



**Weather
Observer**

May 15, 2014

BAE

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Based on multiple considerations and suggestions, the Ag Weather Observer will be transitioning to a quarterly article starting July 2014.

April 2014 Monthly Summary

April is usually seen as a month of transition with a mix of warm and cool temperatures, along with an upswing in precipitation. It was no different this year and it had a direct impact on agriculture. After going six straight months of near to below normal temperatures, the Commonwealth finally got some relief throughout April. Over the course of the month, high temperatures got into the low to mid 80s at some point each week. These highs are normally not seen until the end of May and into early June. Over the course of April, the Bluegrass State was on average two degrees above normal. While this may seem insignificant, the data has to be drawn back to June of 2013 to find another monthly average temperature that was two degrees above normal.

After a relatively cool March, soil temperatures increased into the upper-50s to mid-60s as the planting season took off in full swing. Fruit trees went into full bloom and winter wheat slowly progressed. As this was occurring, the Bluegrass State did hit a snag over the month's mid-section. A strong cold front pushed through the area with breezy northwest flow pushing temperatures down into the mid to upper 20s at times (Figure 1). Some low lying and sheltered locations even got into the low 20s. This hard freeze devastated much of the fruit crop. The USDA's Kentucky Weekly Crop and Weather Report reported 58% and 61% freeze damage to the apple and peach crops, respectively.

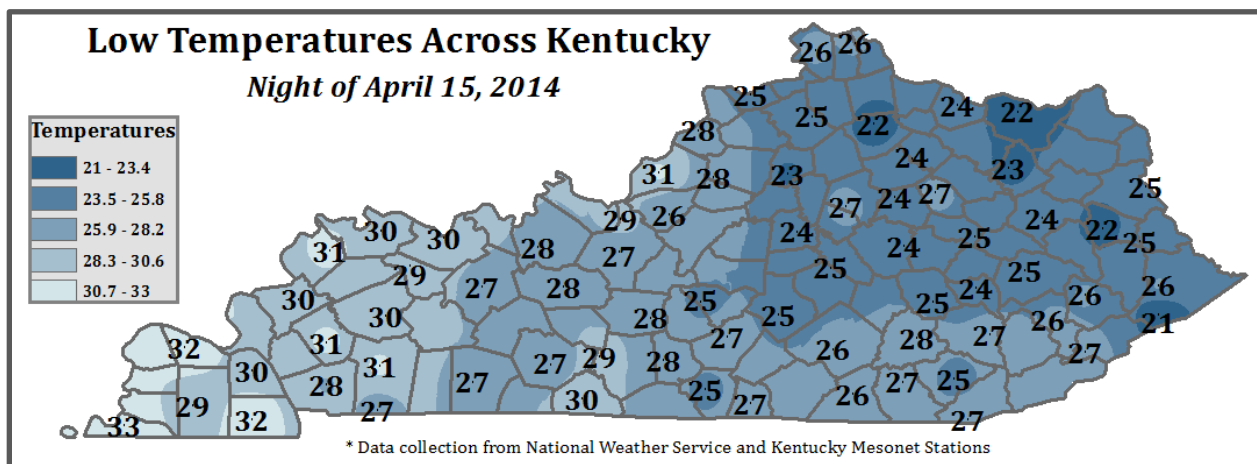


Figure 1

Accompanying the cooler temperatures was even a late season snow event. One inch was recorded at the National Weather Service in Jackson. According to the office, this resulted in the longest snow season on record with a total of 174 days. Figure 2 below is credited to the National Weather Service in Louisville. Taken on the 15th, the picture provides a good example of the overlap in the winter and spring seasons.



Figure 2

It was also an extremely wet month across the Commonwealth. Most of the precipitation fell over the opening and close of April. The first round saw a state average of 2.19 inches as a series of disturbances pummeled the state. Some portions of Western and North Central Kentucky even saw in excess of 4 to 6 inches. This delayed planting progress, but the following 2 weeks allowed a chance to dry out, with 32% of corn in the ground by April 27th. Just as planting started ramping up, Mother Nature

had other plans. A second round of soaking rainfall struck over the period of April 28th through the 30th. This came as an upper level low pressure system slowly swung northeast across the Ohio Valley. This system produced a state average of 2.62 inches, which was the most over a one week period since early December 2011. Overall, the state of Kentucky saw an average of 6.60 inches of rainfall over the course of the month. Saying this, much of Western Kentucky was actually well above this average with in excess of 10 inches in some spots. This is displayed in Figure 3 below. The month ended up being the 9th wettest April on record going back to 1895.

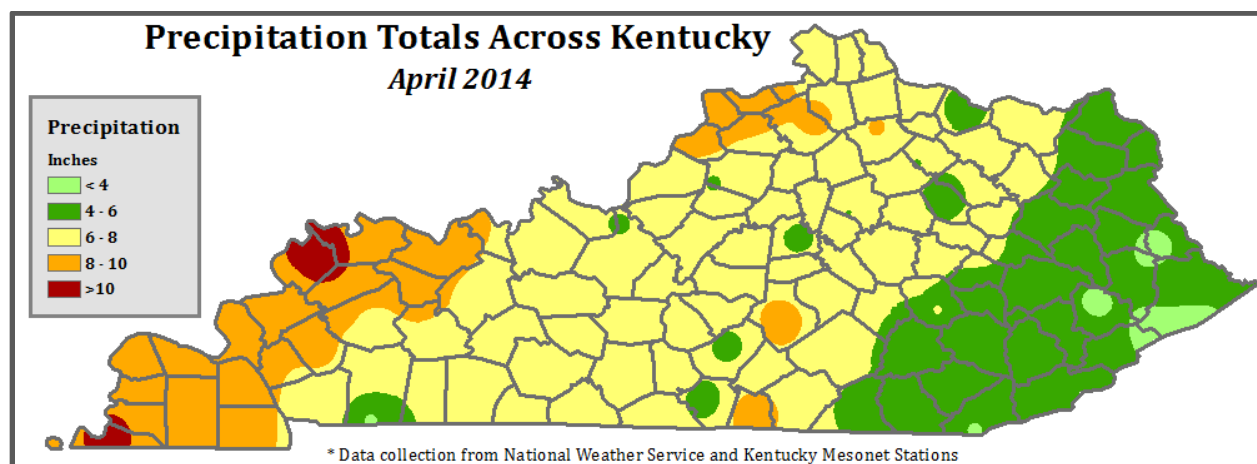


Figure 3

Summarized and averaged data for the period 20140401 to 20140430 (Last 30 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)	70	1	48	2	59	1	7.65	2.73	155	84	27
CENTRAL (CD2)	70	2	48	4	59	3	6.93	2.50	156	85	25
BLUEGRASS (CD3)	68	2	47	5	57	3	6.80	2.84	172	85	22
EAST (CD4)	71	3	47	7	59	5	5.02	0.97	124	87	21
STATE	70	2	48	5	58	2	6.60	2.26	152	87	21

Data obtained from KY Mesonet and NWS Station

Two Week Forecast (As of 5-16)

As shown above, the Commonwealth saw the 9th wettest April on record. After another recent wet period, planting progress has come to another halt with unsettled conditions in place. Scattered showers and isolated storms will remain in the forecast through Saturday as some disturbances rotate around an upper level low. The tide then looks to take a turn going into next work week. High pressure will move in at the surface and aloft, making for a lengthy period of dry conditions ahead. May is typically the wettest month of the year for the Bluegrass State with a little more than 5 inches on average.

Temperatures will remain below normal through Sunday with much of the state only getting into the 60s for highs. As cloud cover tapers tonight (5/16), the possibility will arise for a patchy frost event across primarily the eastern half of Kentucky. Based on the lowest forecast reading's dropping into the mid 30s, the primary concern will be with any warm season horticulture that has already been transplanted into the ground. In the Bluegrass Region, the lowest temperatures will be confined to mostly low lying and sheltered locations. After this time, frost does not look to be an issue. Much of the Bluegrass State now only has less than a 10% chance of seeing another round of frosty temperatures. A warming trend will ensue next week with summer-like temperatures making a return by Wednesday. Average temperatures for the last half of May are generally in the upper 70s to low 80s.

Three Month Outlook (JJA) Near Normal Precipitation and Temperatures

Looking farther out, the outlooks for the month of June and the 3 month period of June through August has been released by the Climate Prediction Center. For the month of June, above normal precipitation is

expected across Kentucky, along with below normal temperatures in the Bluegrass Region. The summer outlook then hints at near normal temperatures and precipitation.

El Nino Watch

When looking at seasonal forecasts, one of the main tools to use is that of the El Nino/La Nina climate pattern or the El Nino-Southern Oscillation (ENSO). This refers to a oscillation out in the equatorial Pacific Ocean that can have a direct impact on oceanic and atmospheric circulations. ENSO can be classified into 3 different phases: El Nino (warm phase), La Nina (cool phase), or the neutral phase. Effects are most prominent during the winter season. While many don't want to think about it right now and we are still a ways out from winter 2014-15, this oscillation is dropping some subtle hints.

In regards to analyzing the phase of the Southern Oscillation, sea surface temperatures have to be taken into account in the equatorial Pacific. Above normal temperatures suggest an El Nino pattern. The ENSO oscillation has been put into an El Nino Watch by the Climate Prediction Center. During this phase, there is a dip in the jet stream in the Eastern Pacific Ocean. This can be seen in Figure 4 below. This keeps the state of Kentucky fairly dry. There is also a reduction in northerly flow from Canada, which keeps the Commonwealth warmer than normal over the course of the winter. While the winter is still a long ways out, this oscillation is suggesting a much less impactful winter compared to 2013-14.

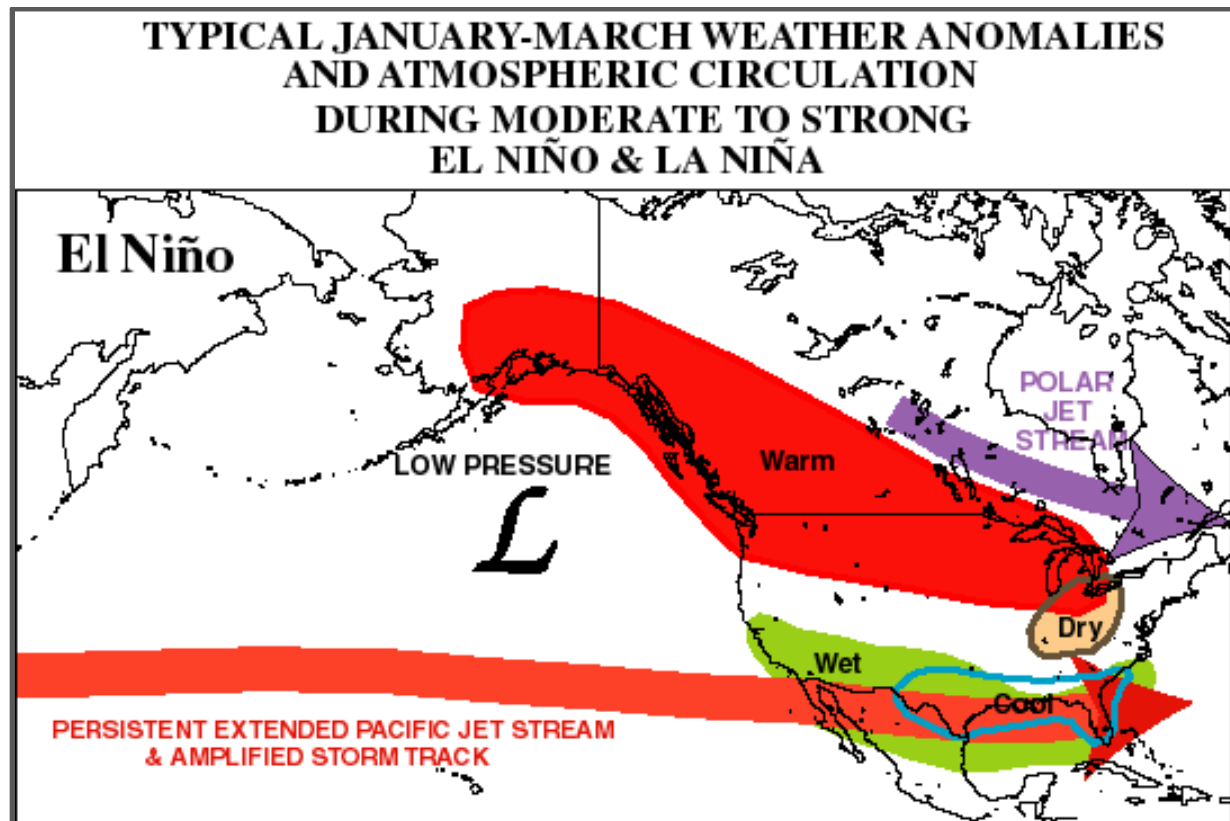


Figure 4



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May Safe Planting Dates (from Home Vegetable Gardening in Kentucky)					
	Earliest Safe Planting Date			Earliest Safe Planting Date	
	Date	Location		Date	Location
Beans (snap)	May 1 st	Eastern Mt.	Sweet Potatoes	May 1 st May 10 th May 20 th	Western Central Eastern Mt.
Beans (lima)	May 1 st May 10 th	Central Eastern Mt.	Pumpkins	May 5 th May 10 th	Central Eastern Mt.
Sweet Corn	May 1 st	Eastern Mt.	Southern Peas	May 5 th May 10 th	Central Eastern Mt.
Cucumbers	May 1 st May 10 th	Central Eastern Mt.	Summer Squash	May 10 th May 15 th	Central Eastern Mt.
Eggplant (plants)	May 1 st May 10 th May 15 th	Western Central Eastern Mt.	Tomatoes (plants)	May 5 th May 15 th	Central Eastern Mt.
Muskmelons	May 10 th May 15 th	Central Eastern Mt.	Watermelons	May 5 th May 15 th	Central Eastern Mt.
Peppers (plants)	May 1 st May 10 th May 20 th	Western Central Eastern Mt.	Winter Squash	May 10 th May 15 th	Central Eastern Mt.

May Vegetable Gardner's Calendar for Western Kentucky (from Home Vegetable Gardening in Kentucky)	
May 1st	- Start seeds outdoors for SWEET CORN, MUSTARD, RADISHES, and LETTUCE
May 7th	- Start seeds outdoors for GREEN BEANS AND LIMA BEANS - Move transplants to garden for TOMATOES, MUSKMELONS, WATERMELONS, AND SQUASH
NOTE: Add 10 days for Central KY and 15 for Eastern KY to these dates for spring	

May Crop Operations (Based on 10 years of Kentucky Crop Reports)				
	First Week	Second Week	Third Week	Fourth Week
Small Grains	Army Worm Development BEGINS	Wheat 30% Headed Army Worm Development (cont.)	Army Worm Development (cont.)	Army Worm Development (cont.)
Soybeans	Planting Begins	5% is now planted	15% is now planted	----
Tobacco	----	----	10% of crop is set	20% of crop is set
Corn	----	50% is now planted	65% is now planted	75% is now planted European Corn Borer becomes ACTIVE

May Beef Operations (from the Beef Integrated Resource Management Calendar)	
Spring Calving Herd	<ul style="list-style-type: none"> ● Breeding season BEGINS. ● Continue supplying supplemental magnesium until daytime temperatures are consistently above 60 degrees.
Fall Calving Herd	<ul style="list-style-type: none"> ● Weaning period
All Cattle	<ul style="list-style-type: none"> ● Don't start fly control until fly population builds up
Forages	<ul style="list-style-type: none"> ● Start hay harvests for quality forage. ● Seed warm season annuals for supplemental forage as needed. ● Seed warm season perennial grasses. ● Clip seed heads to prevent formation on fescue and to control weeds as needed. Consider herbicide options. ● Rotate pastures as needed.