



**Weather
Observer**

November 5, 2013

BAE

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As this growing season comes to an end and the state heads into another winter, the UK Ag Weather Center would like to extend the opportunity for us to come and demonstrate what our group can do for your farm and maximize production. Through the past couple years; the center has added many new aspects, including a new Point Ag Forecast, Irrigation Manager, Growing Degree Day Estimator, and much more. All of these products are currently going into a brand NEW website. We would be happy to come to any extension office across the state and talk with the local growers. In this way, we can demonstrate the new products, in addition to getting the opinions of the farmers. Contact us anytime if you would like to setup a date.

Tom Priddy
Extension/Research Ag. Meteorologist
Director of the Ag Weather Center
priddy@uky.edu
(859) 257-3000 ext. 245

Matt Dixon
Meteorologist
mdi227@uky.edu
(859) 257-3000 ext. 244

October 2013 Monthly Summary

The final numbers for October show that the Commonwealth averaged near normal temperatures and precipitation, but looking more closely, this month was far from normal. Temperature-wise, the state saw both ends of the spectrum. High's pushed into the low to mid 80s at multiple junctures through the first week of the month, which helped push Kentucky to a week with average temperatures 7 degrees above normal. This was the highest above normal deviation seen since January. Temperatures then started to cool off for the second half of the month. Surface high pressure invaded the Commonwealth following the passage of a cold front on the 19th. Skies cleared and allowed for temperatures to drop into the mid 30s for many locations, resulting in the first frost of the fall season. This became an understatement heading into the next week where multiple cold fronts led to extremely cool conditions across the state. Surface high pressure of Arctic origin settled into the area on the 25th and 26th. This brought about a hard freeze with lows each morning dropping into the mid to upper 20s, essentially bringing an end to the

growing season. Temperatures for the week ended up averaging 10 degrees below normal across the state, which was the lowest below normal deviation since late in 2010.

Precipitation-wise, while the state ended the month around normal, there were a couple systems that brought significant widespread rainfall to the Bluegrass State. The first system came over the first weekend of the month. An area of low pressure pushed a strong cold front through the region. A very moist air mass in place allowed for impressive rainfall totals across the state. Over the weekend most of Kentucky saw over 2 inches. Louisville got the brunt of the system with 7.53 inches falling during the time frame, which helped push the city to its wettest October on record. This was then followed by 3 straight weeks of below normal rainfall before the month ended with a very wet and windy Halloween. Most locations saw anywhere from 0.5 to 1.5 inches of rainfall, but the bigger story was wind gusts. Figure 1 below was put together by the National Weather Service in Louisville and shows the extremely high wind gusts

felt across central and Bluegrass portions of the state.

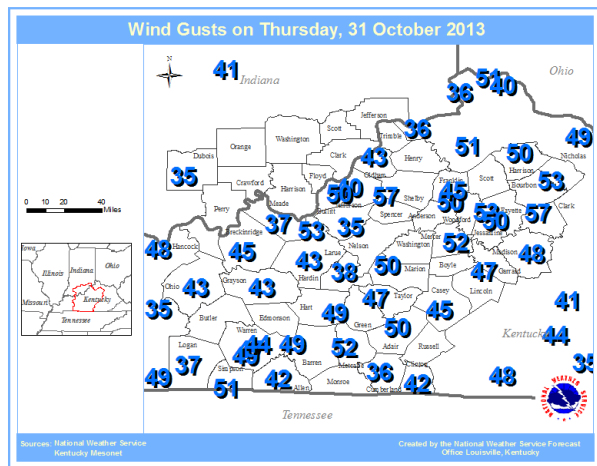


Figure 1

Winds speeds in excess of 50 mph were common across the area with numerous severe thunderstorm warnings issued and even some weak tornados. A damage survey performed by the National Weather Service in Paducah described bean fields as flattened with the passage of an EF1 tornado through Cunningham, Kentucky with estimated peak winds of 105 mph. Dr. Chad Lee of UK Plant and Soil Sciences also stated in a recent article that the high winds also led to some downed corn. He attributes this to a combination of slow dry down, shallow roots, and heavy ears.

Summarized and averaged data for the period 20131001 to 20131031 (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)	69	-3	49	2	59	0	3.84	0.33	109	87	23
CENTRAL (CD2)	68	-2	48	2	58	0	3.67	0.27	108	87	22
BLUEGRASS (CD3)	66	-3	47	1	57	0	4.41	1.32	143	86	23
EAST (CD4)	68	-2	49	6	58	1	2.27	-0.94	71	87	21
STATE	68	-2	48	2	58	0	3.55	0.25	107	87	21

Data obtained from KY Mesonet and NWS Stations

Forecast

The past 2 weeks, as of November 7th, have brought unsettled weather conditions to the Bluegrass State. It seems as though that will change this upcoming weekend as high pressure will slide across the region and keep the Commonwealth mostly dry. This trend will continue into early next work week, before another system takes aim at Kentucky. Accompanying the dry conditions will be cooler temperatures. Clearing skies Friday night will once again allow for a very cool overnight with many awaking Saturday morning to lows in mainly the upper 20s to mid-30s. Steady southwest flow will then gradually rise temperatures over the weekend, but remain below normal with highs each day in the mid 50s to low 60s. Normal high temperatures for the start of November hover in the low to mid 60s before tapering to around 50 by the end. Lows

follow the same trend with temperatures starting in the low to mid 40s and declining to the low to mid 30s by the end of the month.

3 Month Outlook (NDJ)
Above Normal Temperatures and Near Normal Precipitation

Looking a bit farther out, it looks that the state will enter into a more unsettled pattern going into the midsection of next work week. This is in agreement with the 6 to 10 day forecast for November 12th through the 16th; where above normal rainfall is expected. A strong cold front is expected to pass through the area and bring much cooler temperatures. It is still quite a ways out, but the possibility remains for a little snow on the backside of the system. More focus will be given to

the Arctic air mass diving in behind the front. High temperatures Tuesday and Wednesday are only expected in the upper 30s to mid-40s across the state with lows in the mid to upper 20s.

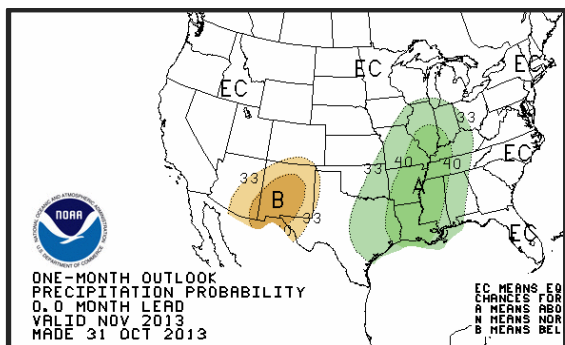


Figure 2

Livestock Cold Stress

As the state begins to approach the winter, it is important to remember about livestock across the area and their susceptibility to cool temperatures. We have already seen temperatures down in the low to mid 20s and we have yet to hit December. Just this past January, the state had a cold stress emergency in which an arctic air mass with very cold temperatures and breezy northerly winds put wind chill values into the single digits. It is important in these situations that livestock have access to dry bedding, shelter, and sufficient feed. Livestock cold stress is an index based on air temperatures and wind chill conditions for a corresponding time of the day. In analyzing the livestock cold stress index, it revolves around one central figure, which is the Lower Critical Temperature (LCT). This value indicates the lowest threshold of temperature or wind chill at which cattle can maintain core body temperature without any additional energy. Once temperatures drop below the LCT, cattle will increase their metabolism to escalate heat production. A combination of cold temperatures, high winds, and other factors can result in dangerous conditions, and at times, emergencies for cattle across the state.

Knowing when these conditions may occur in a timely manner is important to livestock producers across the country. In accordance with this, the UK Ag Weather Center has incorporated the Livestock cold stress index into the [Point Ag Forecast](#). This will give a forecast and notify a farmer when the possibility arises that cold stress will enter into the

This unsettled trend is then expected to hold true for the remainder of November (Figure 2). Precipitation is normally around 3.5 to 4 inches over the course of the month with most of it being rainfall and only minimal accumulations of snow. Looking much farther out, the 3 month outlook for November, December, and January suggest above normal temperatures with near normal precipitation.

danger or emergency categories. As of right now (11/8), it can be seen in some portions of the state that the index will drop into the danger category for a short period next Wednesday morning with temperatures in the 20s accompanied by a breezy northerly wind.



Photo Courtesy of UK Equine Initiative

Knowing this information can be especially helpful to farm management and not knowing can lead to harmful and damaging effects. One such example occurred this past month in the early stages of October as a blizzard blanketed parts of South Dakota. Results indicate in upwards of 15,000 heads of livestock perished in the storm. Rainfall drenched cattle before temperatures dropped and spread up to 3 feet of snow across the Black Hills. An image (Figure 3) by NASA below shows the expansive coverage of the event over the western half of the state.

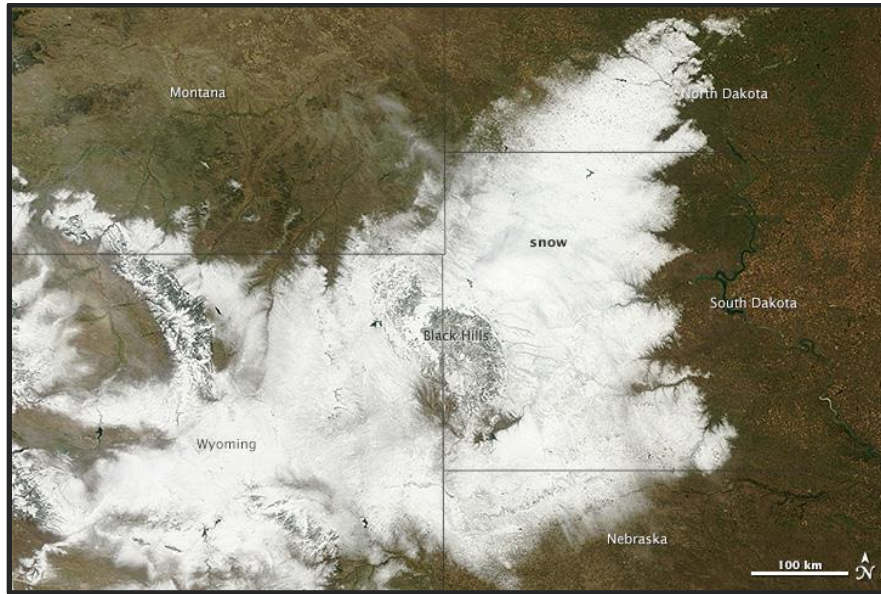


Figure 3

Other News

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>

November Crop Operations

	First Week	Second Week	Third Week	Fourth Week
Small Grains	70% of wheat sowed	-----	-----	-----
Soybeans	65% harvested	-----	85% harvested	-----
Tobacco	20% of crop stripped	-----	40% of crop stripped	-----
Corn	80% of crop harvested	-----	93% of crop harvested	-----
General Farm Operations	-----	-----	Burley Tobacco market OPENS	-----

November Vegetable Gardener’s Calendar for Western KY

November 1st	- Dig PARSNIPS and store at 32-44 degrees F, or mulch PARSNIPS heavily in the ground.
NOTE: Subtract 10 days for Central KY and 15 for Eastern KY to these dates for fall crops	

November Beef Operations

Spring Calving Herd	<ul style="list-style-type: none"> • Plan your winter feeding program.
Fall Calving Herd	<ul style="list-style-type: none"> • Breeding season BEGINS. • Start breeding cows by November 20 for fall calving to begin in September
All Cattle	-----
Forages	<ul style="list-style-type: none"> • Begin utilizing stockpiled tall fescue. • After November 1 or a killing frost, fall alfalfa can be grazed or mowed • Utilize crop residues as needed or available • Graze alfalfa after November 1 or freeze down (24 degrees for a few hours). • Continue inventory of hay supplies and needs. • Continue testing hay for nutrient content.