

August 8, 2013

BAE

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### July 2013 Monthly Summary

Cool temperatures and above normal rainfall made for a very unusual July across the Commonwealth. Based on averages, July is usually the warmest period of the year with highs normally in the mid to upper 80s and lows in the mid to upper 60s. This was not the case over the course of this past month as several unsettled periods of weather made for an unseasonably cool period. After the state's second warmest July on record in 2012, it was followed by the 12th coldest July on record in 2013. Putting this into perspective, this data goes all the way back to 1895. July was the first month since March of earlier this year that a below normal temperature departure was actually seen. Temperatures hovered in the upper 70s to low 80s for much of the month as numerous systems kept cloud cover overhead and limited daytime heating. The most significant period occurred over the last week of the month when a cold front passed through the state on the

23rd, followed by another on the 27th, acting to reinforce cool and dry air. Low temperatures dropped into the low to mid 50s in many locations, but some even dropped into the upper 40s. This was true in Henderson, KY when the mercury dropped to 48 on the night of the 27th. Overall, the end of the month was so cool and dry; it felt more like September than the middle of the summer. There was really only one week during the middle of the month where it felt like it really was July. An upper level ridge of high pressure ushered in very warm and moist air from the south. This made for the first true heat wave of the summer with temperatures hovering in the upper 80s to low 90s and dew points in the low 70s. The heat index approached and at times exceeded 100 degrees during this period with livestock heat stress running high in the danger category for a good portion of the week.

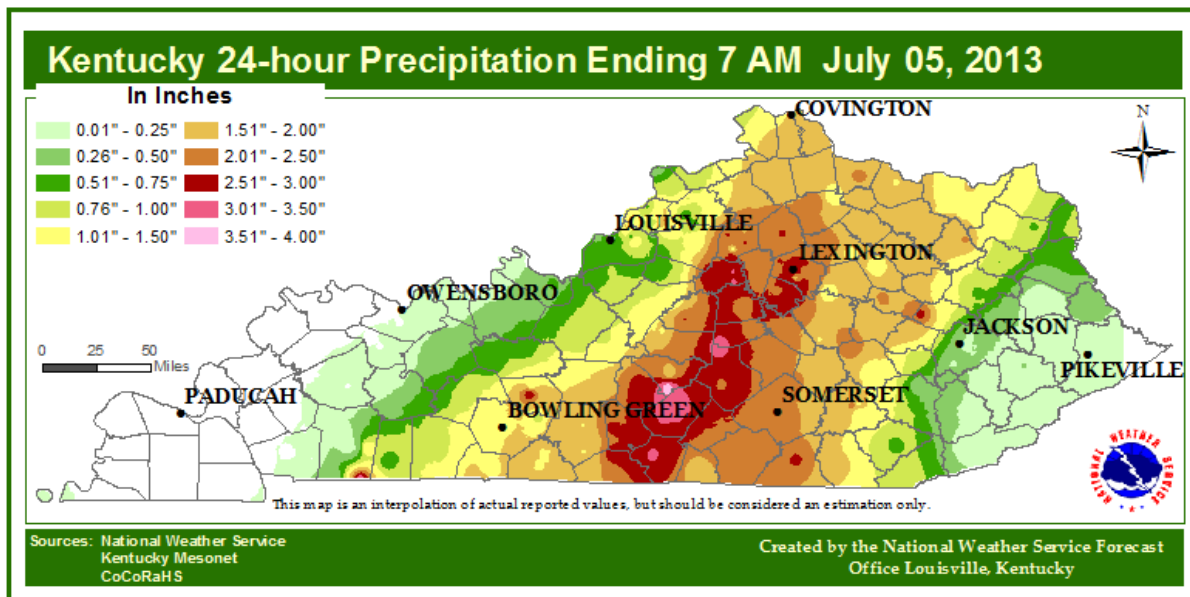


Figure 1

While it was a mostly cool July, it was also a wet one. The Bluegrass State averaged over 6 inches of rainfall for the second straight month. Most of this came during the first week as Kentucky was wedged between an upper level low to the west and a Bermuda high to the east. Southerly flow ushered in tremendous amounts of moisture from the Gulf of Mexico and drenched the state. Over this week alone the Commonwealth averaged over 3.5 inches of rainfall, which made up for nearly 80% of the state's normal rainfall for the month of July. This put a damper on 4th of July activities as most were

washed out under light to moderate rainfall in central and Bluegrass portions of the state. Figure 1 above shows rainfall totals over the holiday.

One highlight is that drought is nonexistent across the state this year as Kentucky remains above normal for the year by nearly 4 inches. Figure 2 below shows the weekly rainfall departures from normal over the course of 2013. As opposed to last year, the Commonwealth has experienced many more periods of above average rainfall (red).

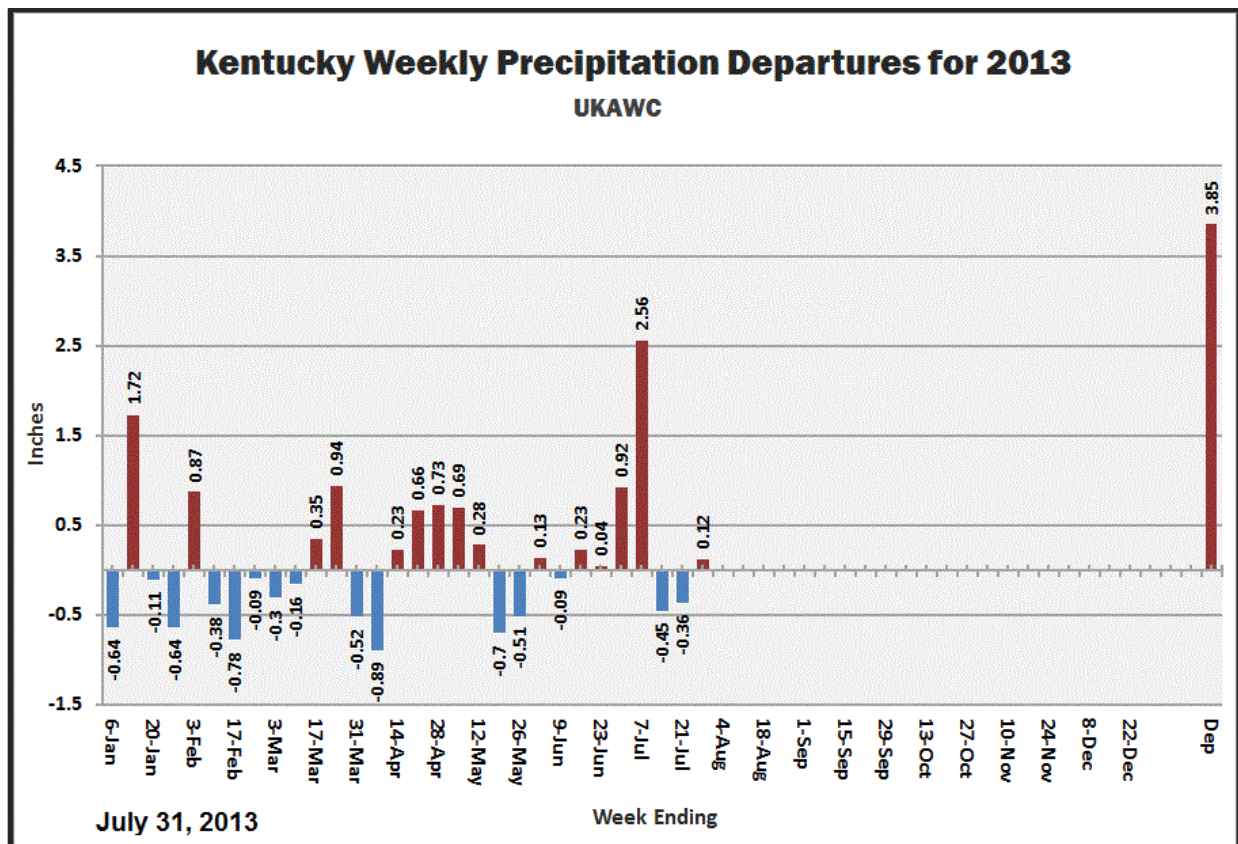


Figure 2

Summarized and averaged data for the period 20130701 to 20130731 (Last 31 Days)  
(Not for Legal purposes. Departure from Norms based on climate divisional Averages)

STATION	AIR TEMPERATURE				PRECIPITATION				ExtremeTemp		
	MAX	DEV	MIN	DEV	AVR	DEV	TOTAL	DEV	%NORM	HI	LO
WEST (CD1)	84	-5	66	-1	75	-3	4.65	0.41	110	96	48
CENTRAL (CD2)	83	-5	66	0	74	-3	7.30	2.92	167	95	49
BLUEGRASS (CD3)	82	-4	65	0	74	-2	6.62	2.36	155	95	51
EAST (CD4)	83	-4	65	2	74	-1	6.06	1.56	135	94	48
STATE	83	-4	66	1	74	-2	6.16	1.81	142	96	48

Data obtained from KY Mesonet and NWS Station

## Forecast

As the Commonwealth heads into the latter stages of the summer, one would think that this would bring hot and humid conditions. After an unusual cool period to end the month of July, this trend is expected to continue on into August. As the Bluegrass State remains in an unsettled weather pattern for the remainder of this week, conditions will continue to be slightly below normal for this time of the year. Normal highs for the month of August are in the mid to upper 80s. Most this week will see highs in the low to mid 80s. This pattern will make it feel more like the latter stages of September. Cool conditions are expected even out into the upcoming 2 weeks. Located to the right (Figure 3) is the 8 to 14 day outlook and shows a large dome of below normal temperatures over the Ohio Valley. This adds up with the 1 month outlook in which below normal temperatures are anticipated for the month of August.

In addition to cool temperatures, unsettled weather will keep the Commonwealth wet through this upcoming weekend. This comes as Kentucky is placed in a very moist and unstable air mass. Several upper level disturbances will interact with a frontal boundary to provide chances on nearly a daily basis through at least Sunday. Models today (8/8/2013) are indicating most areas still seeing at least an inch through Sunday. The outlooks then agree with above normal rainfall expected for the remainder of the month and out into the 3 month period of August, September, and October. Rainfall normals for the month of August are around 3.5 inches.

**3 Month Outlook (ASO)**  
**Above Normal Rainfall and Near**  
**Normal Temperatures**

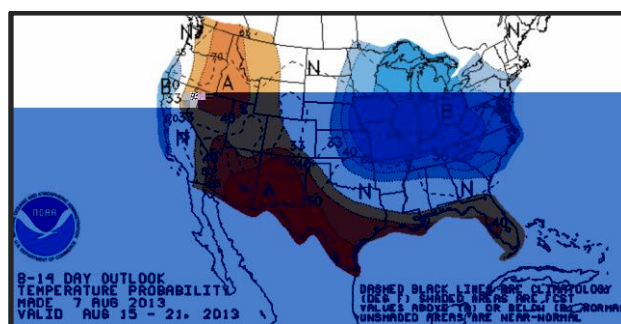


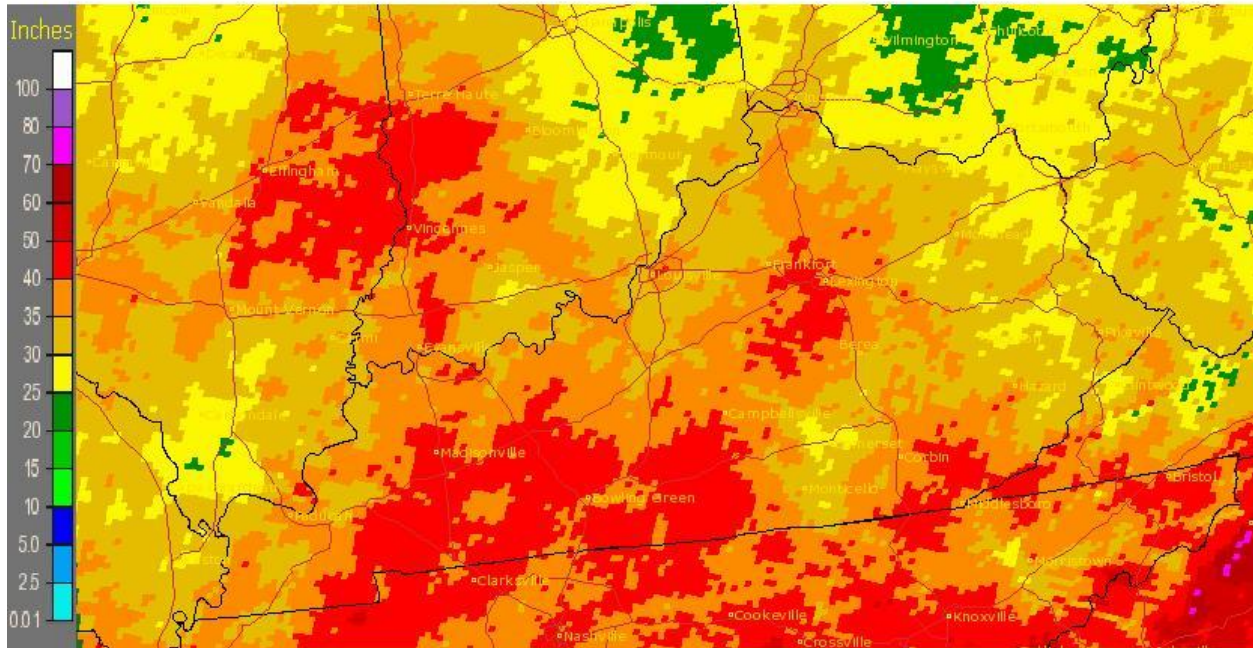
Figure 3

## Record Breaking Wet Year?

Recent history has many wondering, including us here at the Weather Center, whether we are in for an extremely wet year. June and July were both well above normal in the rainfall category with each month getting an average of over 6 inches. Through 2013, Kentucky is currently above normal, but the Bluegrass State is still not on pace with the top 10 wettest years on record. As of the end of July, the state has averaged 34 inches since the beginning of the year, which is at 125% of normal. Comparing this to past years, this is well behind, ranking 27<sup>th</sup> on wettest years on record going back to 1895.

The National Weather Service in Louisville made a graph earlier in the month to compare the precipitation accumulation in 2013 to normal and the wettest year on record (1997). One of the major outliers with 1997 was the major flood in late February and early March when a front remained stationary over the same location for days on end. Over the course of that event, nearly 8 to 12 inches fell across central regions of the Bluegrass State. Normally this is the case with the top 10 wettest years. While crops did get delayed earlier in the year due to wet conditions, the state has not seen a widespread event of this magnitude. Below is a map (Figure 4) showing the current observed rainfall across the state from January 1<sup>st</sup> through the end of July.

**Kentucky: Current Year to Date Observed Precipitation**  
 Valid at 7/30/2013 1200 UTC- Created 7/30/13 13:45 UTC



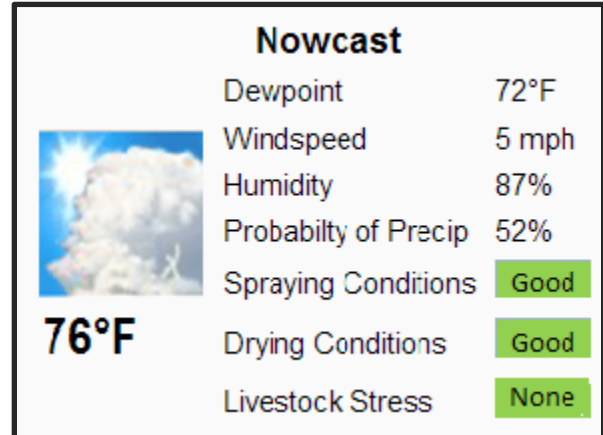
**Figure 4**

**Other News**

The Ag Weather Center has been working on developing a new Point Ag Forecast for the past couple months. We are currently still in the testing stages and would like to get some feedback on any improvements or comments on the new program. The program can be found at the following link:

<http://weather.uky.edu/ukawc2.php>

In the new Point Ag Forecast, a “Nowcast” (Figure 4) has been added to update on the expected weather conditions over the next few hours for your location. Also, a “7-day forecast” has been developed to summarize the next 7 days. In this table, the Ag Weather Center has included estimates for evapotranspiration and Growing Degree Days based on forecasted data. Graphics have also been added to show weather or agricultural based trends over time. All of the aspects of the old Point Ag Forecast will also be included in this version. We feel that this is a significant improvement over the older version, but as always, feedback is much appreciated. Please send any comments, concerns, or suggestions to one of the emails below:



**Figure 4**

Matt Dixon: [mdi227@uky.edu](mailto:mdi227@uky.edu) or Tom Priddy: [priddy@uky.edu](mailto:priddy@uky.edu)

The Community Collaborative Rain, Hail, and Snow Network (**CoCoRaHS**) is currently looking for more observers across the state of Kentucky. Observers are asked to record daily measurements of rain or snowfall accumulations. New to 2012, observers can now take readings of evapotranspiration. Kentucky observers provide a great volunteer service to the community, the county and the state by providing information on precipitation, snowfall, and snow depths. The information is used by government and university scientists, community officials, farmers, county emergency managers, watershed managers, drought monitors, and by your friends and neighbors. More information about this organization and how to join can be found here at:

<http://www.cocorahs.org/state.aspx?state=ky>

### **August Garden Safe Planting Dates**

	<b>Latest Safe Planting</b>			<b>Latest Safe Planting</b>	
	<b>Date</b>	<b>Area of</b>		<b>Date</b>	<b>Area</b>
<b>Beans (snap)</b>	August 1 <sup>st</sup>	Western	<b>Kohlrabi</b>	August 1 <sup>st</sup> August 15 <sup>th</sup>	Central Western
<b>Beets</b>	August 15 <sup>th</sup>	Western	<b>Lettuce (leaf)</b>	August 1 <sup>st</sup> August 15 <sup>th</sup>	Eastern Mt. Central
<b>Broccoli (plants)</b>	August 1 <sup>st</sup> August 15 <sup>th</sup>	Central Western	<b>Lettuce (bibb plants)</b>	August 1 <sup>st</sup> August 15 <sup>th</sup>	Central Western
<b>Brussels Sprouts (plants)</b>	August 1 <sup>st</sup>	Western	<b>Lettuce (head plants)</b>	August 1 <sup>st</sup>	Western
<b>Cabbage</b>	August 1 <sup>st</sup>	Western	<b>Okra</b>	August 1 <sup>st</sup>	Western
<b>Carrots</b>	August 1 <sup>st</sup>	Western	<b>Parsley</b>	August 1 <sup>st</sup> August 15 <sup>th</sup>	Central Western
<b>Cauliflower (plants)</b>	August 5 <sup>th</sup>	Western	<b>Snow Peas</b>	August 1 <sup>st</sup> August 8 <sup>th</sup>	Central Western
<b>Chard</b>	August 1 <sup>st</sup>	Western	<b>Spinach</b>	August 15 <sup>th</sup>	Eastern Mt.
<b>Collards</b>	August 1 <sup>st</sup> August 15 <sup>th</sup>	Central Western	<b>Summer Squash</b>	August 1 <sup>st</sup> August 15 <sup>th</sup>	Central Western
<b>Kale</b>	August 1 <sup>st</sup> August 15 <sup>th</sup>	Central Western	<b>Turnips</b>	August 1 <sup>st</sup> August 15 <sup>th</sup>	Central Western

### **August Vegetable Gardener's Calendar for Western KY**

<b>August 1<sup>st</sup></b>	<ul style="list-style-type: none"> <li>- Transplant fall cole crops to permanent location between now and August 15<sup>th</sup>.</li> <li>- Start seeds outdoors for PEAS, EDIBLE PODDED PEAS, BUSH BEANS, RADISHES, BEETS, and MUSTARD.</li> <li>- Divide old RHUBARB or plant crowns if not done in Spring.</li> </ul>
<b>August 15<sup>th</sup></b>	Start seeds outdoors for RADISHES, SPINACH, TURNIPS, TURNIP GREENS, BEETS, MUSTARD, LETTUCE, and ENDIVE.
<b>NOTE:</b> Subtract 10 days for Central KY and 15 for Eastern KY to these dates for fall crops	

### August Crop Operations

	First Week	Second Week	Third Week	Fourth Week
<b>Forages</b>	-----	-----	3 <sup>rd</sup> Cutting of Alfalfa 60% done	-----
<b>Soybeans</b>	50% has bloomed 15% have pod set Critical Pod-Filling Stage (cont.)	65% has bloomed 25% has pod set Critical Pod-Filling Stage (cont.)	70% has bloomed 30% has pod set Critical Pod-Filling Stage (cont.)	Critical Pod-Filling Stage (cont.)
<b>Tobacco</b>	All has bloomed 25% is topped	45% has been topped	50% has been topped and sprayed for sucker control Dark all has been topped	75% of Burley topped 15% has been cut
<b>Corn</b>	Critical Silking Stage (cont.)	Critical Silking Stage ENDS	75% has reached dough stage 33% dent	-----

### August Beef Operations

<b>Spring Calving Herd</b>	<ul style="list-style-type: none"> <li>• Breeding season ENDS.</li> <li>• Watch pastures. If pasture is running short, start supplemental feeding.</li> <li>• Repair and improve corrals for fall working and weaning.</li> </ul>
<b>Fall Calving Herd</b>	<ul style="list-style-type: none"> <li>• Prepare for calving.</li> <li>• Get calving area and equipment arranged (see details).</li> </ul>
<b>All Cattle</b>	<ul style="list-style-type: none"> <li>• Provide shade and water. Check water supply frequently – as much as 20 gallons may be required by high producing cows in very hot weather.</li> <li>• Don't give up on fly control. Methods may need to be combined (i.e. spraying of "tagged cattle") in late summer.</li> </ul>
<b>Forages</b>	<ul style="list-style-type: none"> <li>• Remove livestock and apply nitrogen to fescue pastures to be stockpiled.</li> <li>• Take soil samples to determine perennial pasture fertility needs.</li> <li>• Fertilize alfalfa and other hay/pasture fields as needed.</li> <li>• Plant perennial grasses at optimal rate, date, and depth.</li> <li>• Harvest corn silage.</li> <li>• Secure desired varieties for late summer seeding's.</li> </ul>