Oklahoma Drought: Past, Present and Future

Oct. 12, 2016

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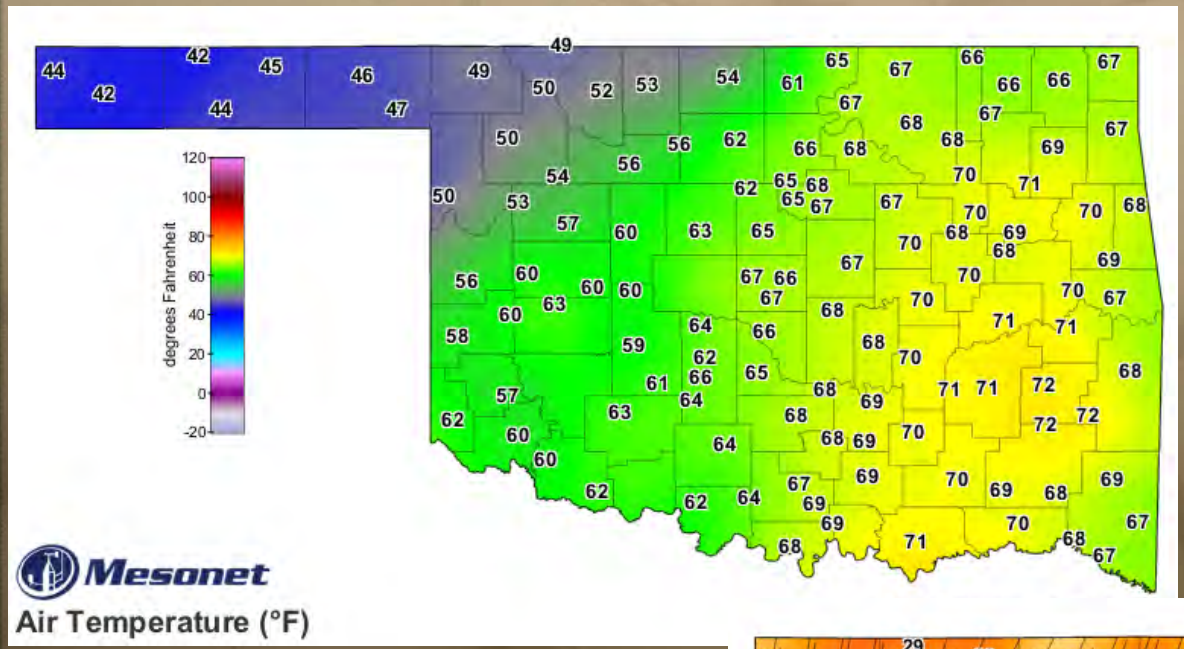
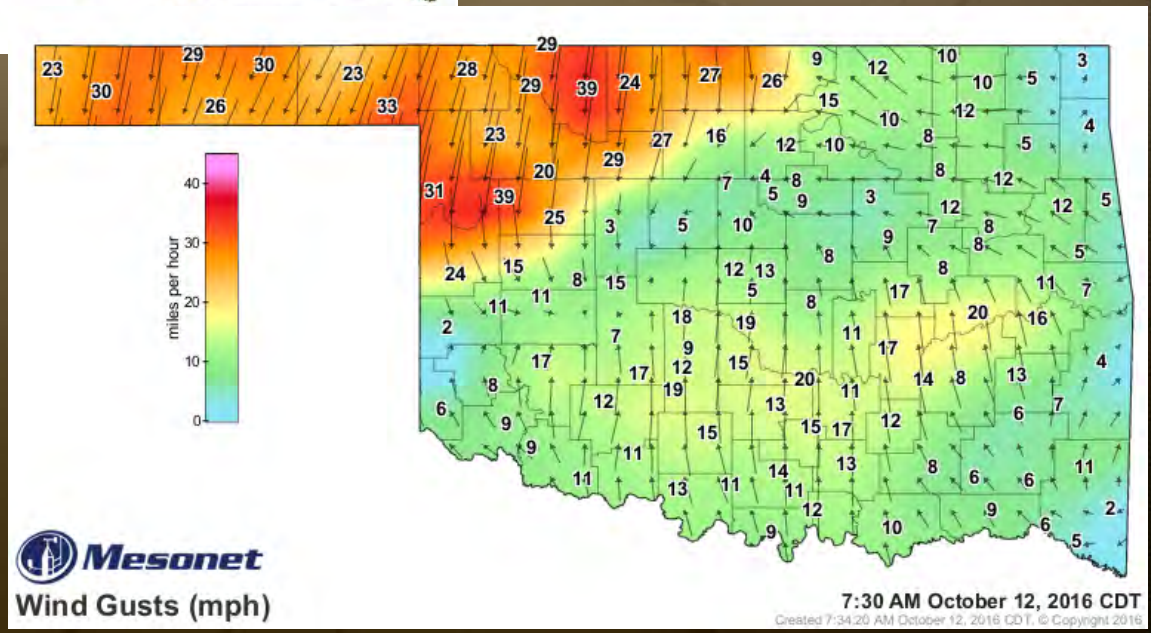
Oklahoma Mesonet
Oklahoma Climatological Survey

By the time you leave this afternoon...





Want to know more about Oklahoma's water cycle?

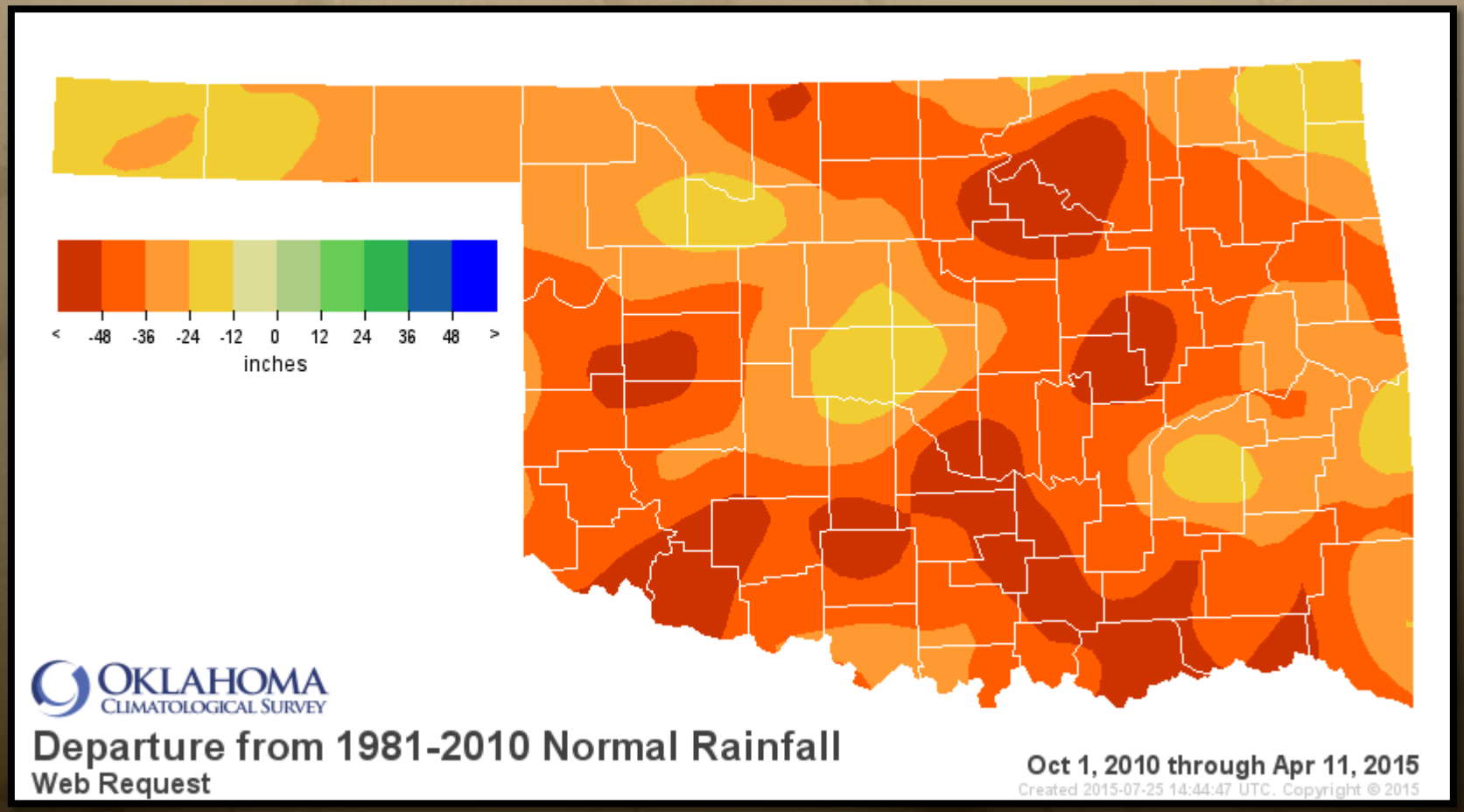
Just look at the last 6 years!

Synopsis of our 2010-16 Weather

- Drought "begins" October 2010
- Intensified through summer 2011
- Intermittent relief through early 2015
- El Nino intensifies in 2015, "Super El Nino" brings final end to drought
- 2015 becomes wettest year on record
- Back to normal? Mini-drought episodes in fall 2015, spring and fall 2016
- No La Nina (at least a significant La Nina)!

How did we get here

Oct. 1, 2010-Apr. 11, 2015



36.4 inches below normal statewide (50+ in some areas)

The drought at its worst

U.S. Drought Monitor

October 4, 2011
Valid 7 a.m. EST

Oklahoma

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	100.00	78.97	69.82
Last Week (09/27/2011 map)	0.00	100.00	100.00	100.00	78.97	66.42
3 Months Ago (07/05/2011 map)	0.00	100.00	93.77	60.75	44.18	32.78
Start of Calendar Year (12/28/2010 map)	13.82	86.18	47.90	1.50	0.00	0.00
Start of Water Year (09/27/2011 map)	0.00	100.00	100.00	100.00	78.97	66.42
One Year Ago (09/28/2010 map)	66.28	33.72	4.21	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.

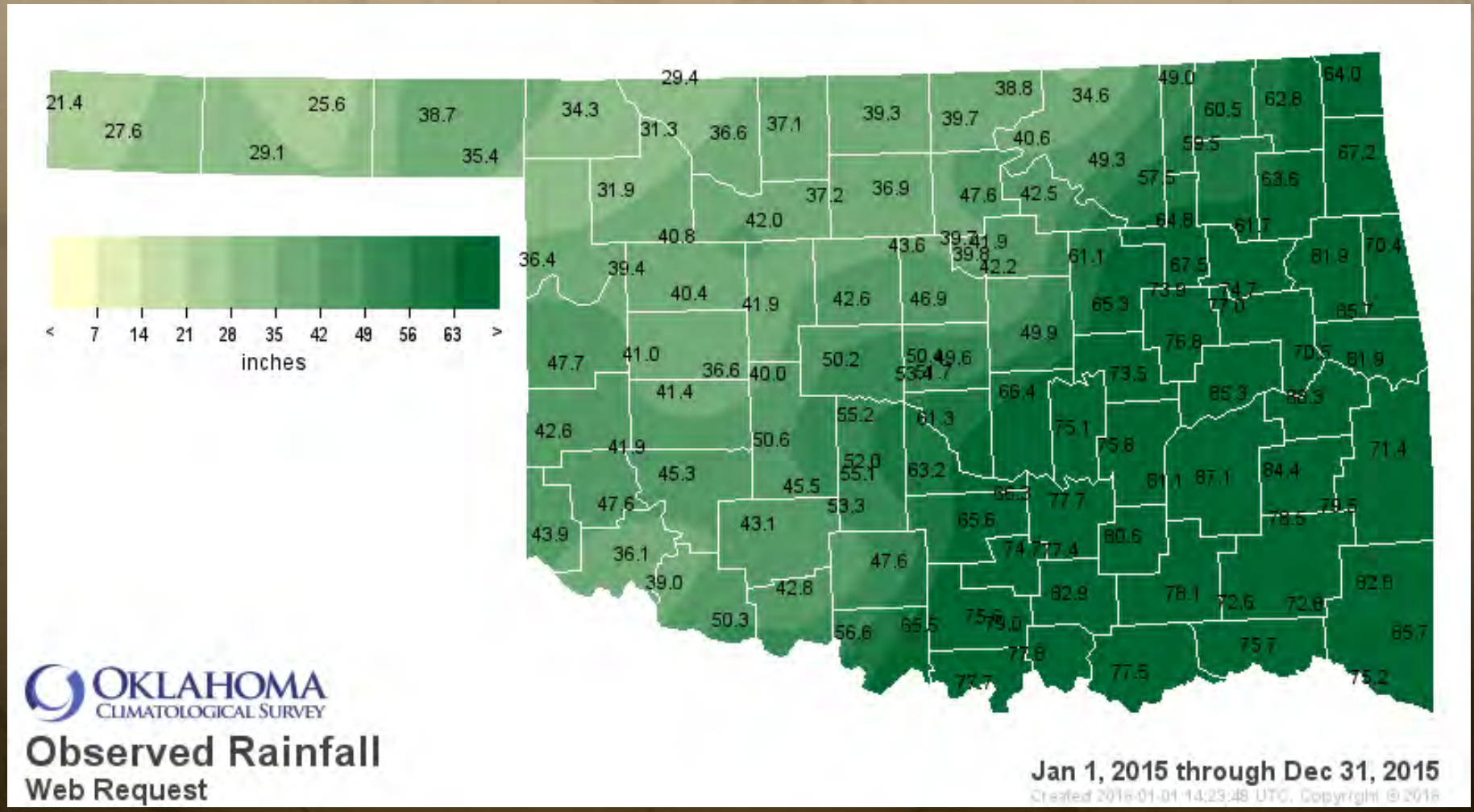
http://droughtmonitor.unl.edu

USDA

Released Thursday, October 6, 2011

70% of the state in D4 drought

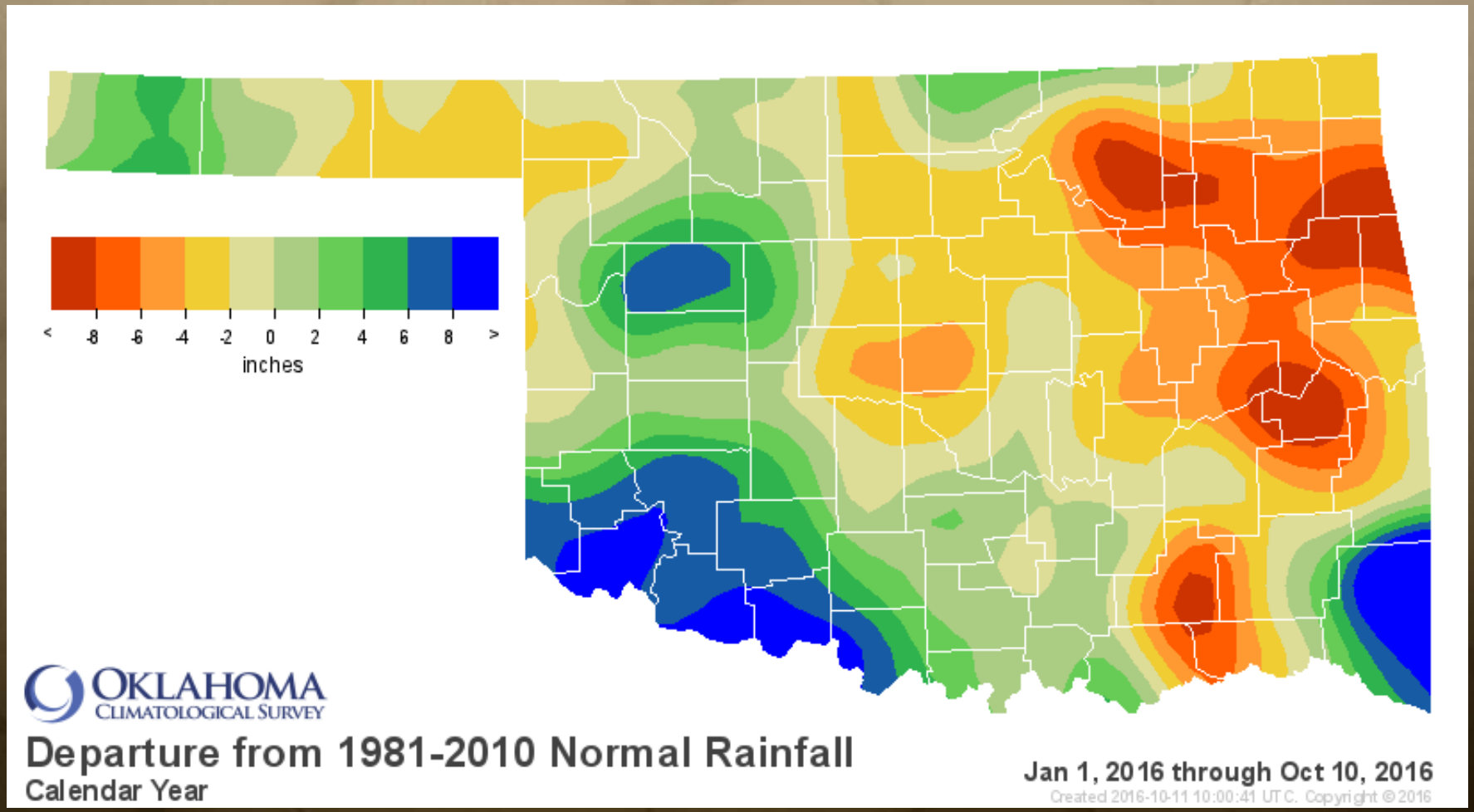
2015: A Drought Buster!



2015's statewide avg. of 53.72" obliterates previous record holder, 1957's 47.88 inches

Where are we now?

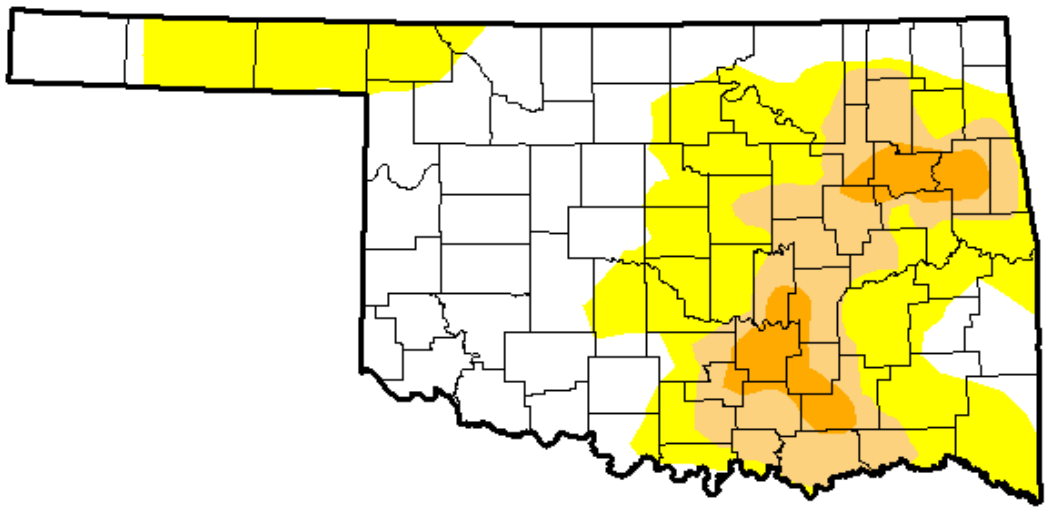
Mesonet Rainfall 2016 thus far



Percent of Normal

U.S. Drought Monitor

Oklahoma



October 4, 2016

(Released Thursday, Oct. 6, 2016)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	46.14	53.86	20.15	5.15	0.00	0.00
Last Week *9/27/2016*	57.82	42.18	19.04	3.05	0.00	0.00
3 Months Ago *7/5/2016*	80.96	19.04	4.47	0.00	0.00	0.00
Start of Calendar Year *12/29/2015*	100.00	0.00	0.00	0.00	0.00	0.00
Start of Water Year *9/27/2016*	57.82	42.18	19.04	3.05	0.00	0.00
One Year Ago *10/6/2015*	48.78	51.22	22.84	9.00	1.46	0.00

Intensity:

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

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

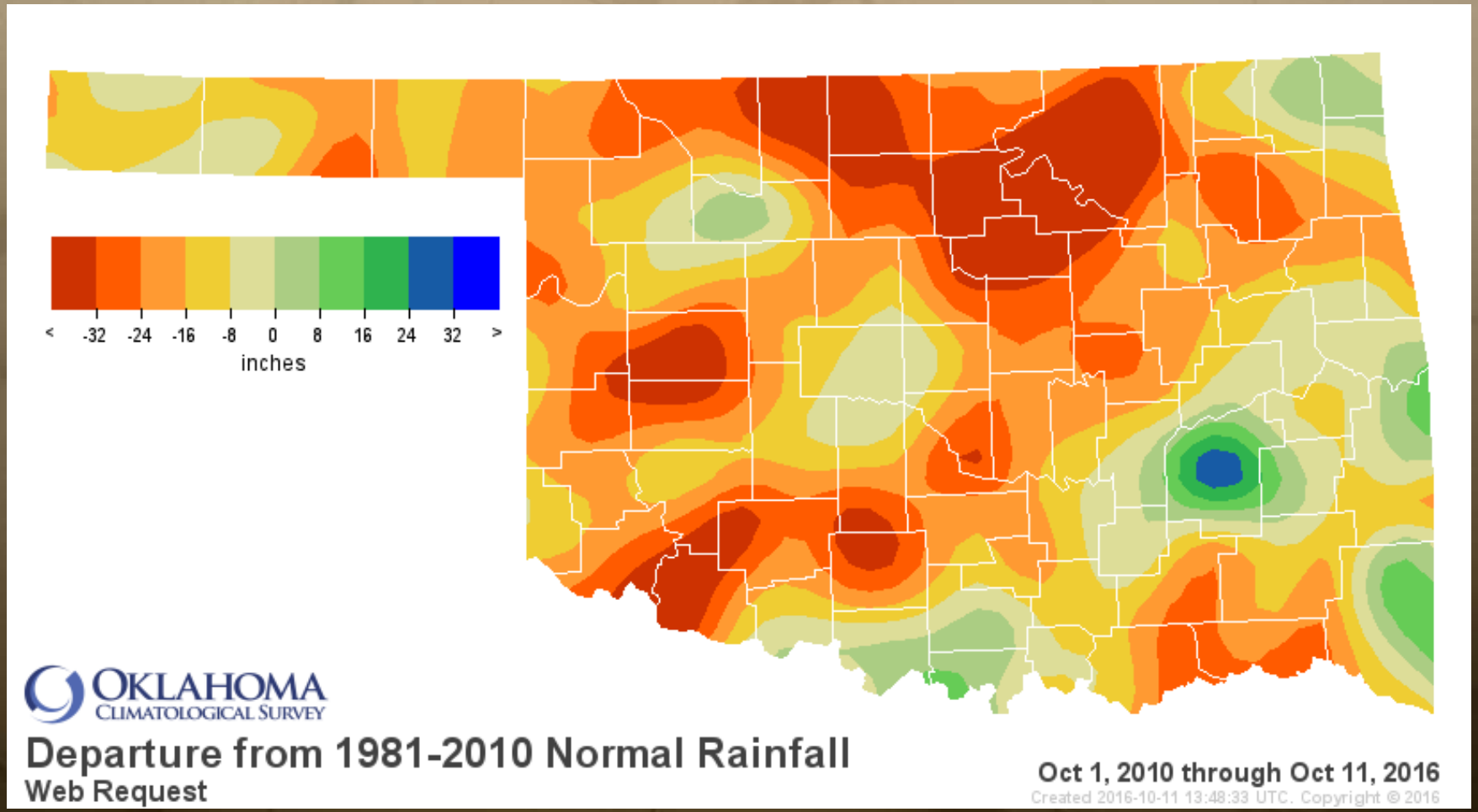
Author:

Brian Fuchs

National Drought Mitigation Center

http://droughtmonitor.unl.edu/

Have we really recovered?



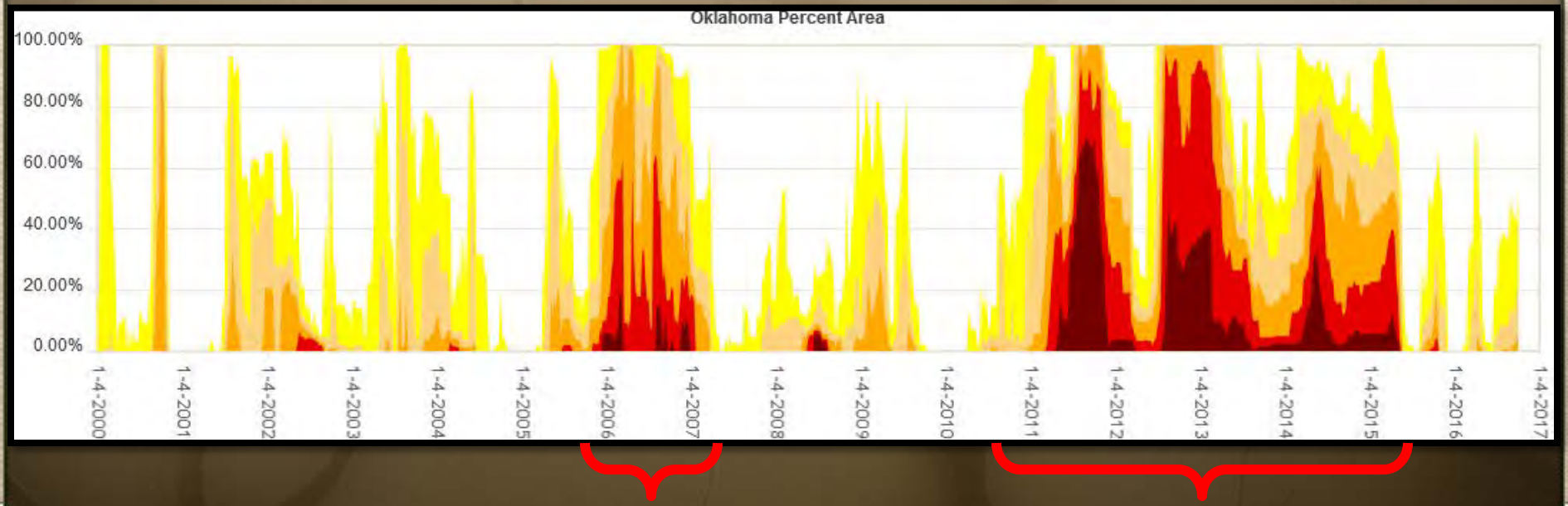
Oct. 1, 2010-Present

Departure from Normal

A Brief History of Drought

OK Drought 2000-2016

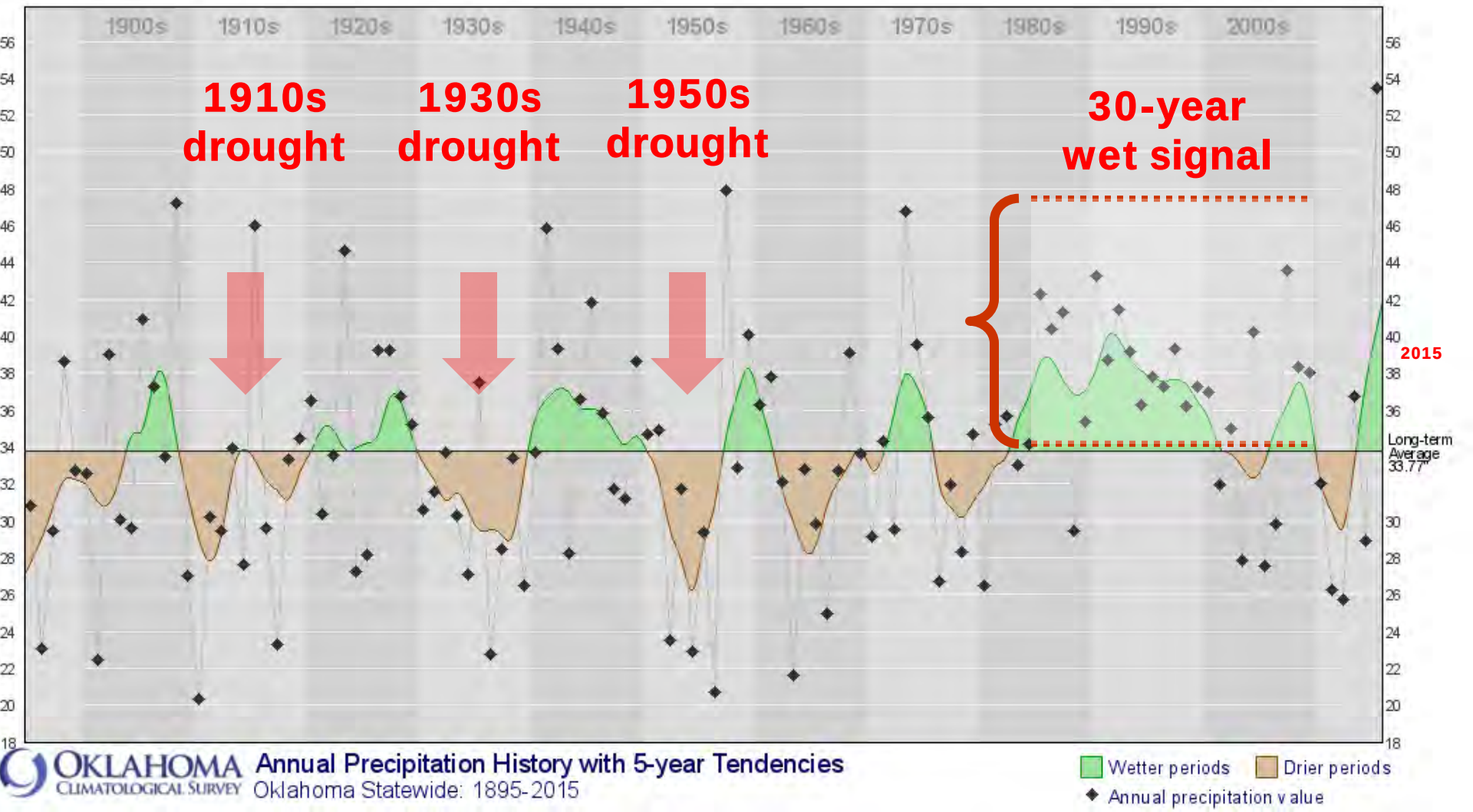
Taken from U.S. Drought Monitor for OK



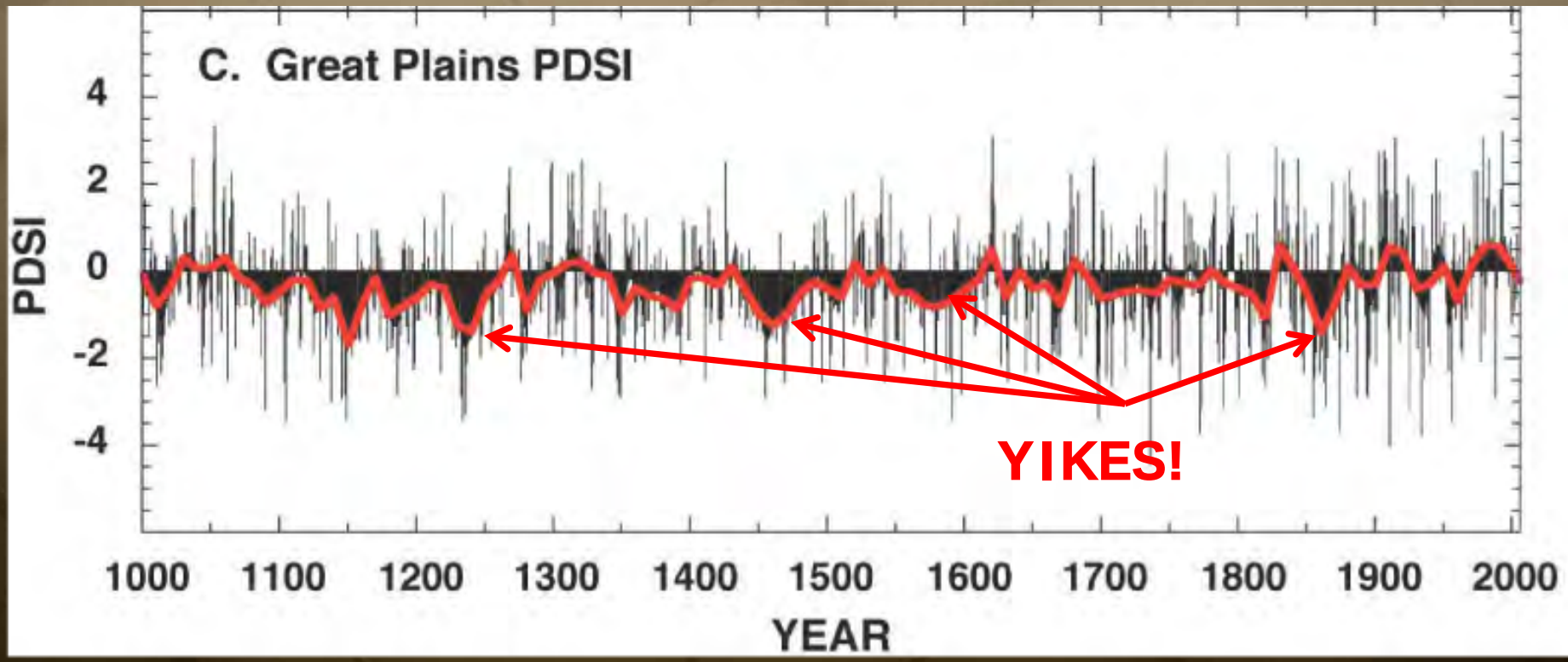
The two most sig. droughts of the Drought Monitor era: 2005-06 and 2010-15

A nice drought/pluvial cycle…then?

Statewide avg. rainfall (1895-2015)

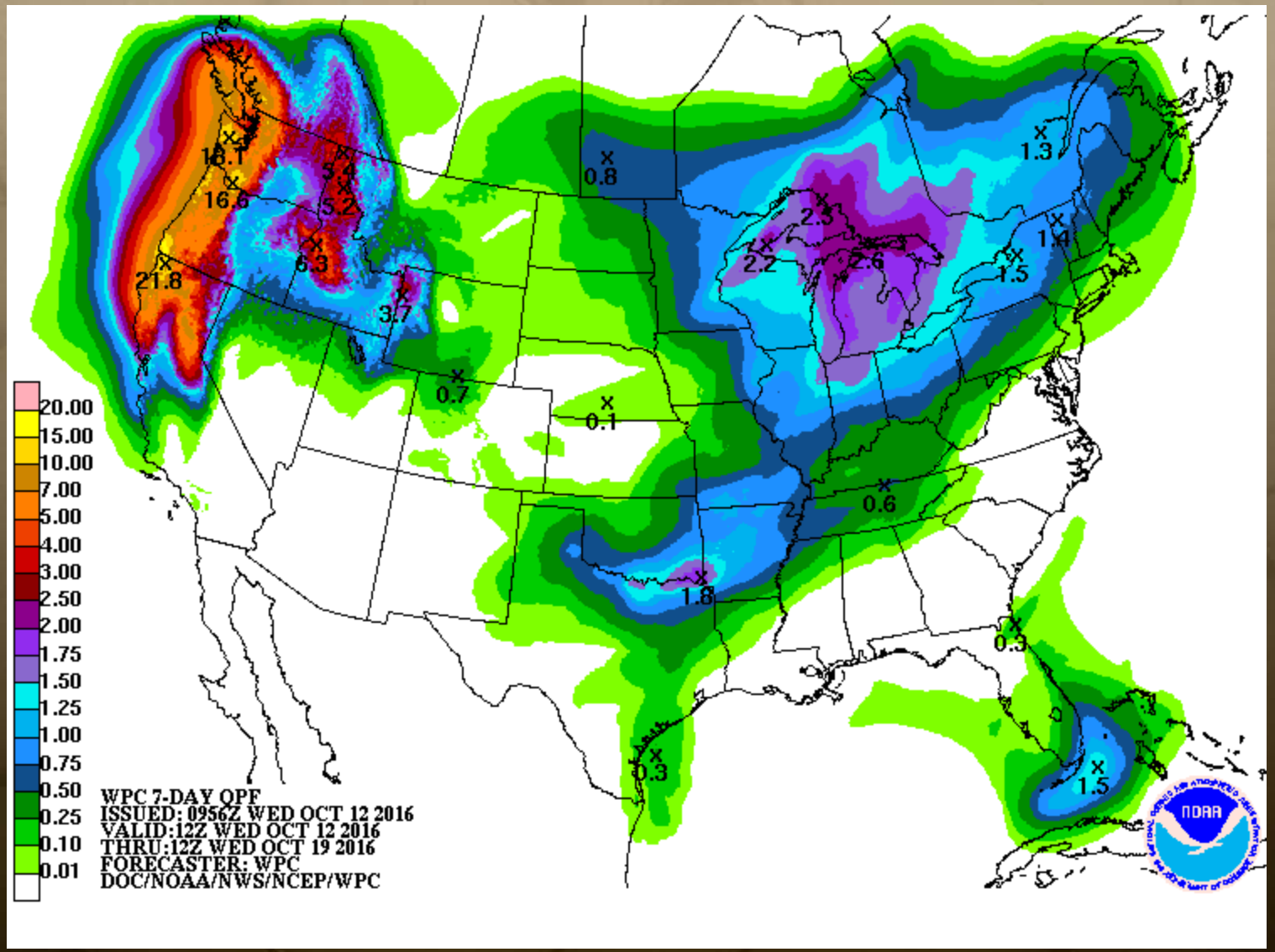


Droughts from past 120 years are infants!



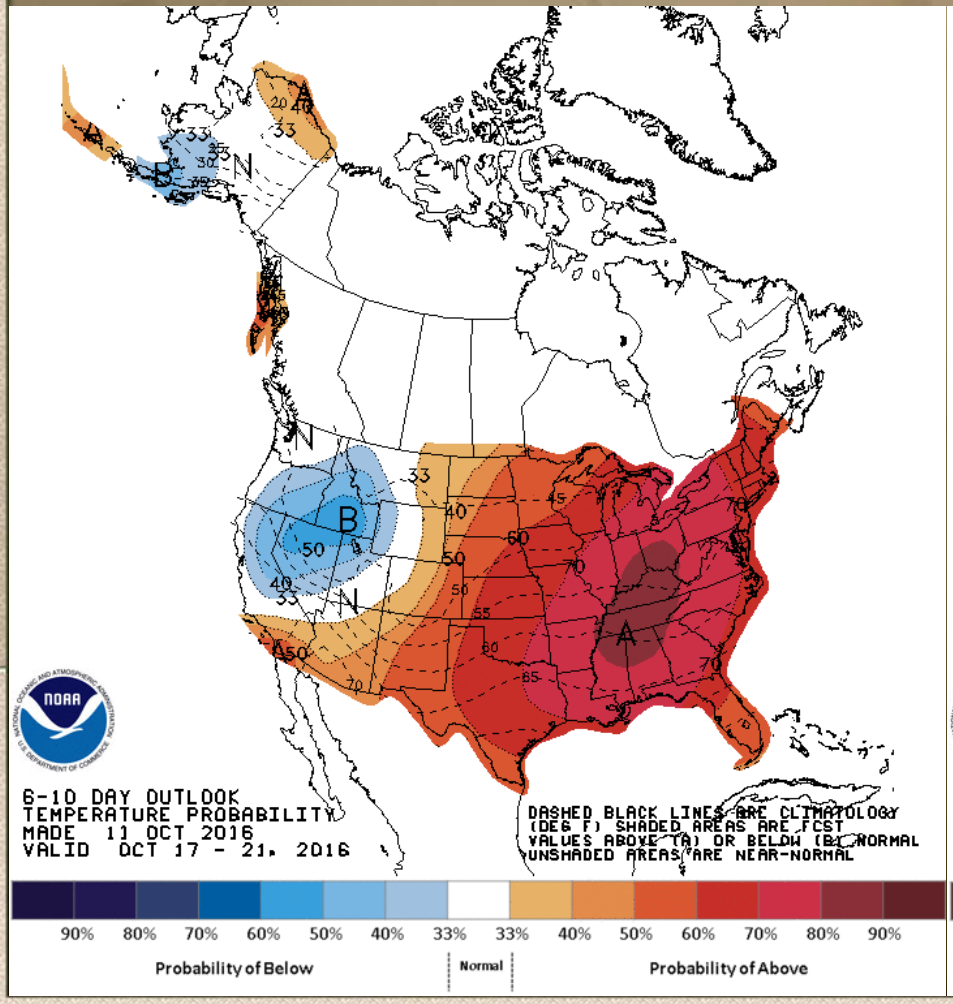
Forecasts and Outlooks

Next 7 days

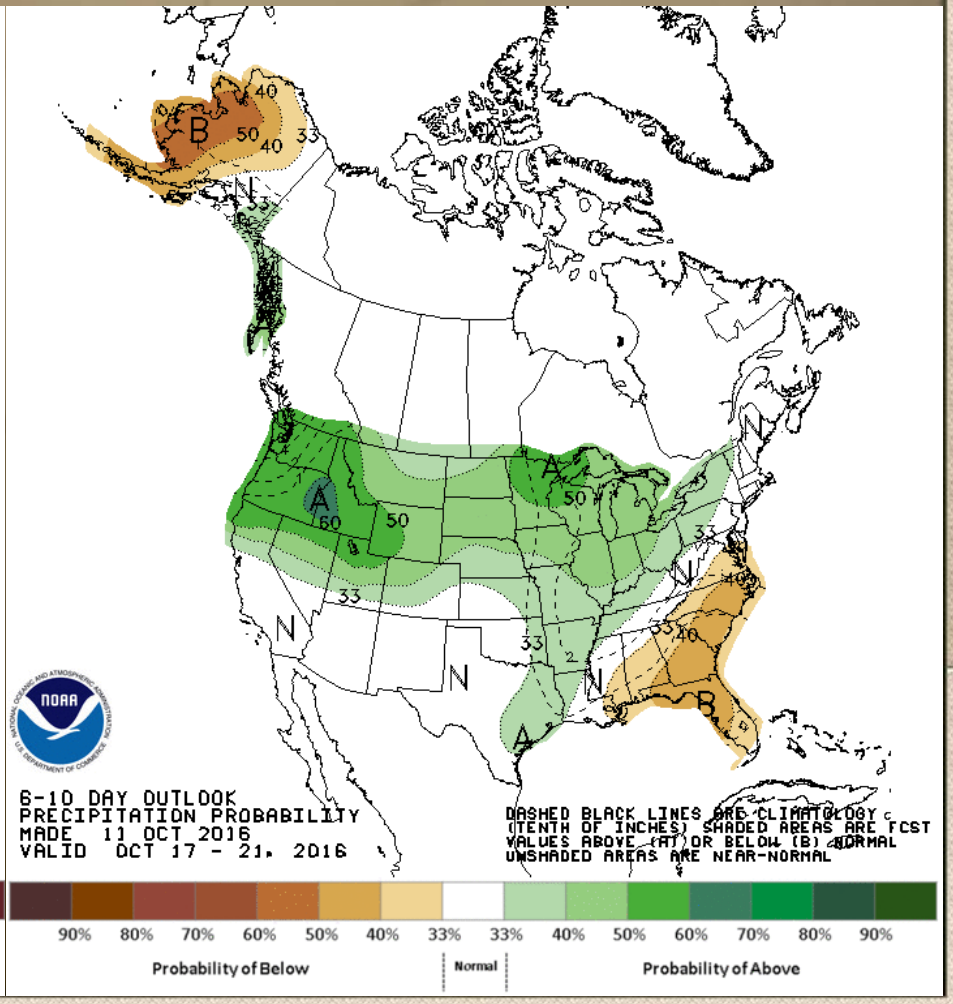

20.00
15.00
10.00
7.00
5.00
4.00
3.00
2.50
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.10
0.01
WPC 7-DAY QPF
ISSUED: 0956Z WED OCT 12 2016
VALID:12Z WED OCT 12 2016
THRU:12Z WED OCT 19 2016
FORECASTER: WPC
DOC/NOAA/NWS/NCEP/WPC
18.1
16.6
5.2
6.3
21.8
3.7
0.7
0.1
0.8
2.3
2.2
2.6
1.3
1.4
1.5
0.6
1.8
0.3
0.3
1.5
NOAA

Medium-term Outlooks: Oct. 17-21

Temperature



Precipitation



Final Thoughts

- 5 years of drought (worst since 1950s?) ended in floods
- Drought is sputtering, but still here
- Watch out NW OK!
- Drought intensification should slow during cool season (but not always the case … November 2005)
- La Nina = La Nina-No
- Winter outlook: Warm, cold, some snow, some rain, dry sometimes too

Guess who was the Associate State Climatologist and who was the Assistant!

Wind chill of 32 degrees.

Thank You!

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