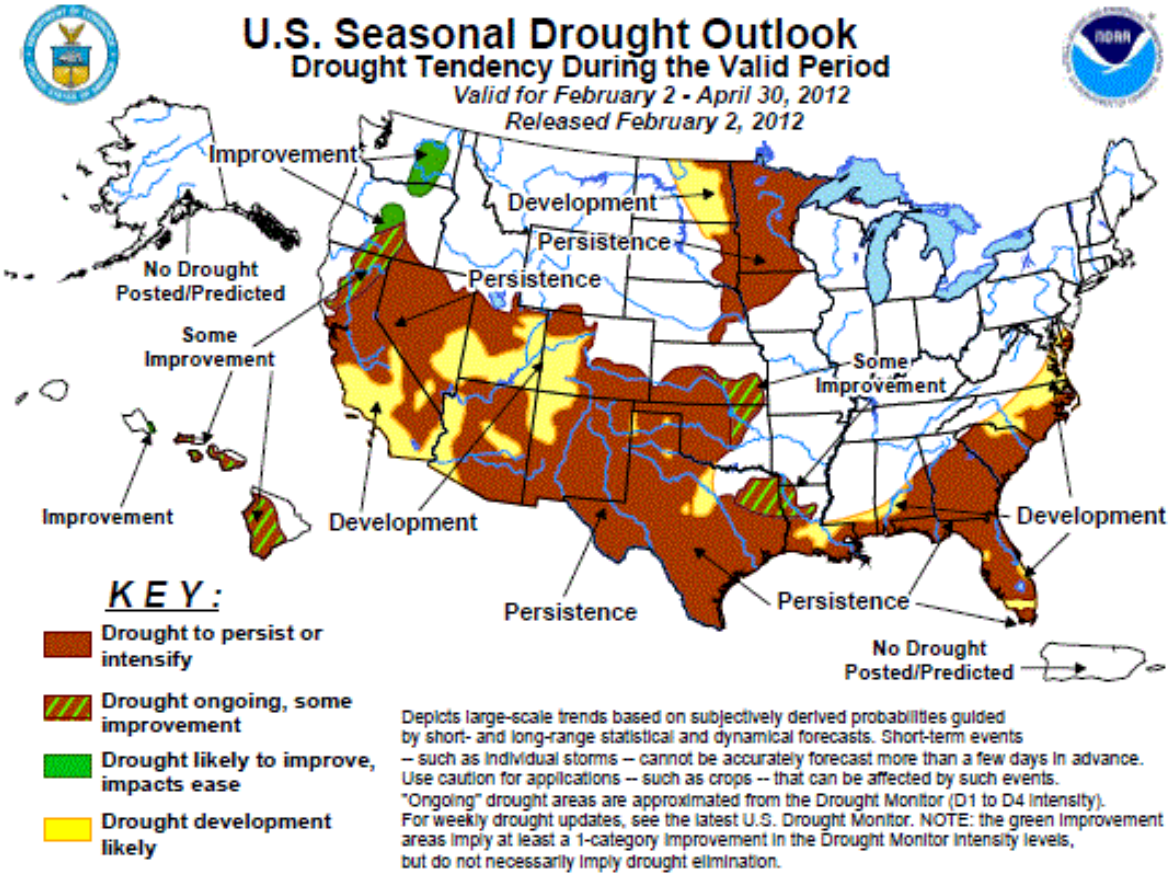
Emergency Haying and Grazing

Emergency haying and grazing of CRP acreage were authorized in 2011 to provide relief to livestock producers in areas affected by a severe drought or similar natural disaster. If conditions warrant, authorization will need to be issued again in 2012 to allow emergency haying and grazing and other federal program aid for livestock feed.

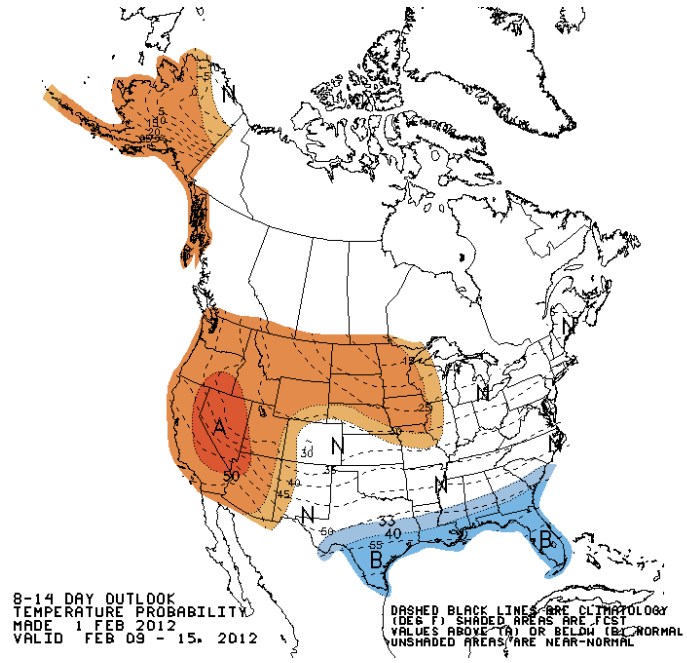
USDA Risk Management Agency provides information on crop insurance and drought damaged crops can be found at http://www.rma.usda.gov/fields/ks_rso/2011/droughtfaq.pdf.

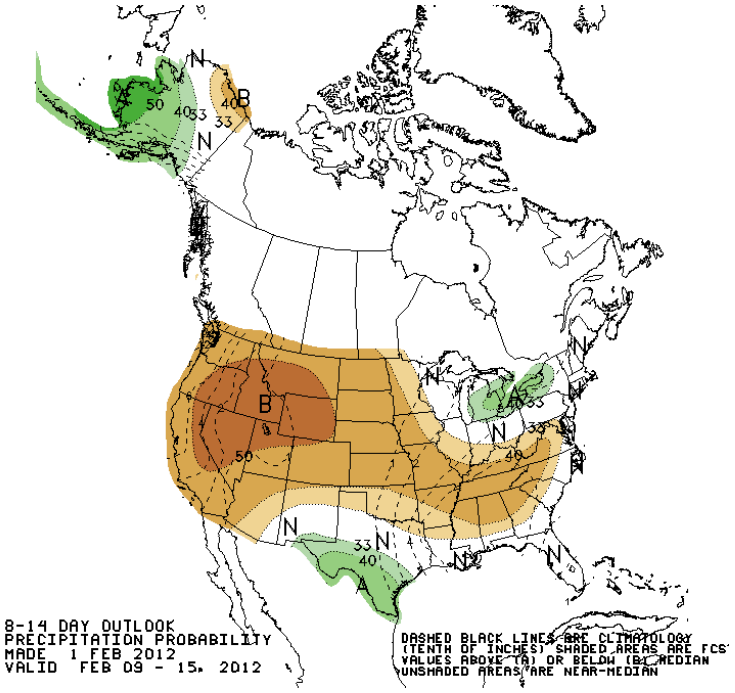
Future Outlook

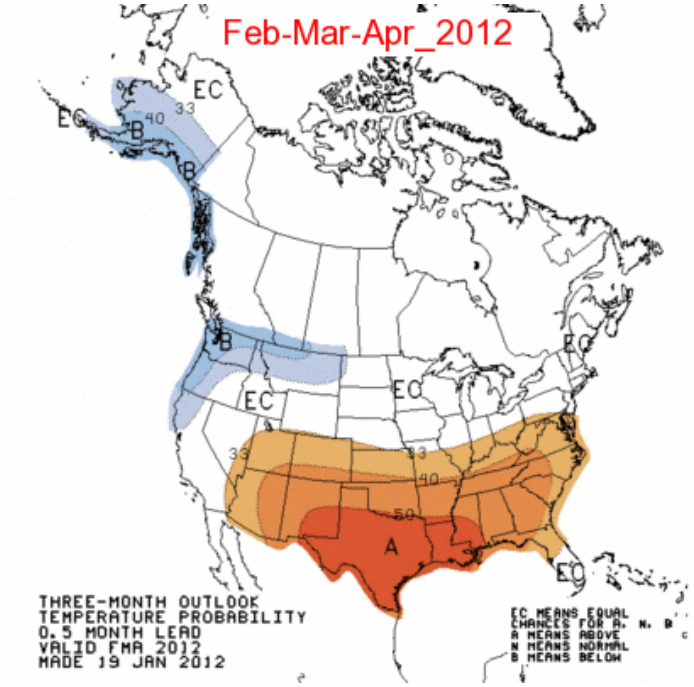
The February 2 – April 30, 2012 U.S. Seasonal Drought Outlook by the Climate Prediction Center (CPC) is indicates drought conditions are expected to continue in the southern portions of the state. Some improvement is expected in extreme eastern and southeastern KS. The La Niña has continues and is expected to influence the precipitation patterns into the spring, with drier than normal conditions expected across the Southern Plains. The influence of the Atlantic Oscillation and the Madden-Julian Oscillation, which had fueled the storms in December, did weaken. This resulted in less moderation of the La Niña impacts, with warmer and drier than normal conditions prevailing.

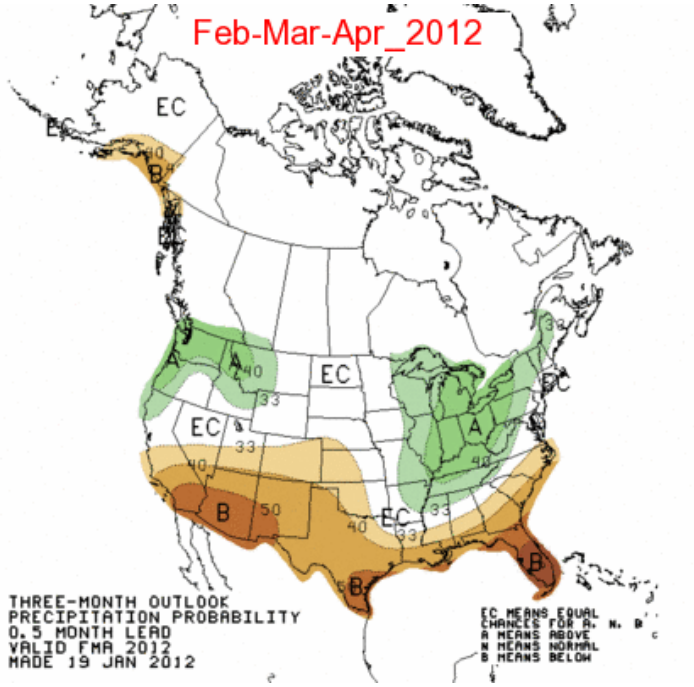


NOAA outlook for the next 14 days and three months:









The Kansas Weekly Climate Summary and Drought Report is compiled at least monthly, more frequently when conditions warrant, by the Kansas Water Office (KWO). Information from various federal, state, local and academic sources is used. 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 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 and ACTIVITIES

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. Palmer Drought Severity Index - The Palmer Index (PDSI) is one indicator used in the U.S. Drought Monitor.

The High Plains Regional Climate Center provides precipitation and temperature summary maps.

The U.S. Geological Survey (USGS) Drought Watch provides information on 7-day average streamflow measured at long-term gaging stations and compares them to normal flows.

The Kansas Department of Agriculture-Division of Water Resources monitors stream flow using the USGS gages for determination of administrative needs. Administration may be needed due to Minimum Desirable Streamflow (MDS) requirements, impairments, and reservoir release protection.

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.

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. This Kansas Vegetation Drought Response Index map is developed weekly by the Kansas Biological Survey using state drought triggers as its key. In addition the Vegetation Drought Response Index, by the National Drought Mitigation Center provides another a national perspective on vegetation conditions. VegDRI maps may be found at http://vegdri.unl.edu/

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.

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. Also see:
http://www.ncdc.noaa.gov/oa/climate/research/dm/weekly-dm-animations.html

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.

USDA has programs for agricultural producers and businesses for drought affected areas. In some cases a eligibility is dependent on a federal disaster declaration but other programs are triggered by specific conditions.

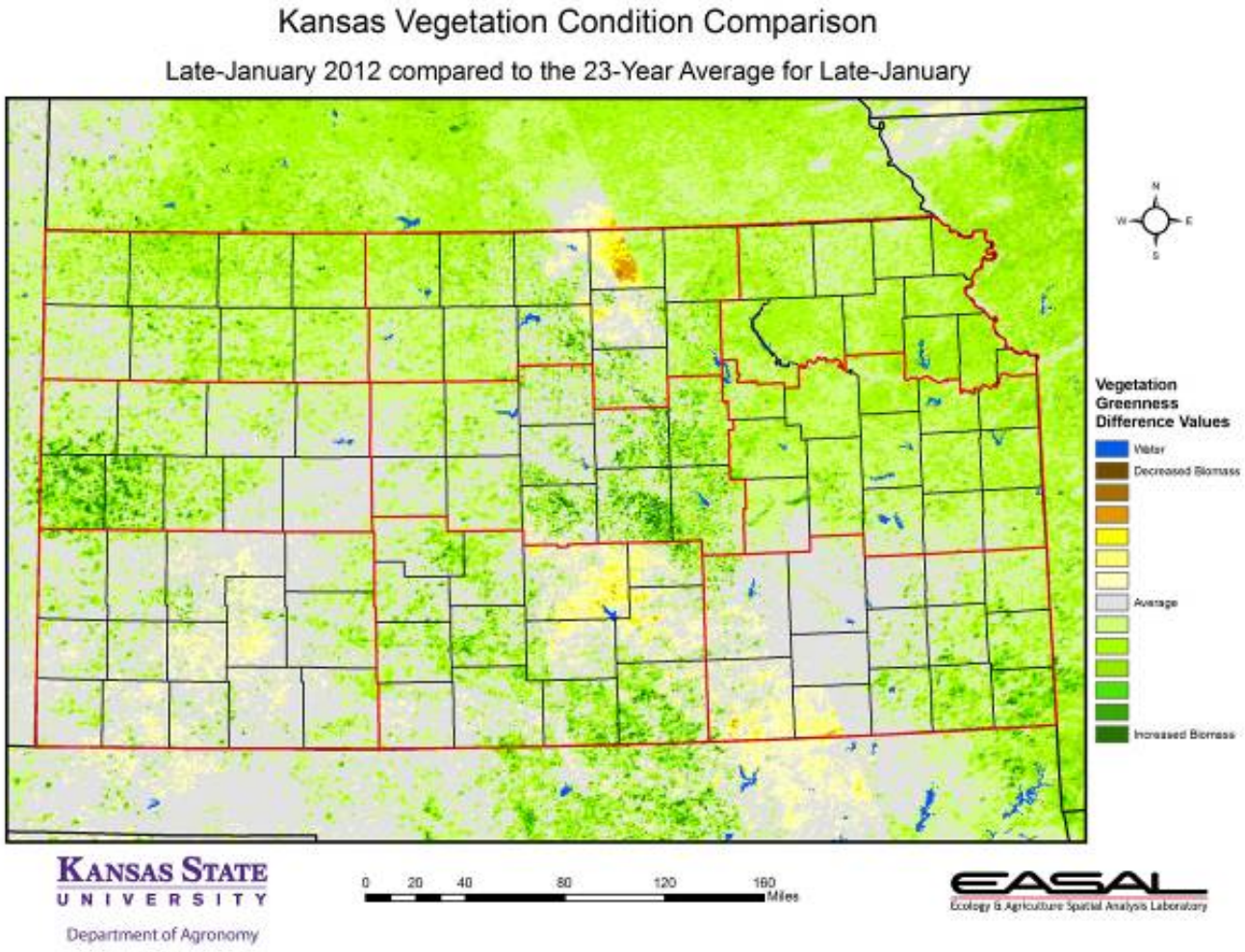
Please contact Diane Coe at the Kansas Water Office (785) 296-3185 or diane.coe@kwo.ks.gov should you have any questions or suggestions.

Appendix A

January Summary							
	Precipitation (inches)			Temperature oF			
						Extreme (Date)	
Station[1]	Total	Departure	Percent Normal	Mean	Departure	Highest	Lowest
West							
Burlington, CO	0.01	-0.37	3%	33.6	4.2	71 (5)	-3 (17)
Dodge City	0.07	-0.51	12%	36.5	4.3	66 (5)	12 (21)
Garden City	T	-0.34	0%	35.2	4.3	69 (30)	13 (18,17)
Goodland	0.09	-0.29	24%	34.6	5.0	73 (5)	-1 (17)
Guymon, OK	0.02	-0.38	5%	40.3	4.7	73 (30)	15 (28)
Hill City	0.01	-0.44	2%	34.8	5.5	73 (30,5)	7 (21)
Lamar, CO	T	-0.30	0%	31.0	2.1	68 (30)	6 (2)
McCook, NE	T	-0.51	0%	33.2	6.0	71 (5)	0 (17)
Springfield, CO	0.05	-0.32	14%	35.1	2.9	68 (30)	11 (12,11)
Central							
Concordia	0.32	-0.26	55%	34.1	5.5	70 (30)	4 (21)
Hebron, NE				32.7	7.10	69 (30,5)	3 (21)
Medicine Lodge	0.12	-0.59	17%	38.5	4.9	67 (5)	11 (18)
Ponca City, OK	0.24	-0.76	24%	40.4	5.5	71 (16)	12 (18)
Salina	0.15	-0.48	24%	35.4	4.4	70 (5)	9 (21,18)
Wichita (ICT)	0.03	-0.8	4%	37.9	5.7	65 (31)	11 (18)
East							
Bartlesville, OK	0.15	-1.47	9%	40.6	5.60	72 (31,16)	9 (18)
Chanute	0.01	-1.25	1%	38.3	5.7	70 (16)	8 (18)
Fall City, NE	0.09	-0.56	14%	32.2	5.7	70 (30)	3 (18)
Johnson Co. Exec. Apt	0.01	-1.11	1%	36.5	6.4	65 (31,30)	8 (18)
Joplin, MO	0.16	-1.87	8%	40.2	5.3	69 (16)	12 (18)
Kansas City (MCI), MO	0.06	-1.01	6%	35.1	6.3	66 (30)	6 (18)
St. Joseph, MO	0.18	-0.38	32%	32.7	5.5	65 (5)	7 (13)
Topeka (TOP	0.02	-0.84	2%	36.4	6.7	70 (30,5)	9 (18)

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

Appendix B



Compared to the 23-year average at this time for Kansas, this year's Vegetation Condition Report for January 17 – 30 from K-State's Ecology and Agriculture Spatial Analysis Laboratory shows that photosynthetic activity continues to be greater than would be expected. Note that while the vegetation index value (Normalized Difference Vegetation Index, or NDVI) is greater than average this does not indicate high rates of biomass production. Most vegetation is currently dormant.