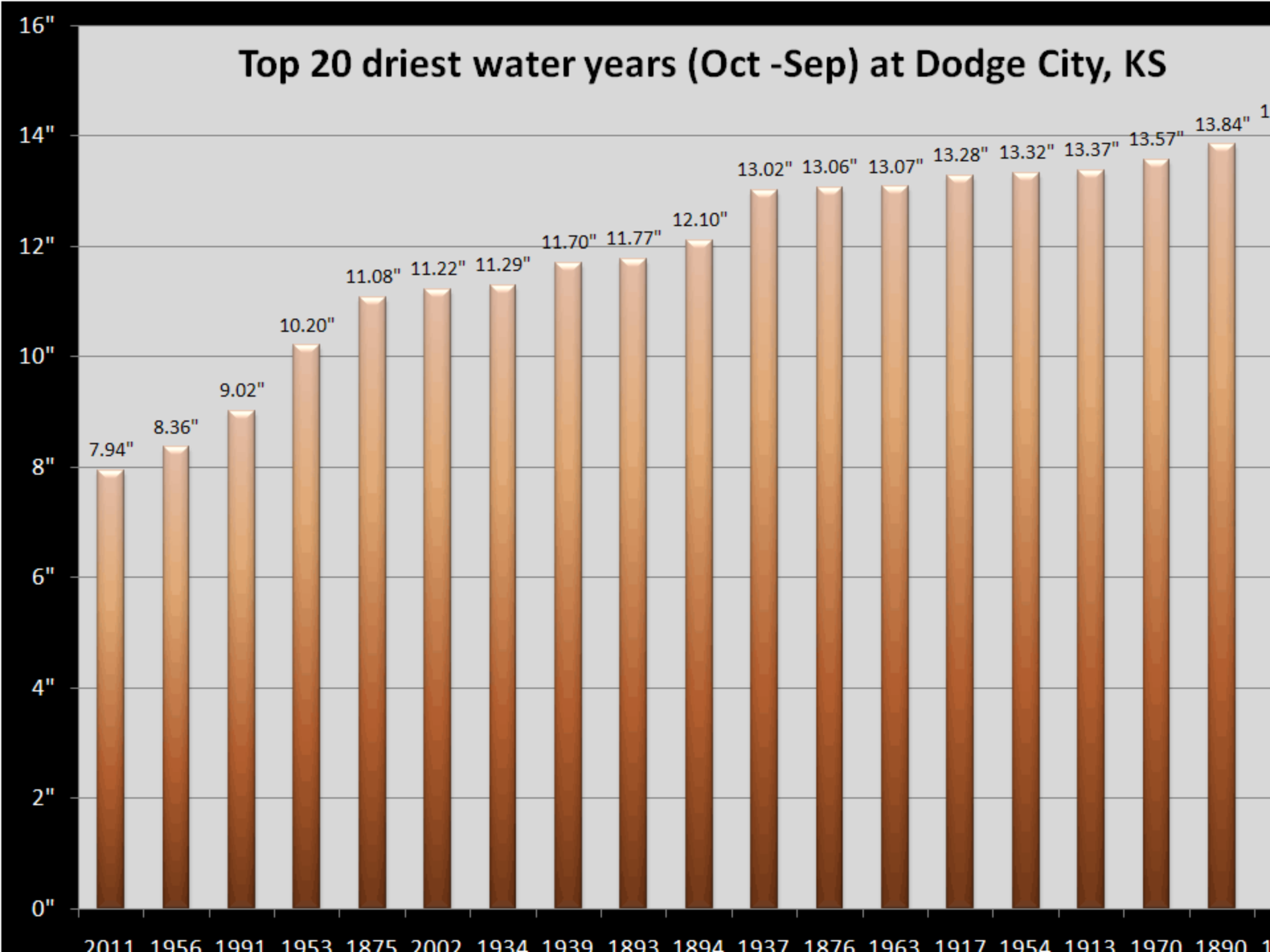
Kansas

Department of Agriculture

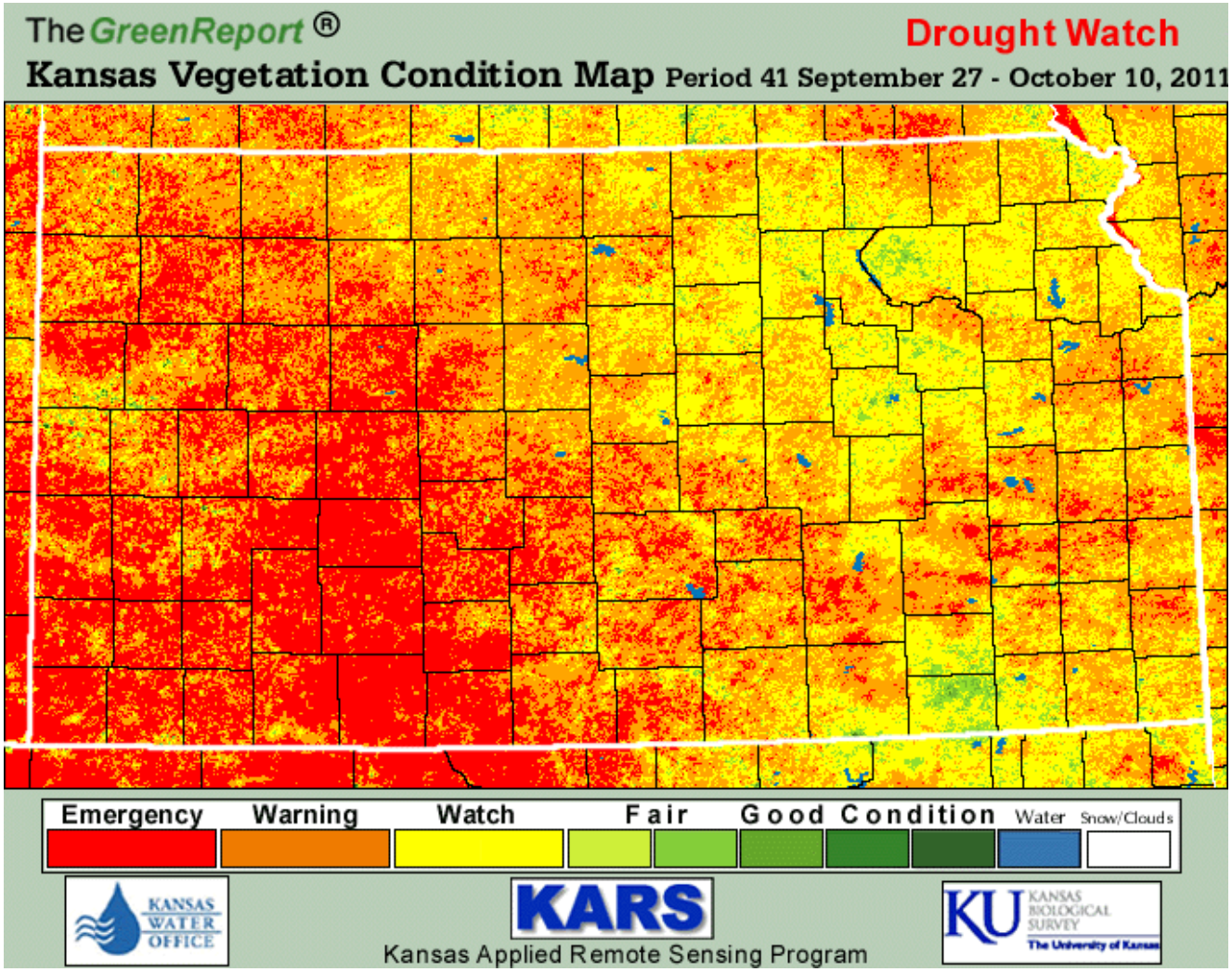
Division of Water Resources

Lane Letourneau, L.G.

Water Appropriation Program Manager


Top 20 driest water years (Oct -Sep) at Dodge City, KS
16"
14"
12"
10"
8"
6"
4"
2"
0"
7.94"
8.36"
9.02"
10.20"
11.08"
11.22"
11.29"
11.70"
11.77"
12.10"
13.02"
13.06"
13.07"
13.28"
13.32"
13.37"
13.57"
13.84"
2011
1956
1991
1953
1875
2002
1934
1939
1893
1894
1937
1876
1963
1917
1954
1913
1970
1890

Severe Drought of 2011



"This is the worst map I have ever seen."

John Lomas
Research Analyst
Kansas Applied Remote Sensing Program

AD ASTRA PER ASPERA
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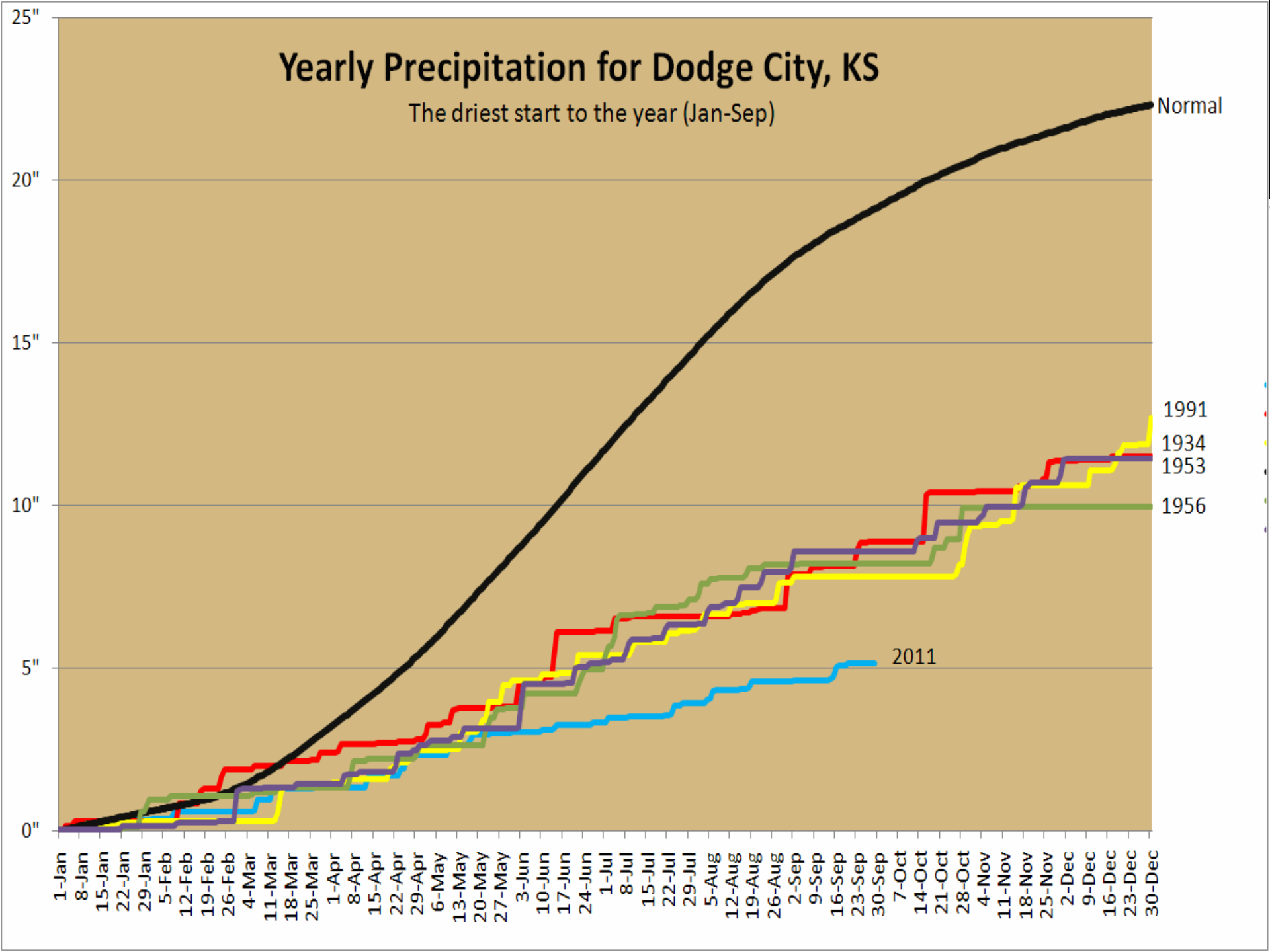
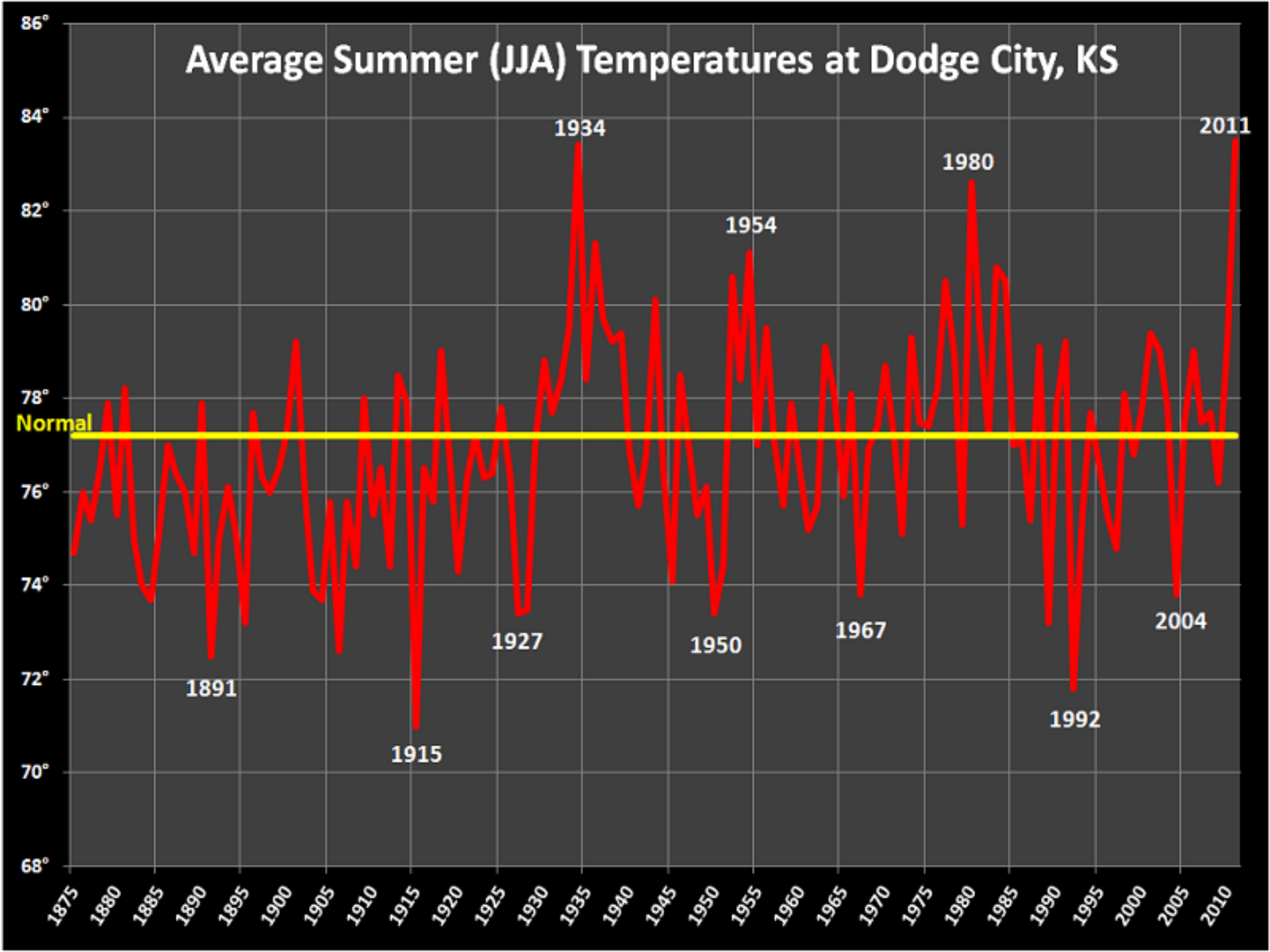

Yearly Precipitation for Dodge City, KS
The driest start to the year (Jan-Sep)
25"
20"
15"
10"
5"
0"
Normal
1991
1934
1953
1956
2011
1-Jan
8-Jan
15-Jan
22-Jan
29-Jan
5-Feb
12-Feb
19-Feb
26-Feb
4-Mar
11-Mar
18-Mar
25-Mar
1-Apr
8-Apr
15-Apr
22-Apr
29-Apr
6-May
13-May
20-May
27-May
3-Jun
10-Jun
17-Jun
24-Jun
1-Jul
8-Jul
15-Jul
22-Jul
29-Jul
5-Aug
12-Aug
19-Aug
26-Aug
2-Sep
9-Sep
16-Sep
23-Sep
30-Sep
7-Oct
14-Oct
21-Oct
28-Oct
4-Nov
11-Nov
18-Nov
25-Nov
2-Dec
9-Dec
16-Dec
23-Dec
30-Dec


Average Summer (JJA) Temperatures at Dodge City, KS
86°
84°
82°
80°
78°
76°
74°
72°
70°
68°
Normal
1934
1980
2011
1954
1891
1927
1915
1950
1967
2004
1992
1875
1880
1885
1890
1895
1900
1905
1910
1915
1920
1925
1930
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010

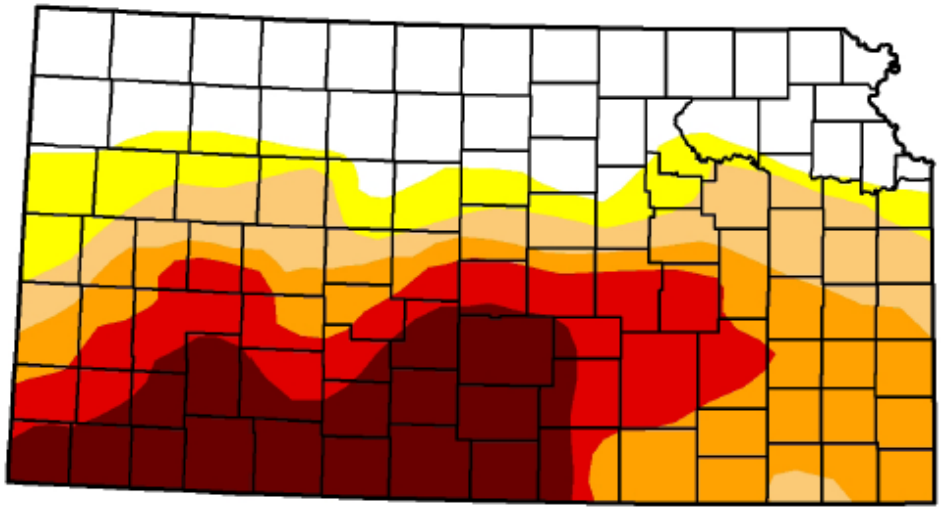
U.S. Drought Monitor

August 30, 2011
Valid 7 a.m. EST

Kansas

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	27.92	72.08	62.31	49.78	31.86	17.46
Last Week (08/23/2011 map)	28.77	71.23	62.24	49.07	23.54	14.55
3 Months Ago (05/31/2011 map)	24.53	75.47	57.17	35.80	11.60	1.05
Start of Calendar Year (12/28/2010 map)	17.82	82.18	43.85	3.48	0.00	0.00
Start of Water Year (09/28/2010 map)	83.23	16.77	0.00	0.00	0.00	0.00
One Year Ago (08/24/2010 map)	92.17	7.83	0.00	0.00	0.00	0.00



Intensity:

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

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

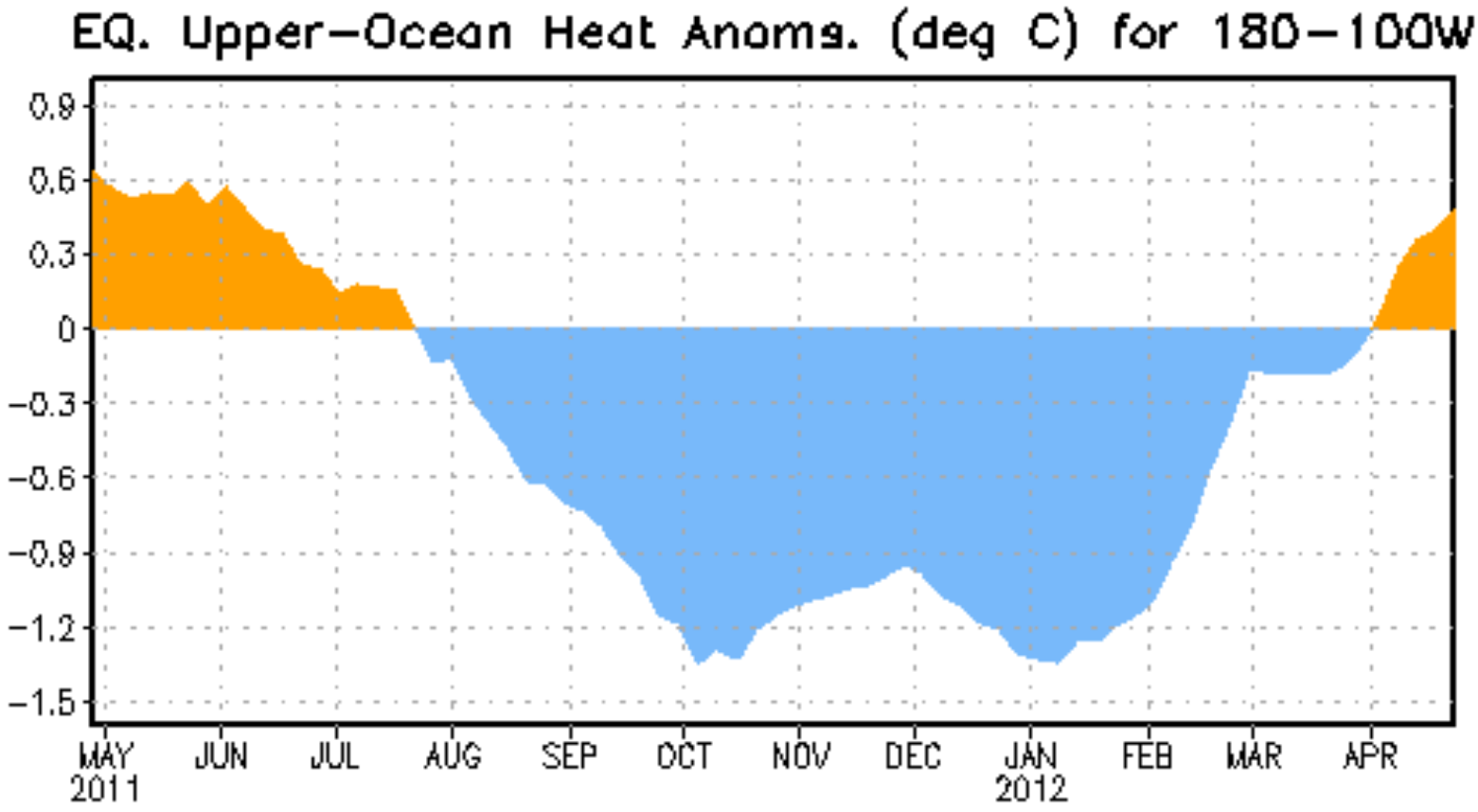
http://drought.unl.edu/dm

Released Thursday, September 1, 2011

Eric Luebehusen, USDA

La Niña Link

During La Niña, cooler-than-average Pacific Ocean temperatures influence global weather patterns.



Multi-Year Flex Account

- Average Water Use From 2000 to 2009 x 5
- Mandatory 10% conservation factor
- Example:
  - Average Use 2000-2009 = 100 AF
  - 100 x 5 = 500 AF
  - 500 AF x 10% conservation factor= 50 AF
  - 500 AF- 50 AF= 450 AF
  - 5 year MYFA allocation= 450 AF
- If significant water conservation measures were implemented during the period from 2000 to 2009 we may consider years prior to implementation.

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Why Drought Term Permits?

- When the significance of the drought became apparent in late June, Kansas Legislators began talking to DWR about the potential of "amnesty" for individuals who over-pump
- DWR quickly came up with a plan to implement a program to deal with over-pumping, without granting amnesty.
- Extremely short timeframe (less than a week) for developing policies, forms and implementation.

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Drought Emergency Term Permits

The Chief Engineer offered a one-time sign up for Drought Emergency Term Permits.

- Suspend "base water right" and issue a term permit equal to original base quantity x 2.
- For use in 2011 and 2012

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Why Drought Term Permits?

- Concept nearly identical to the Multi-Year Flex Account (MYFA) with a 2 year term instead of 5 year term.
  - Permit had to be separate from the water right, since quantity can't be increased on an existing file.
  - Had to be a type of application for which DWR already had statutory authority to accept, assess filing fees and approve a permit.
  - Intended to be aquifer neutral.

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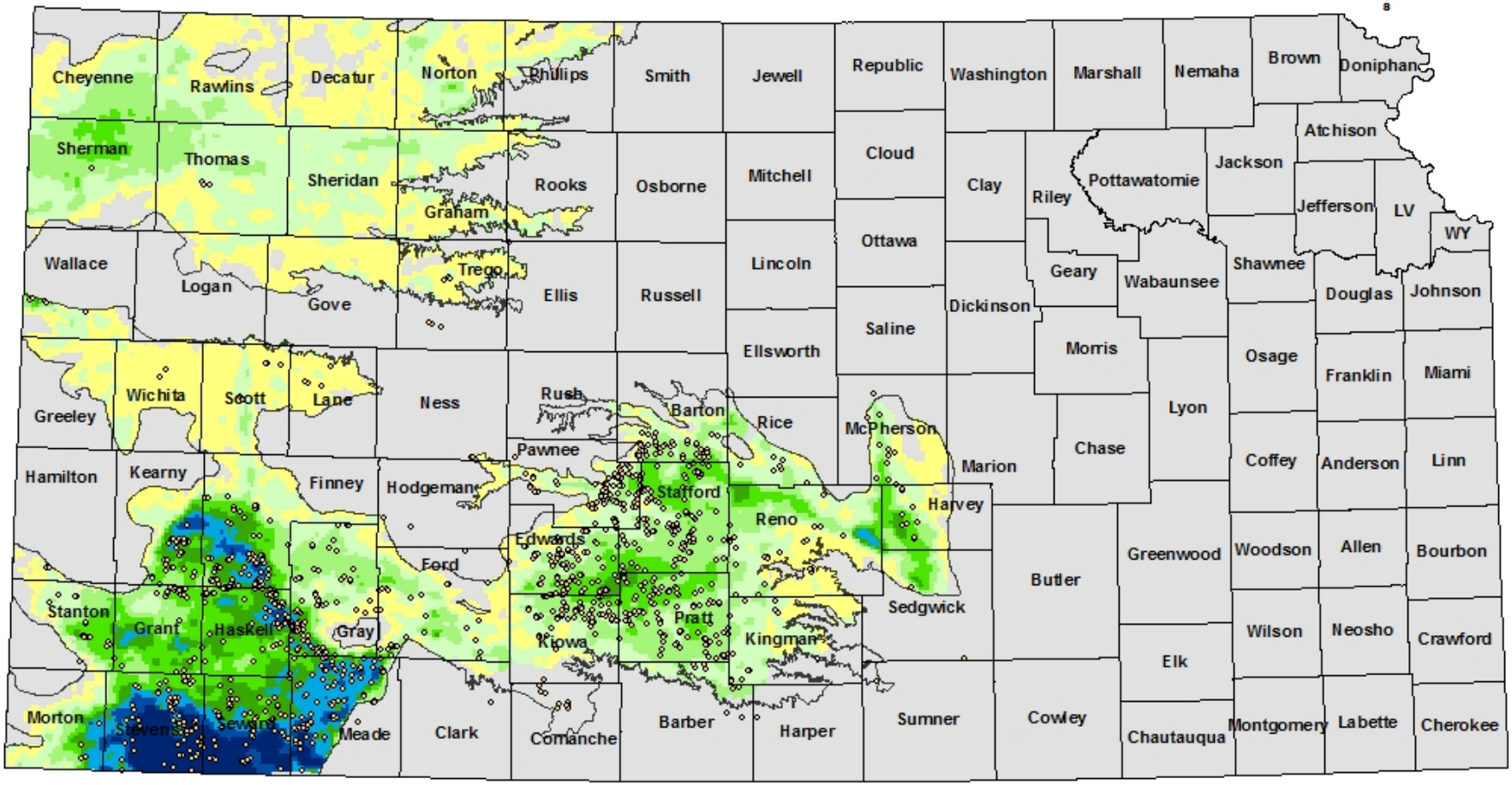
Distribution of 2011 Drought Emergency Term Permits as of October 31, 2011 and KGS Section Level Data on 2007-2009 Saturated Thickness



Drought Term Permit

Less than 50	151 to 200	301 - 350
51 to 100	201 to 250	Greater than 350
101 to 150	251 to 300	

0 20 40 80 Miles

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Division of Water Resources
Basin Management Team
October 31, 2011

How many will we get?

- Lane Letourneau: 25
- David Barfield: 75
- GMD 3: Hundreds

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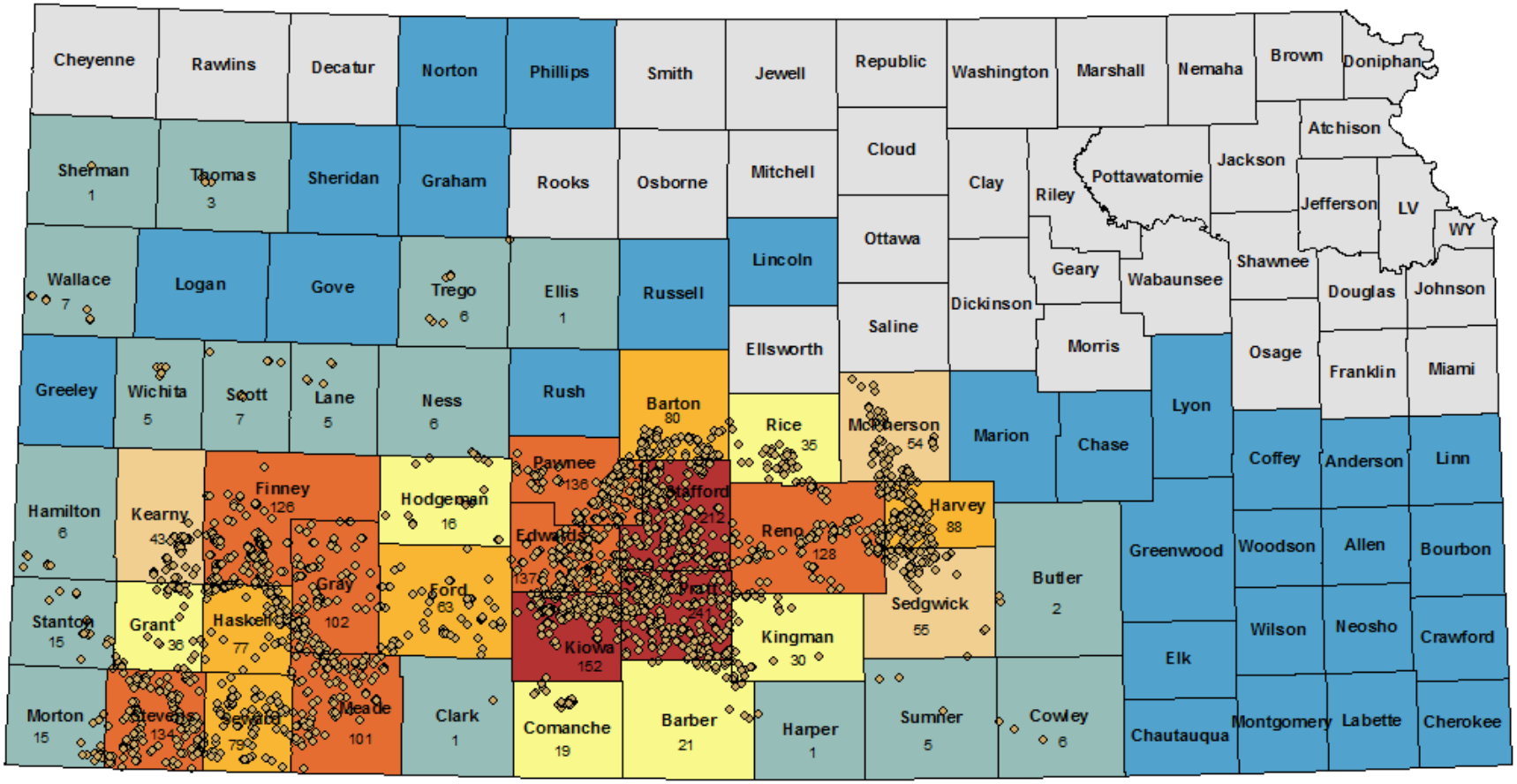
Distribution of 2011 Drought Emergency Term Permits as of January 25, 2012

(Total of 2,257 Drought Term Permits Entered into WRIS)



Drought Term Permit

0	16 - 40	61 - 100	151 - 241
1 - 15	41 - 60	101 - 150	Not Eligible

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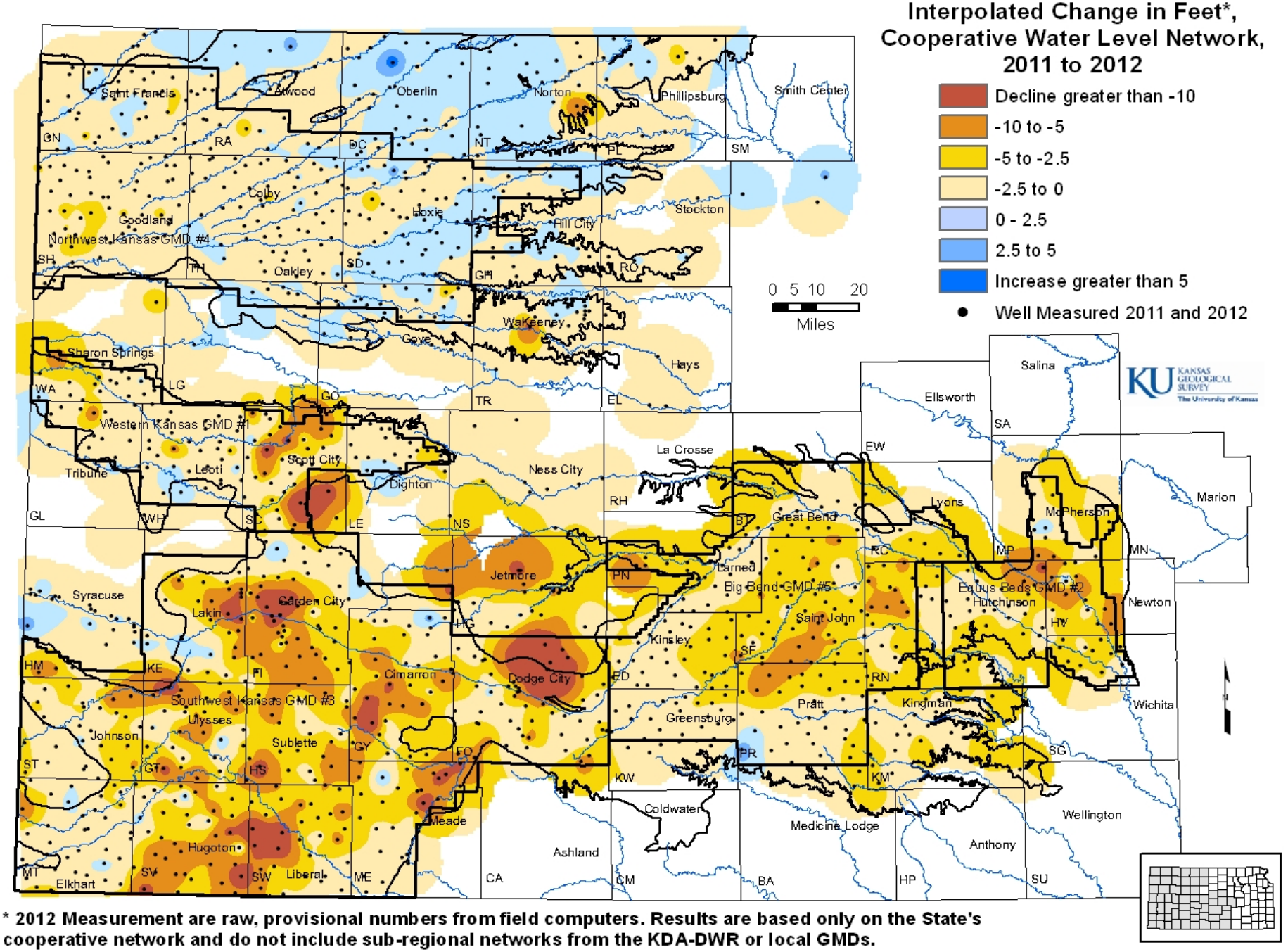
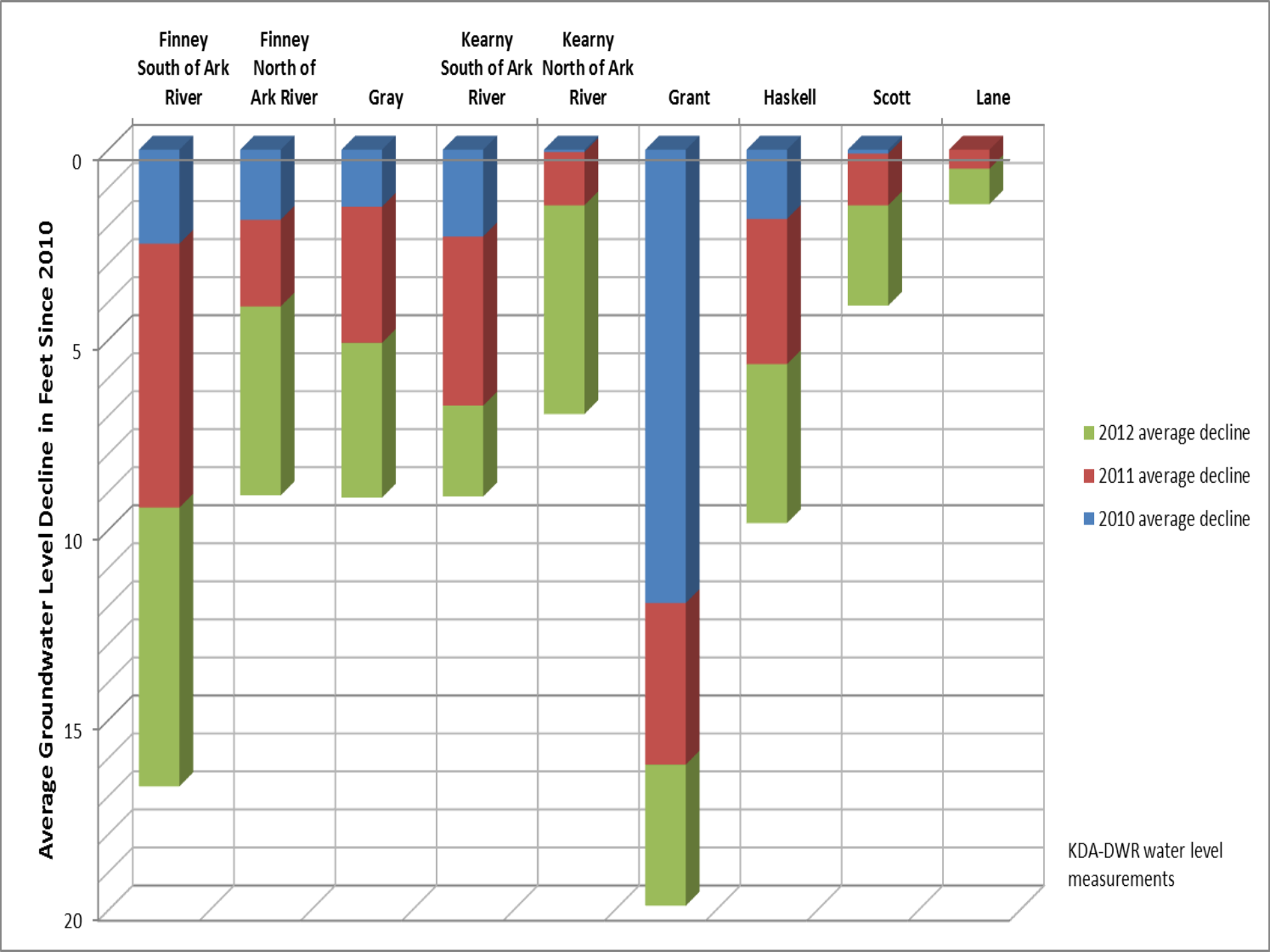
Division of Water Resources
Basin Management Team
January 25, 2012



*** 2012 Measurement are raw, provisional numbers from field computers. Results are based only on the State's cooperative network and do not include sub-regional networks from the KDA-DWR or local GMDs.**


Finney South of Ark River
Finney North of Ark River
Gray
Kearny South of Ark River
Kearny North of Ark River
Grant
Haskell
Scott
Lane
0
5
10
15
20
Average Groundwater Level Decline in Feet Since 2010
2012 average decline
2011 average decline
2010 average decline
KDA-DWR water level measurements

Flex Account Legislative Changes (2012)

Three Option Approach: Must be aquifer neutral

1. Historic Water Use from 2000 to 2009
   - Current system without a mandatory 10% conservation factor
2. 50% NIR For the maximum acres reported irrigated during 2000 to 2009
   - Max Reported Acres x 50% NIR / 90% / 12”
3. A system promulgated by the Groundwater Management Districts
   - Must be accepted by the chief engineer

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Drought Term → MYFA?

- Water right holders that received 2011 drought emergency term permits are allowed to convert to a MYFA by filing an application to do so:
  - The MYFA will NOT be reduced by their 2011 overuse.
  - The application fee is reduced to $200.
  - Filing deadline is July 15, 2012.
  - Offers producers greater flexibility in compensating for their 2011 water use overage over the next 5 years.

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Drought Term → MYFA?

- For those who overpumped in 2011 but did ***NOT*** apply for a 2011 drought emergency term permit:
  - Water right holders may avoid a sanction for the violation by applying for a MYFA
  - The application must be received by July 15, 2012
  - The filing fee is $600
  - The MYFA **is** reduced by the amount of the 2011 overuse

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Hindsight is 20/20

- DWR has received many compliments on quickly developing and implementing a program to deal with the 2011 drought.
- The severity of the drought was worse than expected.
- Concept of a "flexible" permit will be a permanent fixture of Kansas water appropriation with the revised MYFA program.

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Questions?

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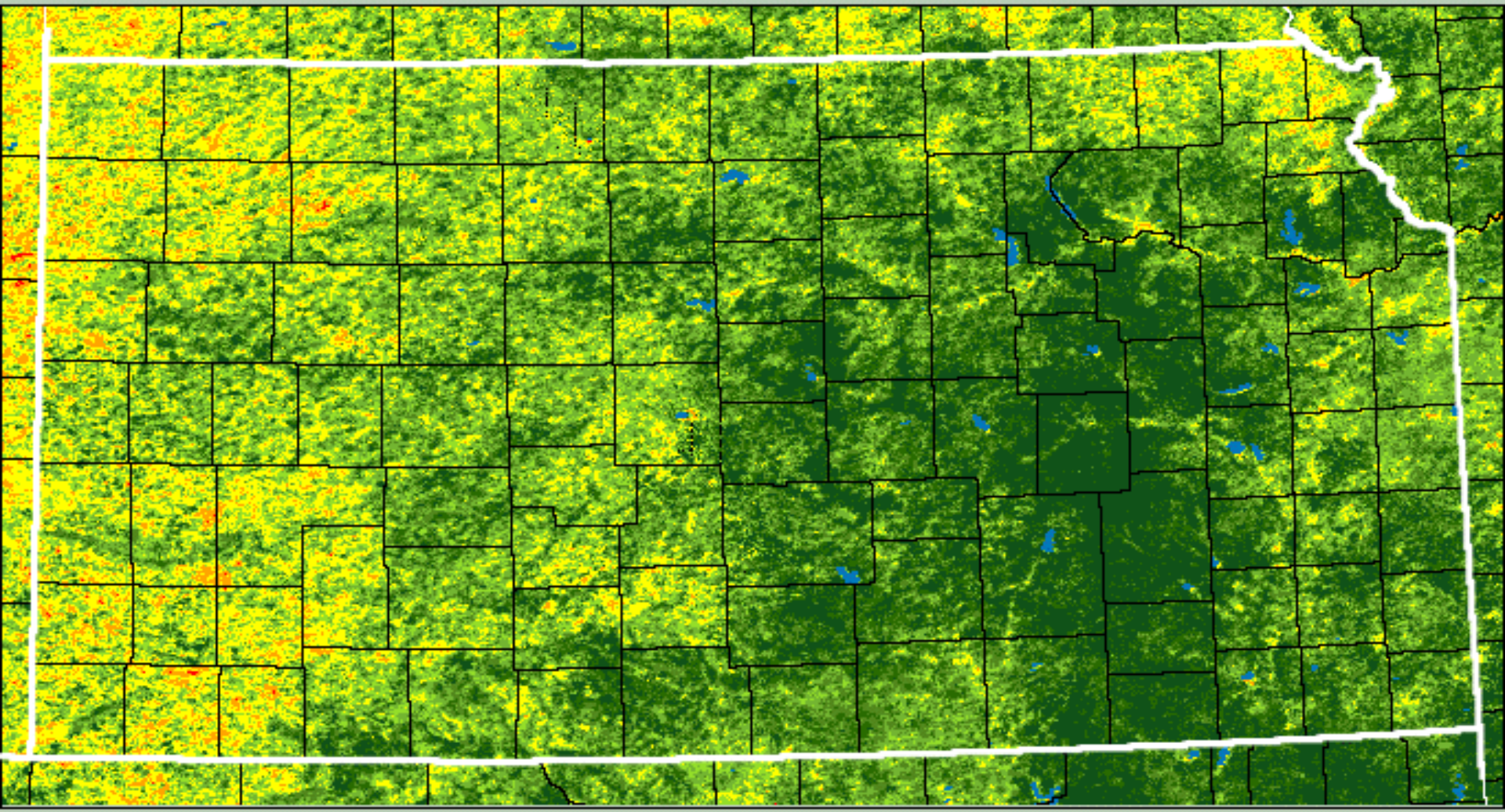
The *GreenReport* ®

Drought Watch

Kansas Vegetation Condition Map

Period 17 April 10 - April 23, 2012



Emergency	Warning	Watch	Fair		Good Condition			Water	Snow/Clouds

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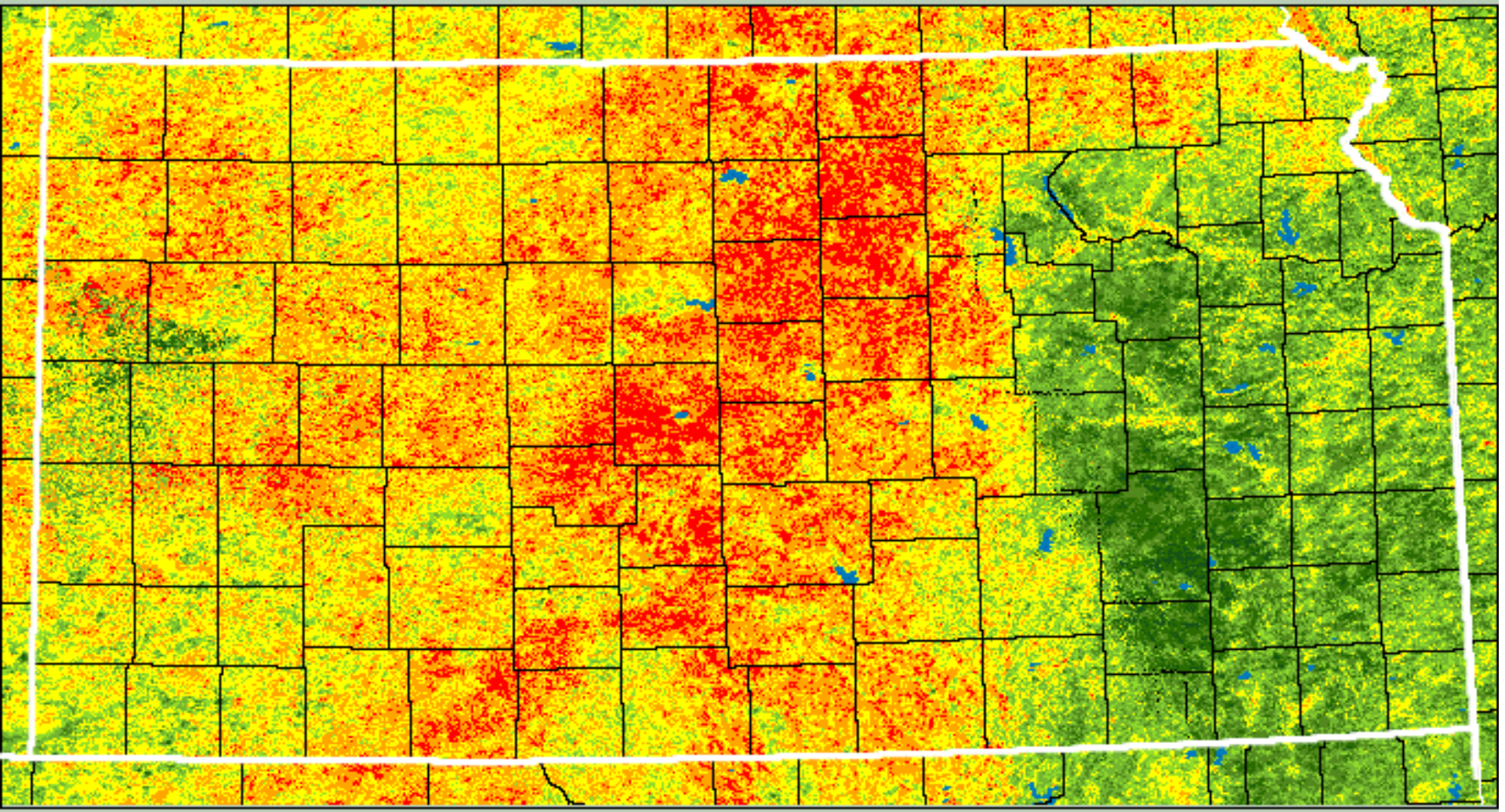
KU KANSAS BIOLOGICAL SURVEY The University of Kansas

The *GreenReport* ®

Drought Watch

Kansas Vegetation Condition Map

Period 22 May 15 - May 28, 2012



Emergency | Warning | Watch | Fair | Good Condition | Water | Snow/Clouds

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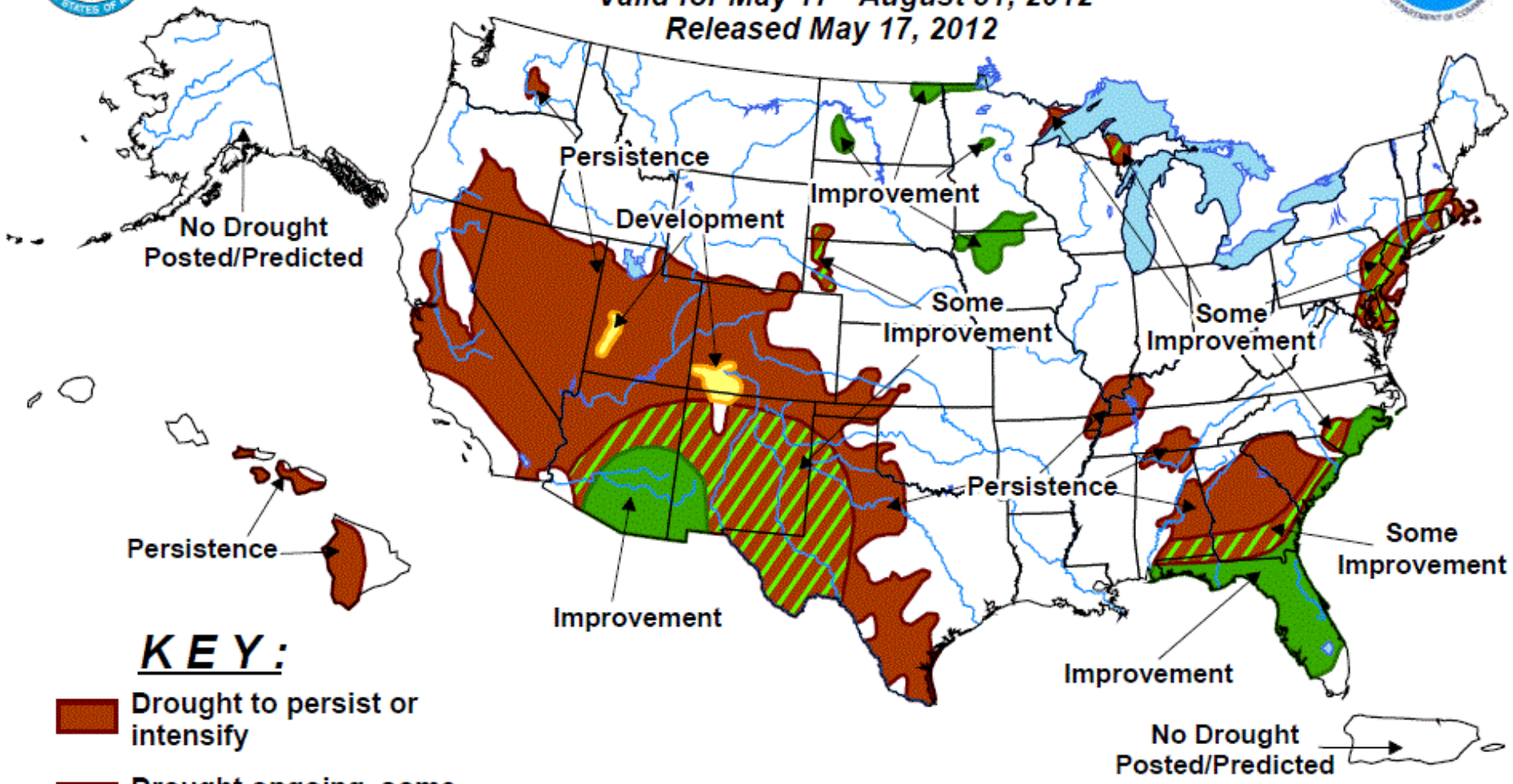
KU Kansas Biological Survey, The University of Kansas

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for May 17 - August 31, 2012

Released May 17, 2012



KEY:

- Drought to persist or intensify
- Drought ongoing, some improvement
- Drought likely to improve, impacts ease
- Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.