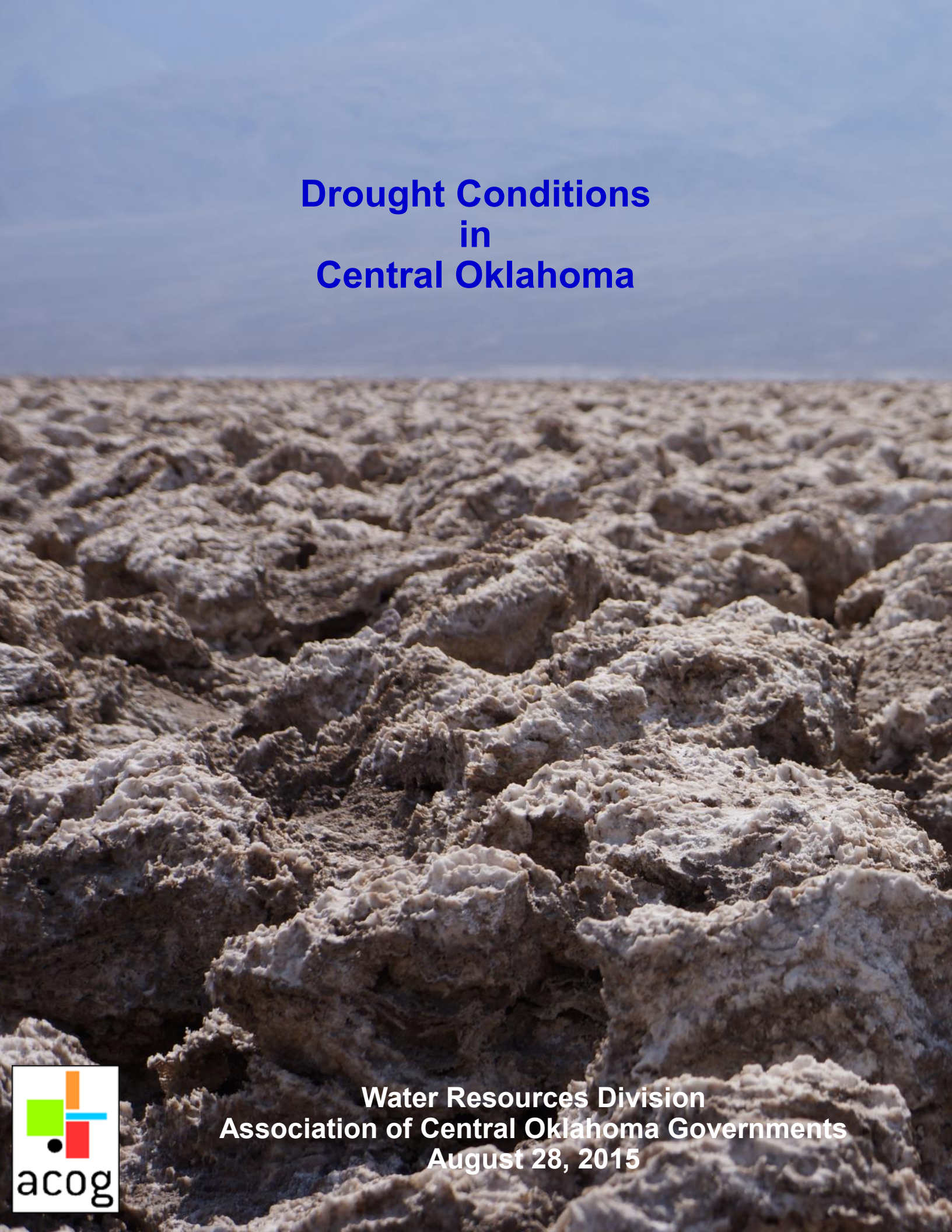
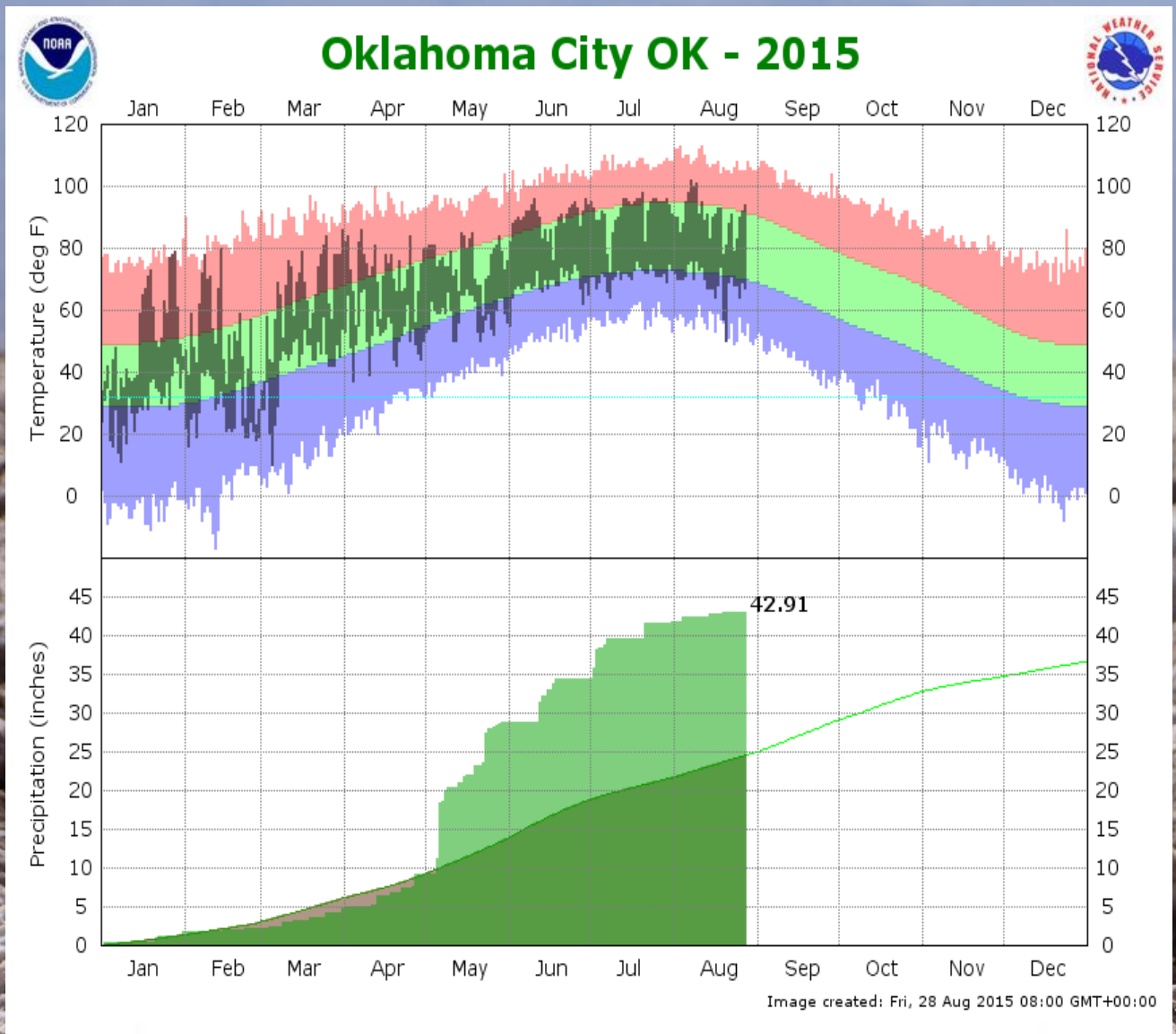
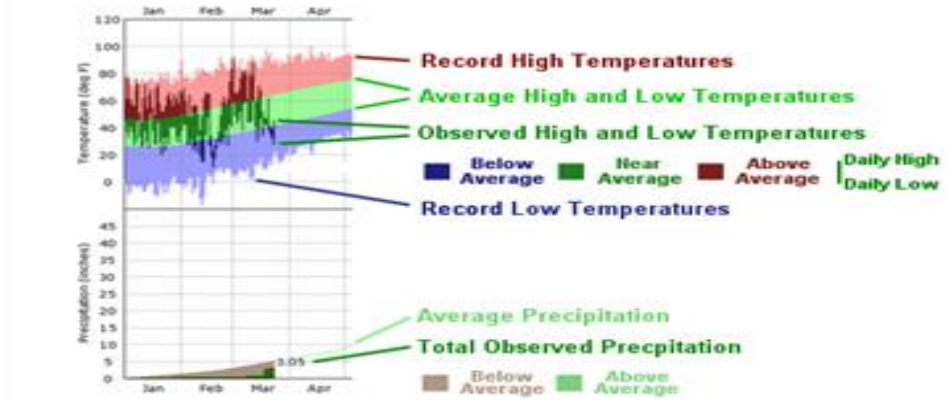


Drought Conditions in Central Oklahoma

Water Resources Division
Association of Central Oklahoma Governments
August 28, 2015

Temperature and Precipitation Plot for Oklahoma City, Oklahoma for 2015





http://www.srh.noaa.gov/oun/climate/graphdisplay.php?city=okc&year=2015

Rainfall Summaries by Oklahoma Climate Division

Calendar Year 01-Jan-2015 though 27-Aug-2015

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	31.80"	+12.12"	162%	2nd wettest	7.15" (2011)	32.16" (2007)
Central	37.70"	+12.42"	149%	2nd wettest	8.50" (1936)	44.34" (2007)
S. Central	49.38"	+22.74"	185%	1st wettest	11.93" (2011)	44.01" (1990)
Statewide	37.35"	+12.89"	153%	1st wettest	9.82" (1936)	35.68" (1957)

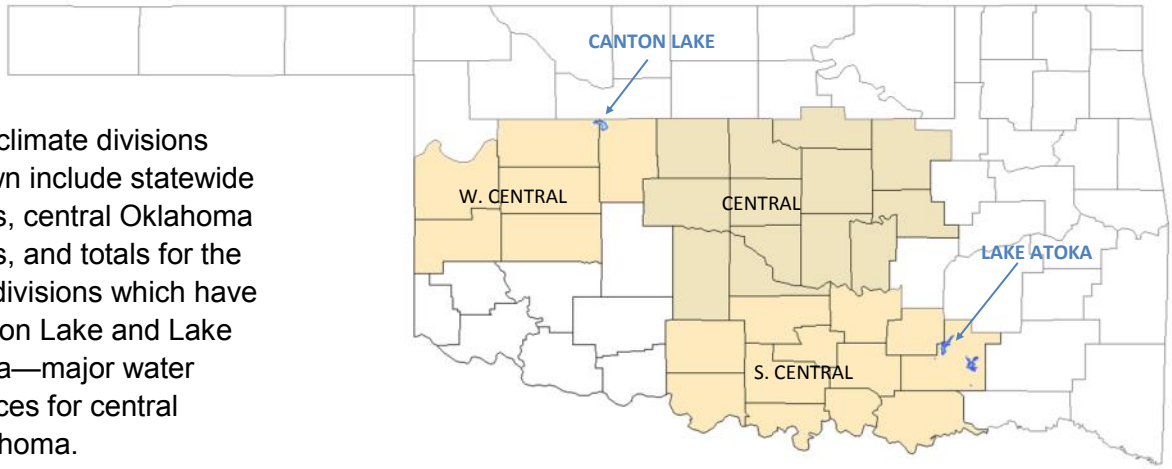
Water Year: 01-Oct-2014 through 27-Aug-2015

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	36.34"	+11.12"	144%	3rd wettest	11.69" (2010-11)	38.35" (2006-07)
Central	44.34"	+10.95"	133%	4th wettest	15.84" (1935-36)	51.34" (2006-07)
S. Central	58.26"	+21.93"	160%	1st wettest	15.22" (1955-56)	54.12" (1944-45)
Statewide	44.31"	+11.77"	136%	2nd wettest	17.67" (1955-56)	44.42" (2006-07)

Summer 01-Jun-2015 through 27-Aug-2015

Climate Division	Total Rainfall	Departure from Normal	Pct of Normal	Rank since 1921 (88 periods)	Driest on Record	Wettest on Record
W. Central	10.80"	+1.93"	122%	23rd wettest	2.49" (1980)	15.95" (1995)
Central	13.13"	+2.66"	125%	20th wettest	2.06" (1936)	23.97" (2007)
S. Central	17.37"	+7.60"	178%	4th wettest	1.68" (2011)	18.99" (1945)
Statewide	13.20"	+3.23"	132%	11th wettest	2.84" (1936)	17.64" (2007)

The climate divisions shown include statewide totals, central Oklahoma totals, and totals for the two divisions which have Canton Lake and Lake Atoka—major water sources for central Oklahoma.

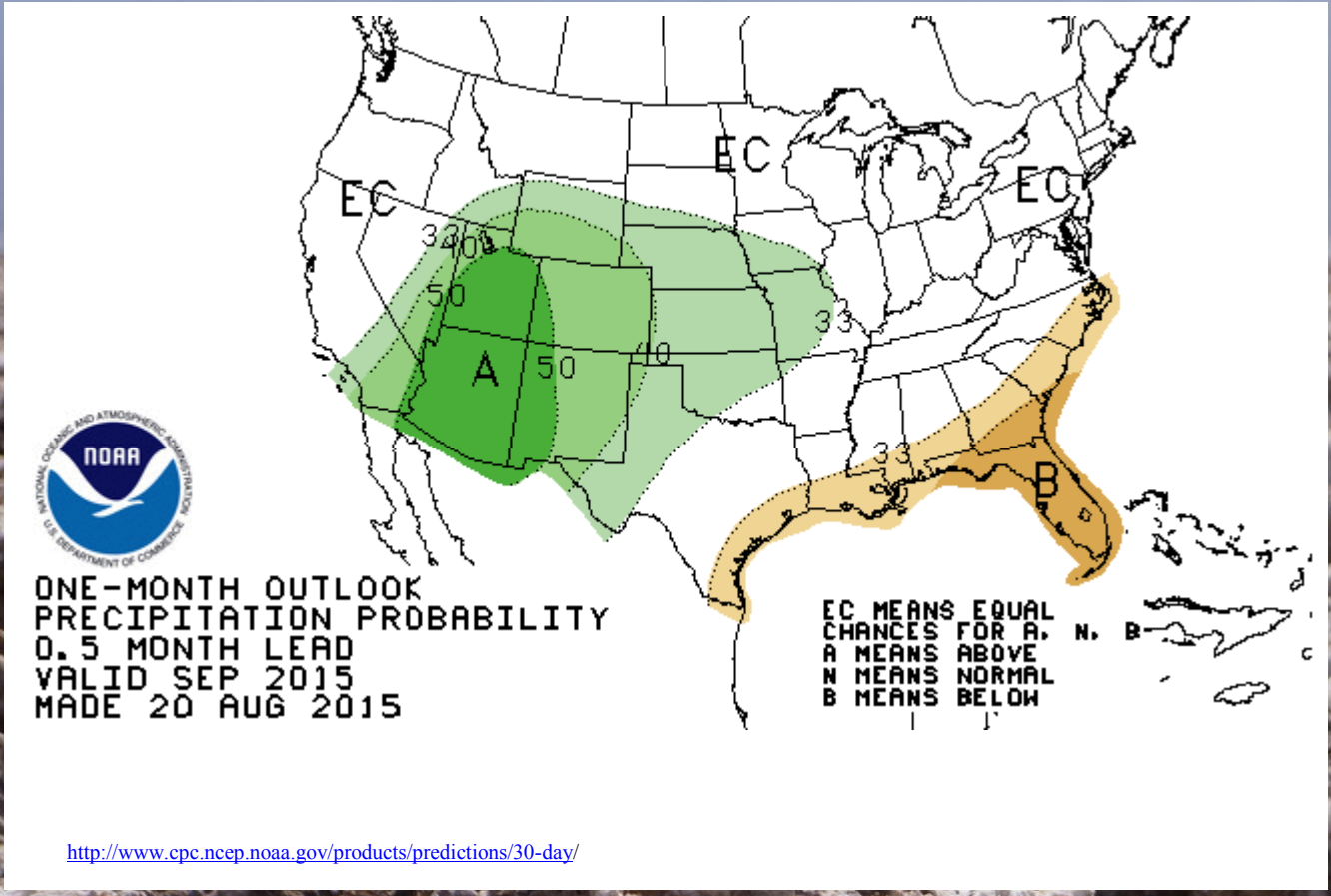


http://climate.ok.gov/index.php/drought/last_30_days/

OKLAHOMA CLIMATOLOGICAL SURVEY

acog

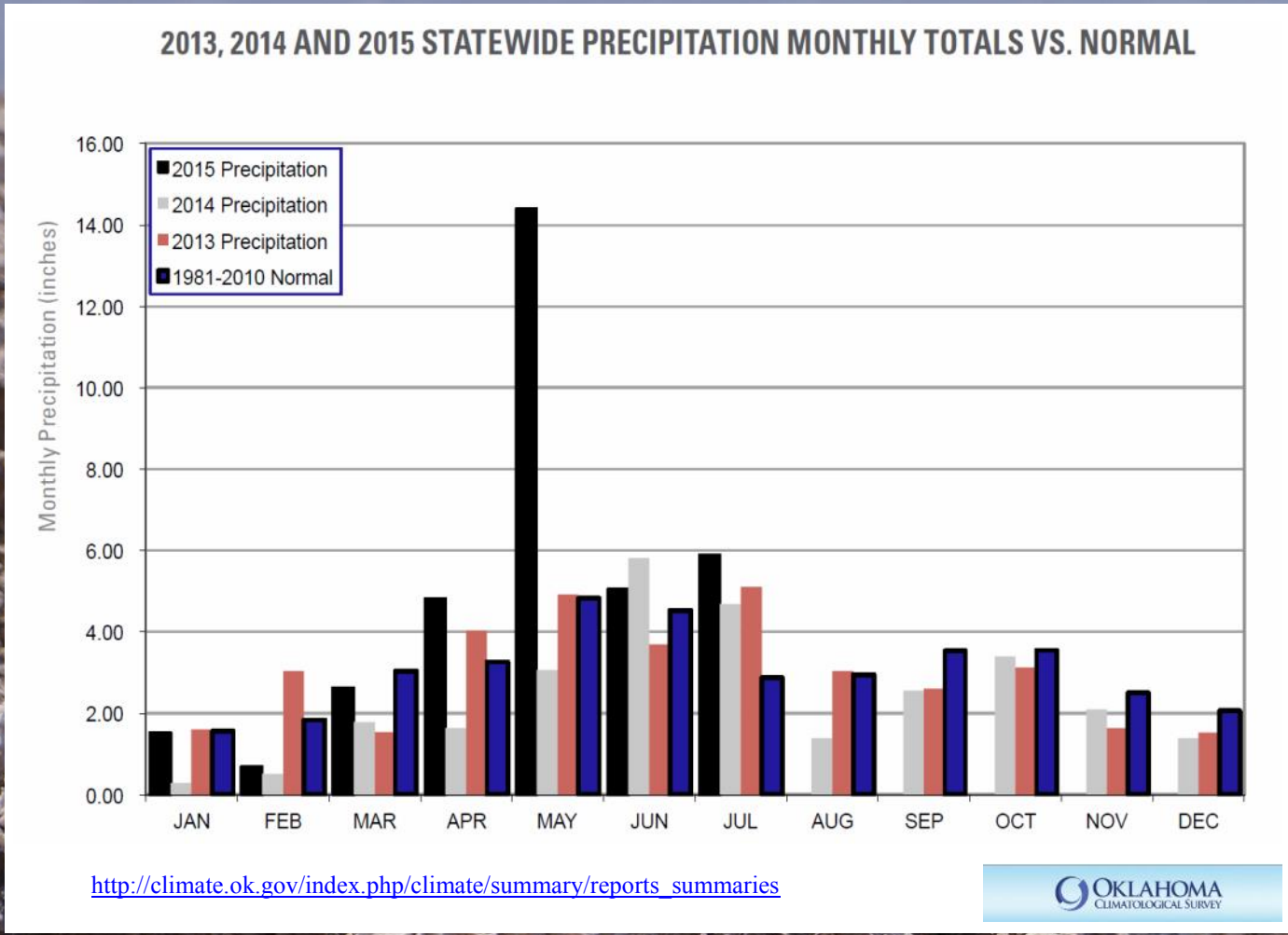
NOAA One-Month Outlook



http://www.cpc.ncep.noaa.gov/products/predictions/30-day/

White areas are shown as EC (Equal Chance) on these maps represent areas where there are no strong climate signals from the climate tools to have skill in preferring one category over another. That doesn't mean that there are equal chances of each of the categories occurring – it means that currently there is no skill in identifying the most likely category. In these areas, it is best to be prepared for all possibilities.

Statewide Precipitation Monthly Totals vs. Normal



http://climate.ok.gov/index.php/climate/summary/reports_summaries

OKLAHOMA CLIMATOLOGICAL SURVEY

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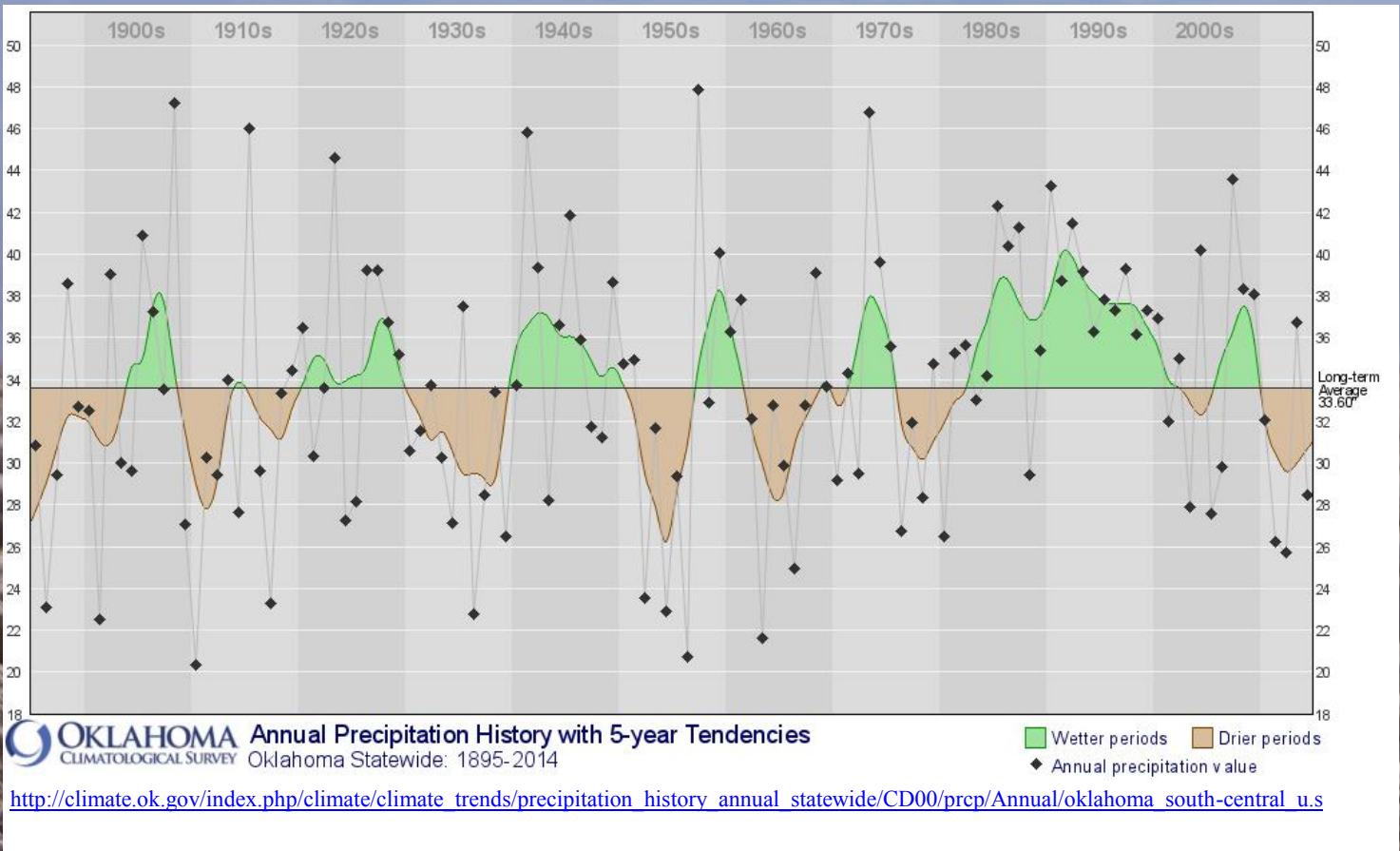
Annual Precipitation History with 5-Year Tendencies



http://climate.ok.gov/index.php/climate/climate_trends/precipitation_history_annual_statewide/CD00/prcp/Annual/oklahoma_south-central_u.s

This graph shows the cyclical nature of wet and drought periods in Oklahoma. The black dots represent the annual precipitation for that particular year. The line represents the annual precipitation data smoothed over five years. This smoothed line shows well the wet periods (shaded green) and the drought periods (shaded brown). The drought cycles appear to average about five to eight years in length.

We are currently in Year 5 of a eight to ten year drought cycle.

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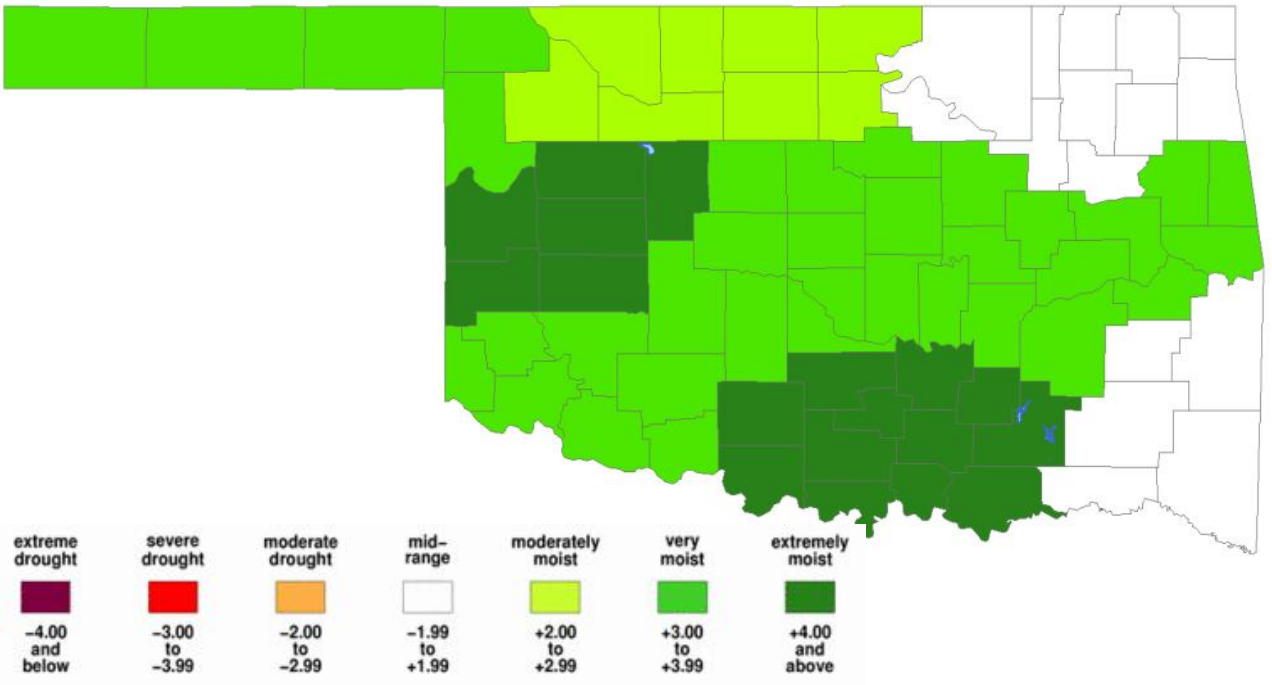
Drought Severity Index by Climate Division

Palmer Weekly Value for Period AUG 22 2015



http://www.ncdc.noaa.gov/temp-and-precip/drought/weekly-palmers.php?year=2014&month=04&day=12

The Palmer Drought Index (PDI) maps show long-term (cumulative) meteorological drought and wet conditions. The maps show how the geographical pattern of the long-term (meteorological) moisture conditions has changed over the last 12 months. On these maps, the red shading denotes drought conditions while the green shading indicates wet conditions.

For an animated gif of the long term PDI see http://www.ncdc.noaa.gov/oa/climate/research/prelim/drought/pdiimage.html.

U.S. Drought Monitor

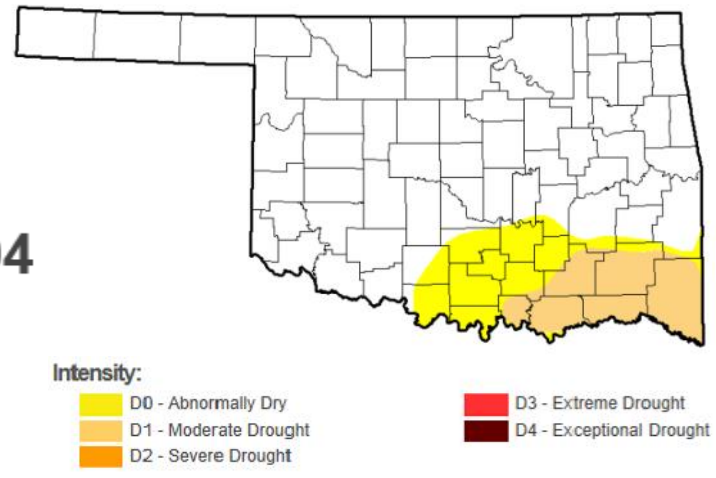
Regional Map Week of 25 AUG 2015

Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current 2015-08-25	81.86	18.14	8.85	0.00	0.00	0.00
Last Week 2015-08-18	69.16	30.84	9.29	1.38	0.00	0.00
3 Months Ago 2015-05-26	77.31	22.69	2.74	0.00	0.00	0.00
Start of Calendar Year 2014-12-30	25.63	74.37	62.03	40.84	21.74	5.70
Start of Water Year 2014-09-30	8.55	91.45	73.31	58.13	20.92	4.64
One Year Ago 2014-08-26	19.52	80.48	71.14	48.51	15.75	2.25

U.S. Drought Monitor

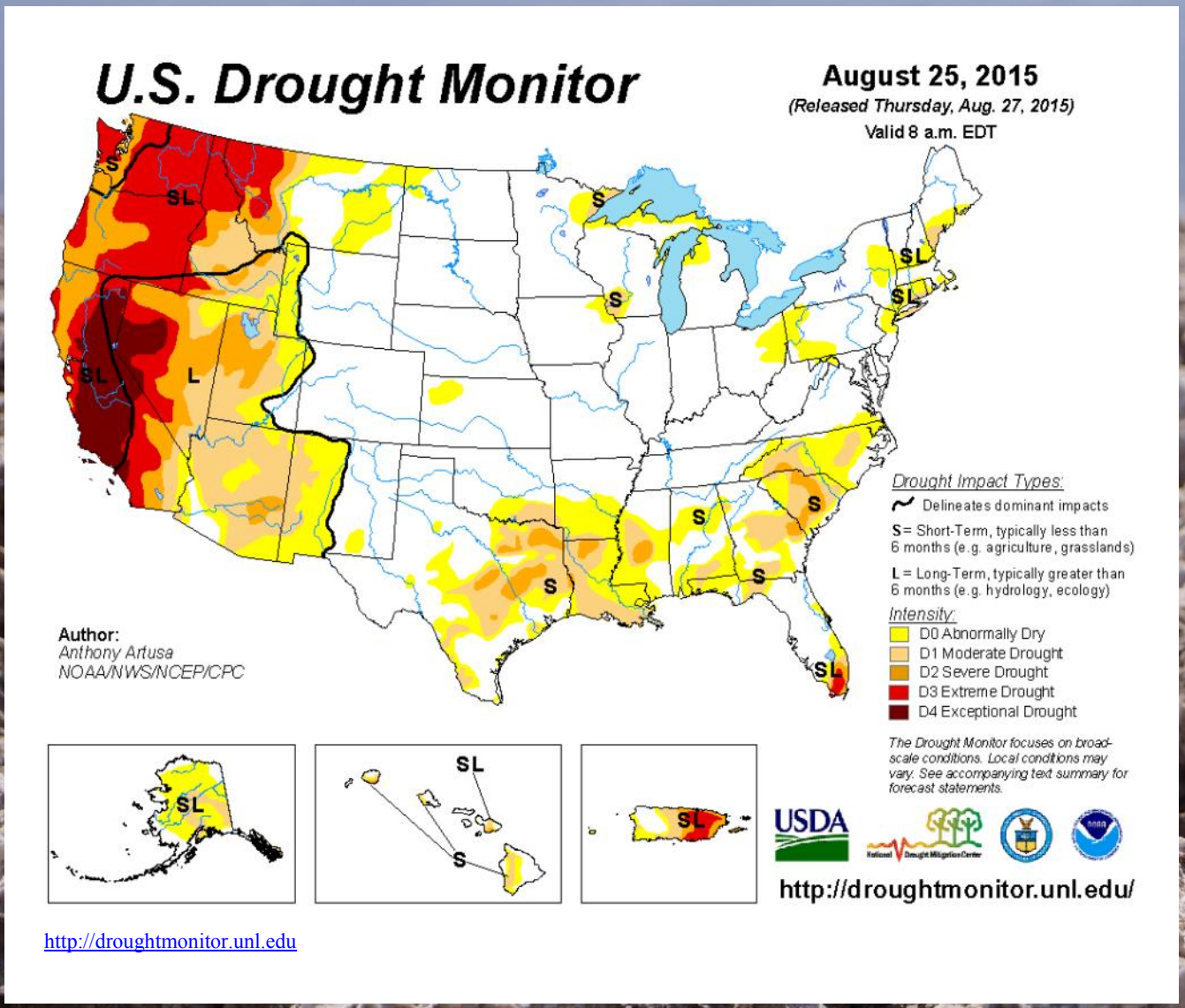
Oklahoma

Population Affected by Drought: **127,404**



http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?OK

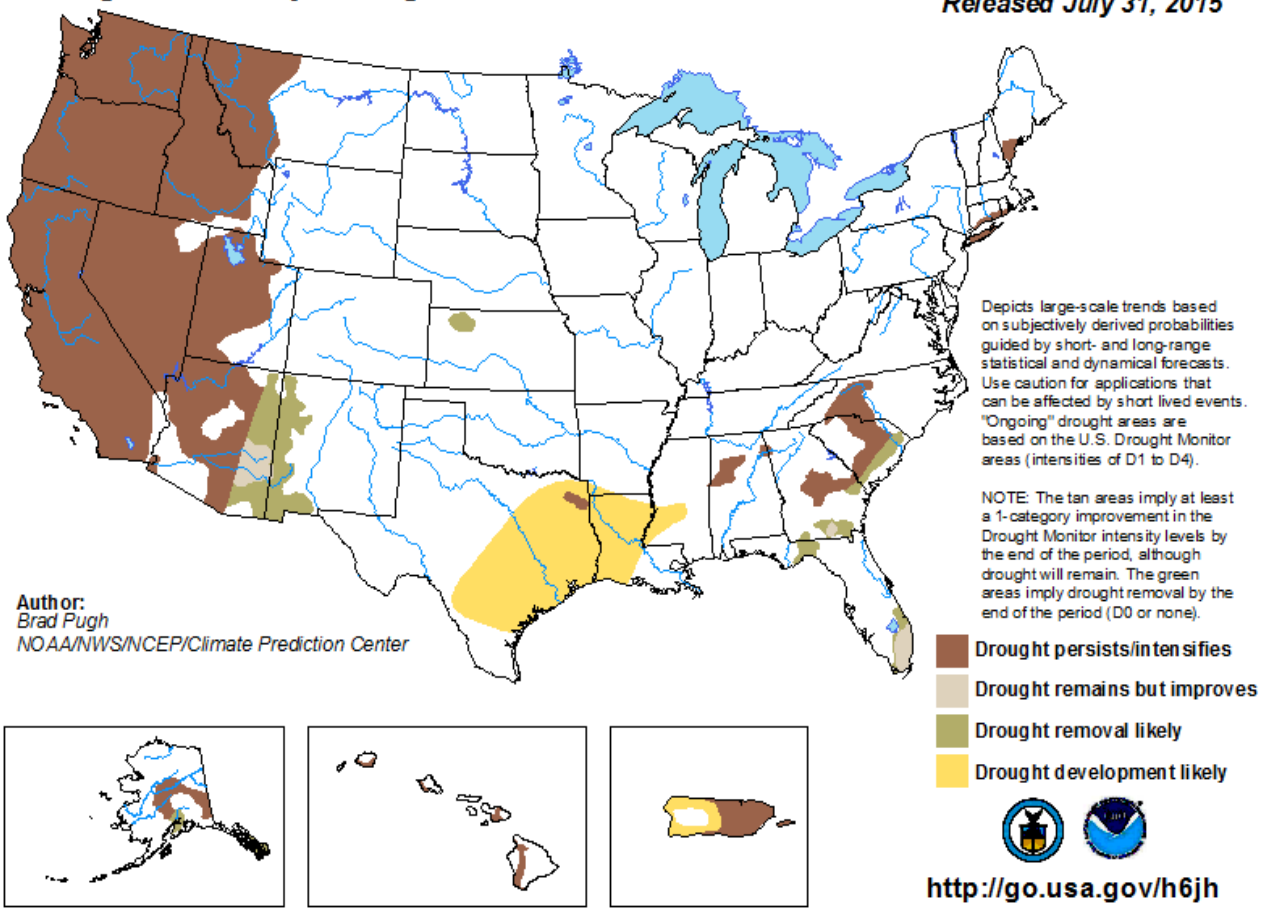
U.S. Drought Monitor Nationwide Map



http://droughtmonitor.unl.edu

U.S. Drought Monitor

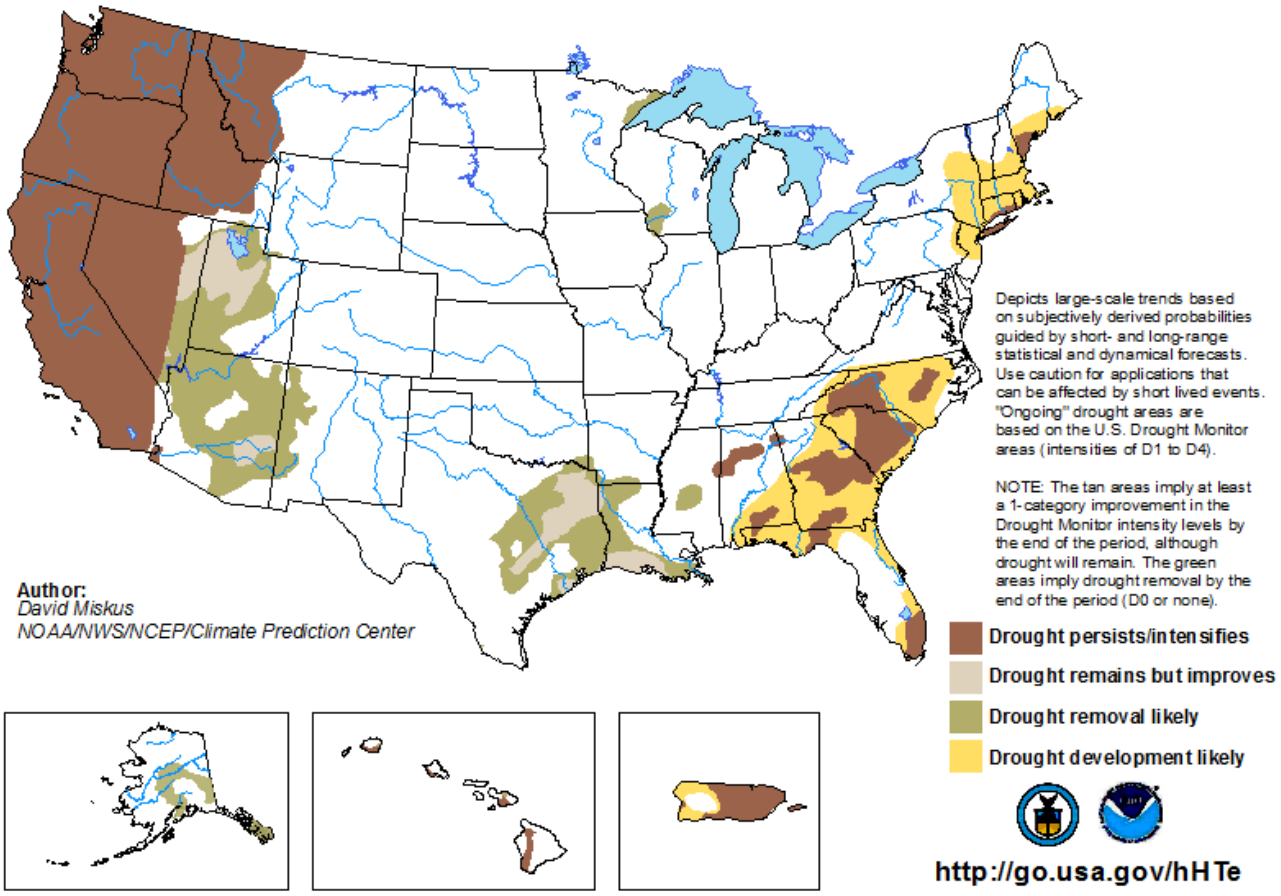
Monthly Drought Outlook Map



http://www.cpc.ncep.noaa.gov/products/expert_assessment/mdo_summary.html

U.S. Drought Monitor

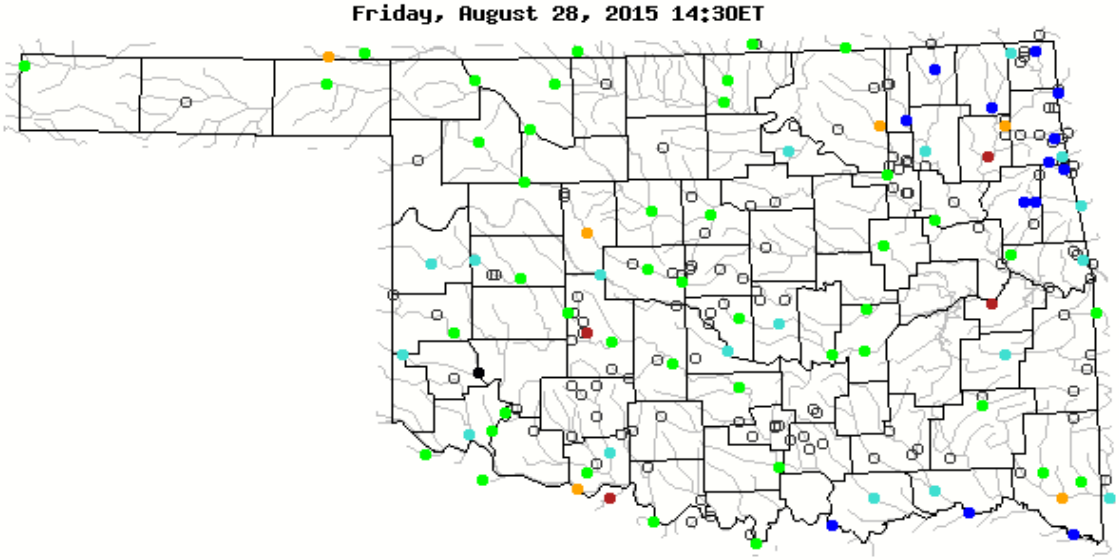
Seasonal Drought Outlook Map



http://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.html

USGS Streamflow Data

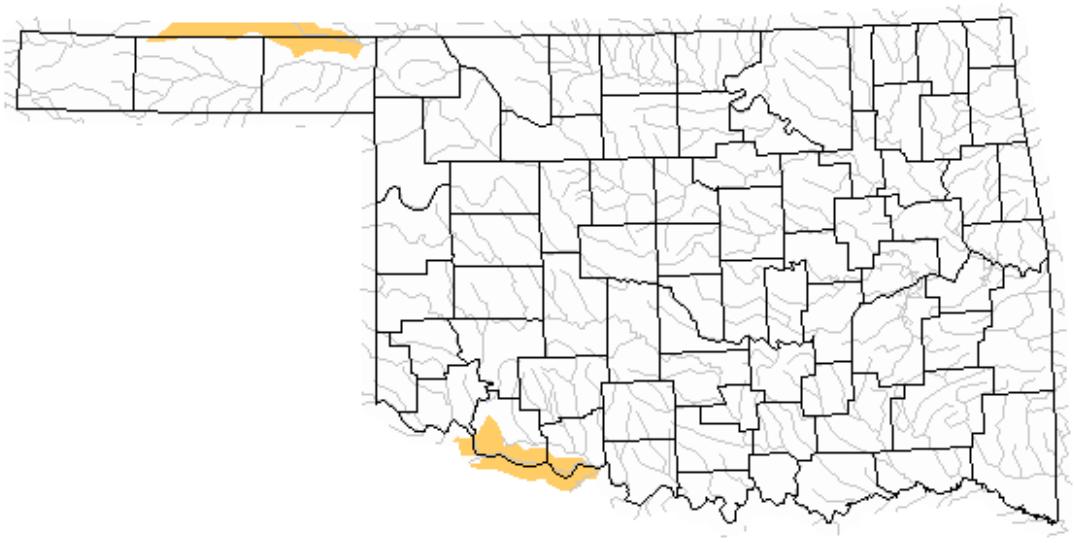
Friday, August 28, 2015 14:30ET



USGS

Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Thursday, August 27, 2015



USGS

Explanation - Percentile classes				
Low	<=5	6-9	10-24	Insufficient data for a hydrologic region
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

http://waterwatch.usgs.gov/new/?m=real&r=ok&w=map

http://waterwatch.usgs.gov/new/index.php?m=dryw&r=ok

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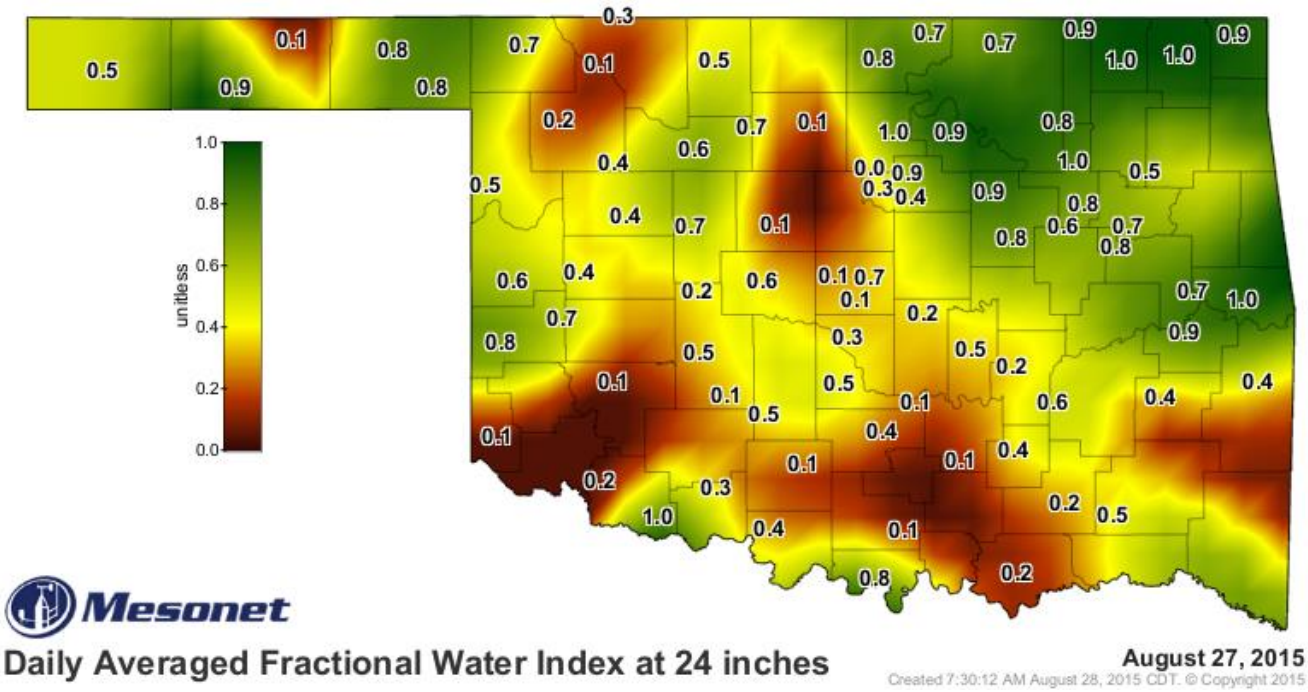
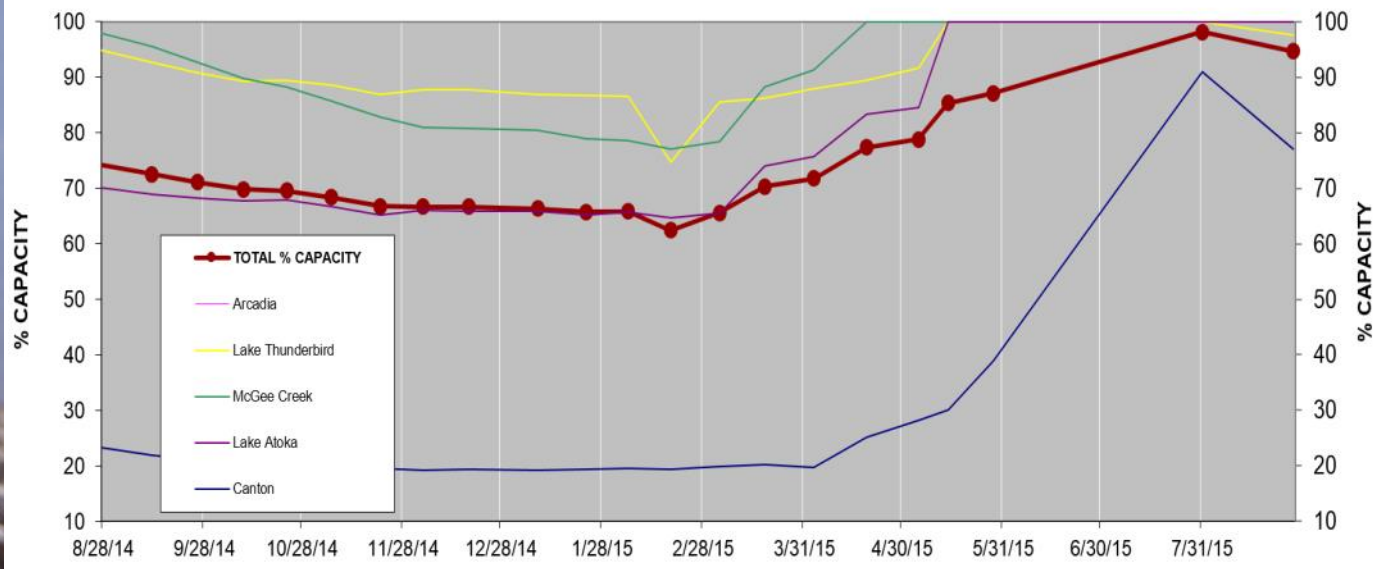
SOIL MOISTURE MAP



- 1.0 - 0.8 Enhanced Growth
- 0.8 – 0.5 Limited Growth
- 0.5 – 0.3 Plants Wilting
- 0.3 - 0.1 Plants Dying
- < 0.1 Barren Soil

http://www.mesonet.org/index.php/weather/map/24-inch_fractional_water_index/soil_moisture

Percent of Surface Water Conservation Storage
Central OK Reservoirs



Lake Hefner and Lake Overholser are terminal storage for Canton Lake. Lake Draper is terminal storage for McGee Creek and Atoka Lakes.

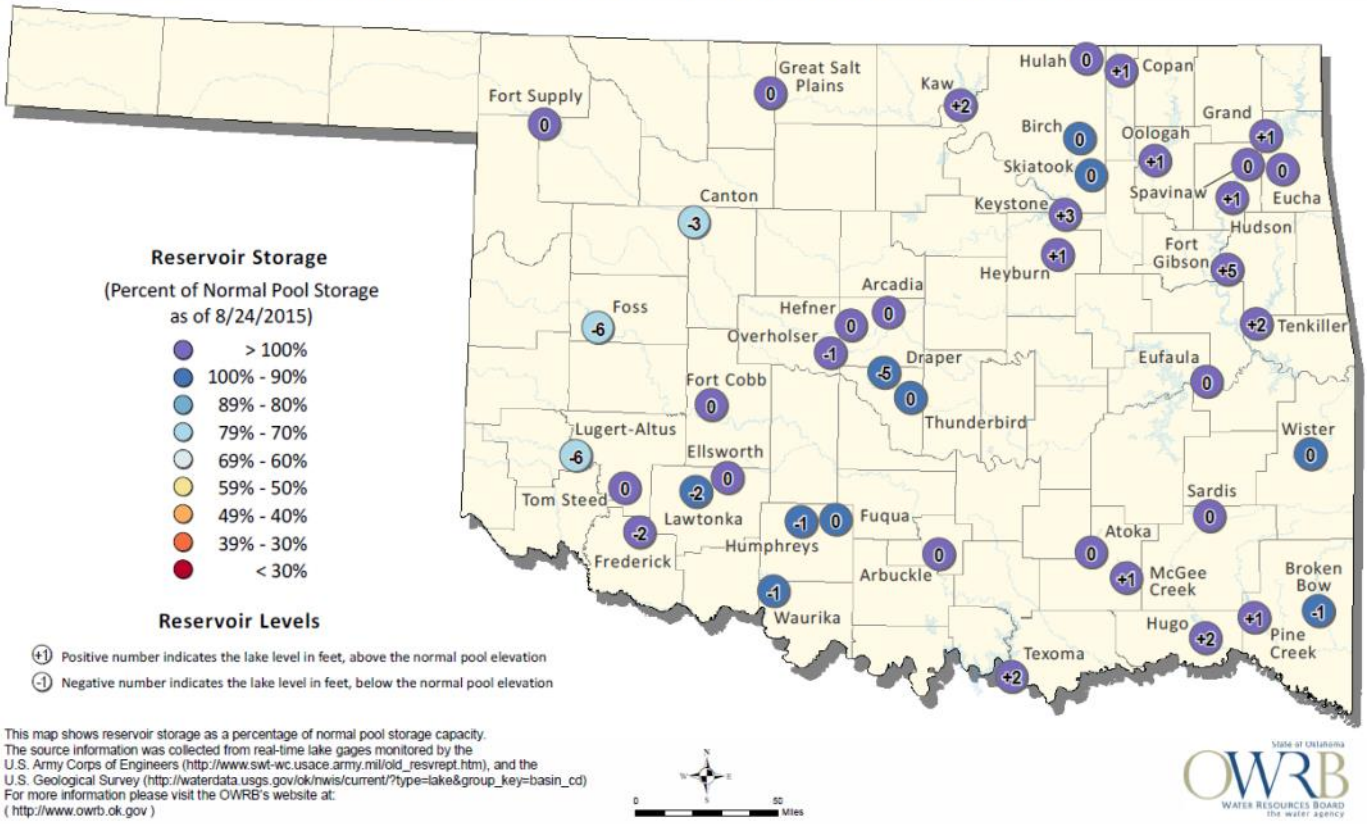
LAKE	% CAPACITY	% CHANGE FROM 8/28/2015
Canton	77.1	-13.9
Arcadia	99.6	-0.5
Lake Thunderbird	97.7	-2.3
McGee Creek	100.0	0.0
Lake Atoka	100.0	0.0
TOTAL % CAPACITY	94.6	-3.5

http://www.swt-wc.usace.army.mil/old_resvrept.htm http://waterdata.usgs.gov/ok/nwis/dv/?site_no=07333010&agency_cd=USGS&referred_module=sw

The graph is the amount of water stored in five major lakes that supply water to central Oklahoma as a percent of capacity over the past year.

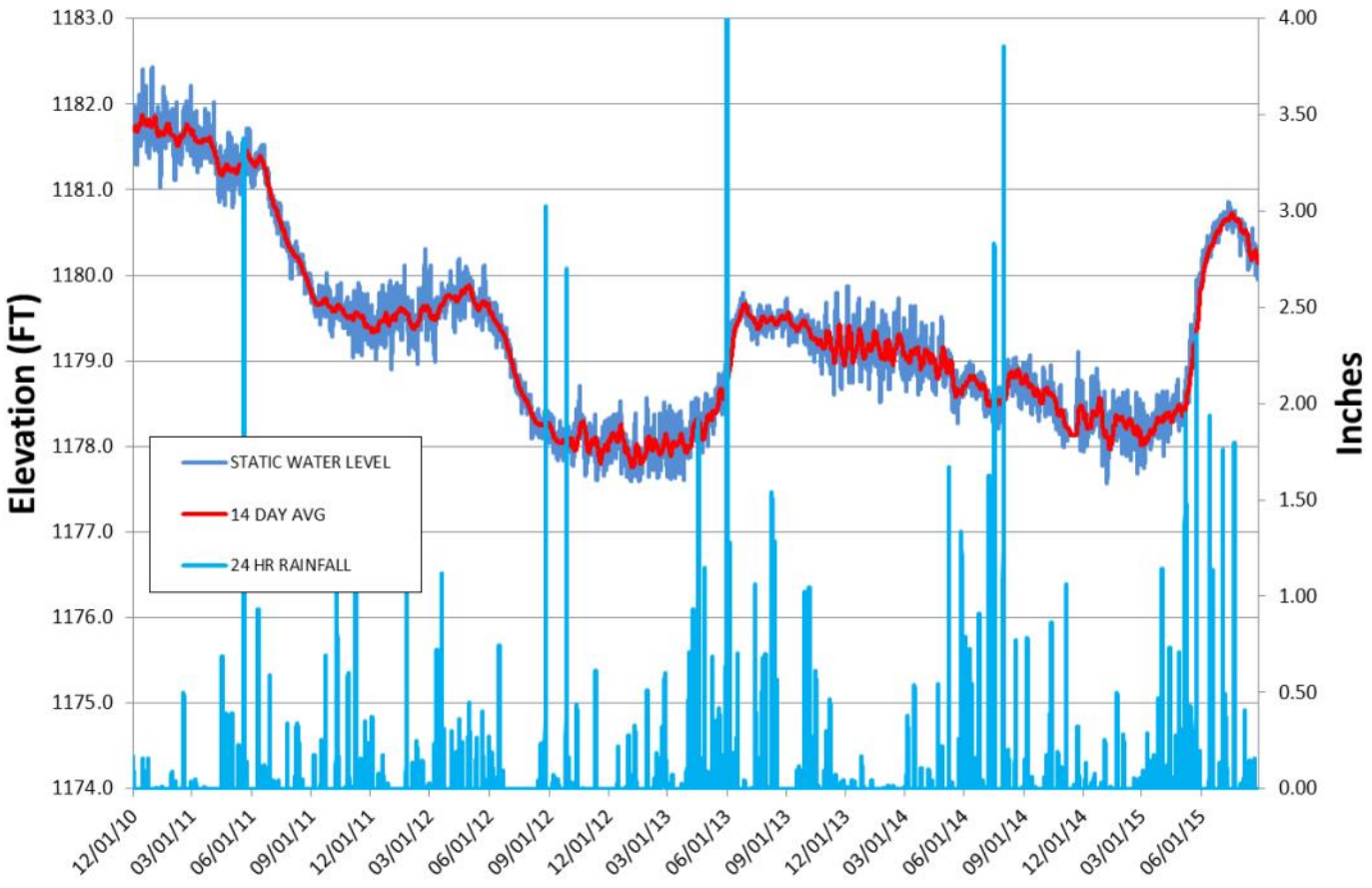
Oklahoma Surface Water Resources

Reservoir Levels and Storage as of 8/24/2015



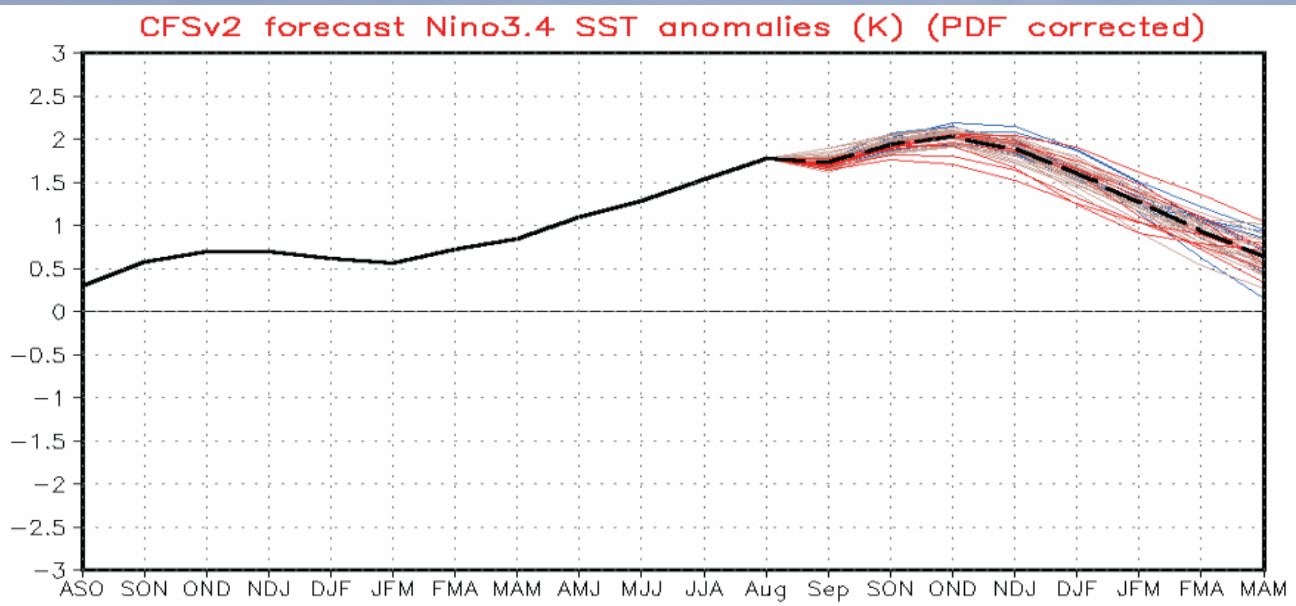
http://www.owrb.ok.gov/maps/pdf_map/Monthly%20Reservoir%20Storage.pdf

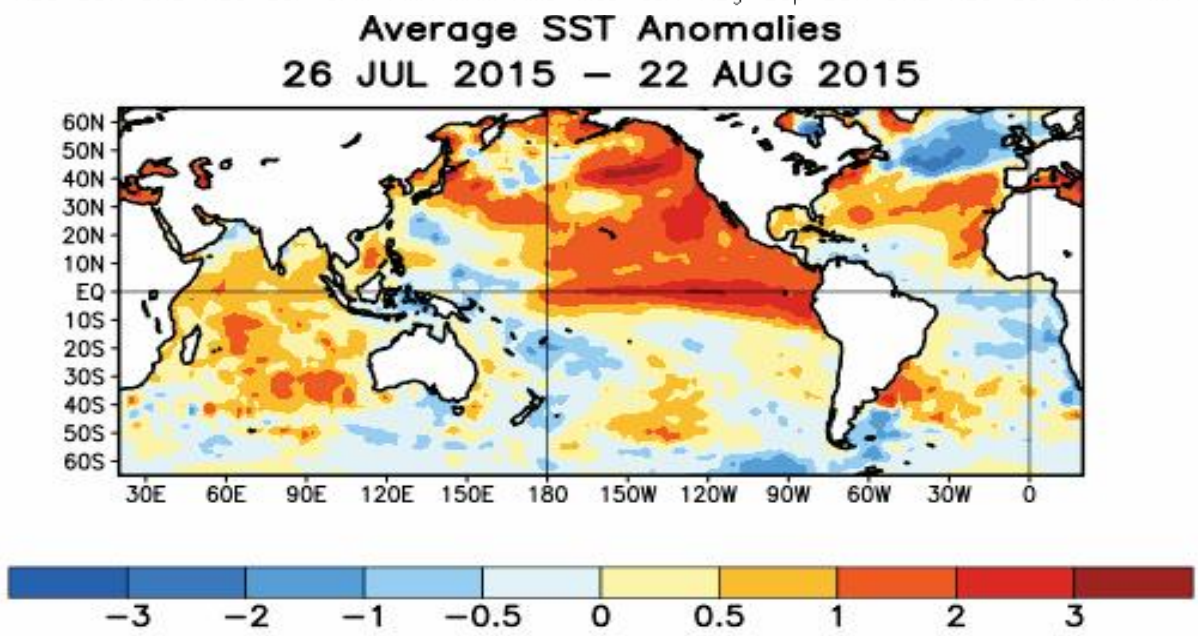
Groundwater Levels
Spencer Mesonet Station



http://www.mesonet.org/index.php/weather/groundwater

ENSO Cycle
Recent Evolution, Current Status and Predictions





Summary

ENSO Alert System Status: El Niño Advisory

- El Niño conditions are present.
- Positive equatorial sea surface temperature (SST) anomalies continue across most of the Pacific Ocean.
- There is a greater than 90% chance that El Niño will continue through Northern Hemisphere winter 2015-16, and around an 80% chance it will last through early spring 2016.

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/lanina/enso_evolution-status-fcsts-web.pdf