



**Weather
Observer**

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March 2013 Monthly Summary

The phrase "What a difference a year makes", took a whole new meaning after this past March. Following the warmest March on record in 2012, this past month brought much cooler conditions. The state averaged a chilly 40 degrees, which was 6 degrees below normal. This is an understatement when looking at last year when temperatures were on average, 11 degrees above normal. Overall, the cool temperatures this year placed Kentucky within the top 15 coldest March's on record going back to 1895.

Spring officially started on March 20th, but Mother Nature seemed to miss the memo. Temperatures were 9 degrees below normal for the last 2 weeks of the month, where temperatures averaged around 40 degrees. Throughout the period, multiple cold fronts pummeled the Bluegrass State with reinforcing shots of cooler air. There were times when Kentucky was situated in extended periods of cloudiness and cool conditions. These came as the state was situated in northwesterly flow, from an upper level low to the northeast. The NWS in Louisville has stated that only 6 to 7 days throughout the month, were above normal temperatures actually seen. Frankfort even saw a record low of 14 on March 22nd.

In addition to cooler temperatures, multiple rounds of low pressure also brought multiple rounds of precipitation. After a dry February, March of 2013 was wet with a little less than 5 inches falling across the Commonwealth. This was just over a quarter inch above normal. Most of the precipitation was generated through multiple low pressure systems and associated frontal boundaries moving through the area. The most significant came the third week of March, where the Commonwealth saw an average of just less than 2 inches of precipitation. Lexington set two single day precipitation records during this week. The first came on the 18th with 1.71 inches and the second on the 24th of 1.13 inches. While it was March, cool temperatures did help to generate multiple rounds of snowfall. Multiple pulses of energy wrapping around the backside of a low pressure system brought on and off chances of snowfall in the early part of March. A stronger area of low pressure then placed anywhere from a trace to 3 inches the following week. The Jackson NWS ended the month with 10.7 inches, making for the third snowiest March on record. Figure 1 below was generated by the National Weather Service in Jackson, KY and displays the incredible differences between March of 2012 and that of 2013.

Summarized and averaged data for the period 20130301 to 20130331 (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)	50	-10	34	-3	42	-6	4.39	-0.35	93	78	17
CENTRAL (CD2)	49	-9	33	-3	41	-6	5.46	0.77	116	75	17
BLUEGRASS (CD3)	47	-9	31	-3	39	-6	4.72	0.70	117	72	13
EAST (CD4)	48	-11	31	-2	40	-6	4.70	0.35	108	78	12
STATE	48	-10	32	-3	40	-6	4.82	0.37	108	78	12

Data obtained from KY Mesonet and NWS Station

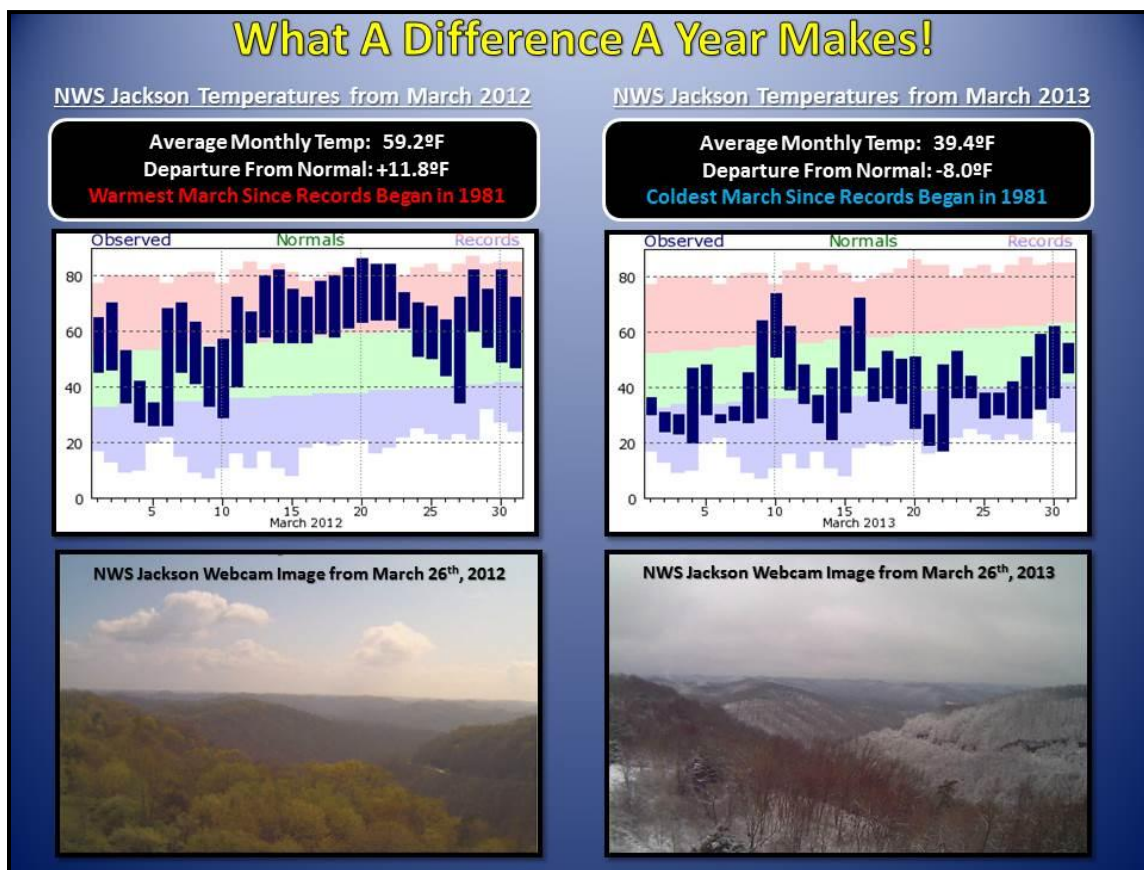


Figure 1

Forecast

All indications are that spring will finally make its appearance this weekend. As high pressure moves to the east and low pressure becomes more organized to the west, the Bluegrass State will be placed in strong southerly flow over the weekend. Wind speeds between 10 to 20 mph with gusts over 25 will be common on Saturday. Temperatures will warm well into the upper 60s to low 70s, with conditions staying that way through nearly the whole upcoming work week. It isn't out of the realm of possibility that the Bluegrass State is pushing 80 in some spots by next Tuesday. While it will be warm, it is also expected that most of the Commonwealth will remain dry through the weekend. A cold front will be descending through the Ohio Valley on Sunday, but is anticipated to stall to the north of the state, resulting in only scattered chances farther north. The next widespread event isn't expected until mid work

week as a strong upper level trough moves through the area.

3 Month Outlook (AMJ)
Above Normal Rainfall and Temperatures

As far as medium and long range outlooks are concerned, all signs are pointing at warm temperatures. The 6 to 10 day outlook (April 10th – 14th) is calling for above normal temperatures with above normal rainfall. While the 1 month remains above normal in temperatures, it shifts to only seeing near normal precipitation through the month of April. The 3 month outlook (April through June) displays above normal temperatures and rainfall. Putting all of this in perspective, normal high temperatures for early April are in the low to mid 60s, with lows only dropping into the low to mid 40s. Precipitation normal's for the month range between 3 to 4 inches across the state.

Why was March so Cold?

The new spring season officially started at 7:02 on March 20th, but more than anything, it felt like the middle of January. This past month was extremely cool with a state average temperature of 6 degrees below normal. Normal highs across the state for the second half of the month are suppose to be in the upper 50s to low 60s. So what had caused this cool pattern? Although we can look at local weather conditions for an answer, looking at a larger spatial scale is also required.

Over the past month, the eastern portion of the country has been locked into the negative phase of the Arctic (AO) and North Atlantic (NAO) Oscillations. Similar to El Nino/La Nina, these oscillations also play a large role influencing the weather patterns across the globe. The North Atlantic Oscillation is dependent upon pressure patterns in you guessed it, the North Atlantic. These patterns play a large role in winter weather across the Eastern United States. Throughout March, the NAO was in a negative phase, which means a “blocking pattern” had setup in which a ridge of high pressure acts to keep an enhanced trough of low pressure over the Eastern United States. This results in much cooler temperatures, as the

Bluegrass State was more susceptible to Canadian or even Arctic outbreaks.

The Arctic Oscillation, on the other hand, is located in the Northern Polar Regions. This oscillation is affected by the large scale difference in temperatures between this region and the equator. This difference has an effect on large scale wind patterns. The oscillation was in a negative mode for nearly the entire month of March. This resulted in a weakening of the polar low pressure system, which allows for much weaker winds aloft and cooler air invading the Commonwealth. Much colder air and more Arctic outbreaks were common during this period across the Eastern United States.

As stated earlier, both of the above oscillations were in a negative mode for the entire month of March, providing very cool conditions across the Eastern United States, including the Commonwealth. As shown in Figure 2 below, in comparison to the 0 line, both oscillations were in the negative mode through March, but according to the red forecasts, both are anticipated to be in the positive mode through mid April, implying warmer conditions. A more in-depth perspective of oscillations across the globe can be found [here](#).

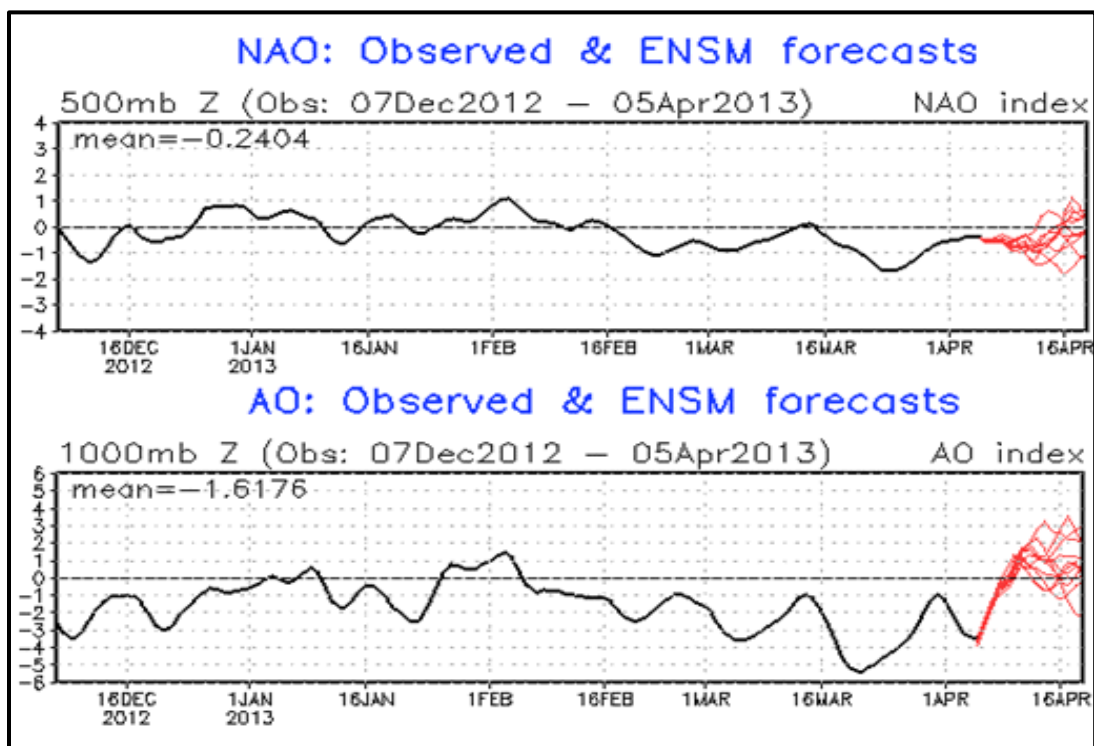


Figure 2

Other News

New to the UK Ag Weather Center this month is an updated version of Rainfall @ Your Farm. In case you have never used this tool, it is primarily utilized in obtaining information for your farm's precipitation patterns. The new version allows the user to select the time period that is in question, ranging from the past 1 month to an entire year or even archived data back to 2005. The output will be the amount of precipitation found on a daily basis for any particular location. In addition, the program will sum the rainfall for each respective week and then break down the data into charts and graphs to obtain a better analysis of the rainfall data for YOUR farm. In obtaining data for your farm, use the Google map found on the Rainfall @ Your Farm homepage, switch to satellite view, and simply zoom in to your farm. All of the data that is ingested into the Weather Center's system comes from the National Weather Service and their respective radar rainfall estimates across the nation. The link for Rainfall @ Your Farm can be found here:

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

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>

April Garden Safe Planting Dates

	<u>Earliest Safe Planting</u>		<u>Latest Safe Planting</u>	
	<u>Date</u>	<u>Area of KY</u>	<u>Date</u>	<u>Area of KY</u>
Asparagus (crowns)	-----	-----	Spring Only	All
Beans (snap)	April 10 th April 25 th	Western Central	-----	-----
Beans (lima)	April 15 th	Western	-----	-----
Broccoli (plants)	April 5 th April 10 th	Central Eastern Mt.	-----	-----
Brussell Sprouts (plants)	April 5 th April 10 th	Central Eastern Mt.	-----	-----
Cabbage	April 1 st	Eastern Mt.	-----	-----
Carrots	April 1 st	Eastern Mt.	-----	-----
Cauliflower (plants)	April 5 th April 10 th	Central Eastern Mt.	-----	-----

Celery	April 1 st April 5 th April 10 th	Western Central Eastern Mt.	----	----
Chard	April 1 st	Eastern Mt.	----	----
Sweet Corn	April 10 th April 20 th	Western Central	----	----
Cucumbers	April 20 th	Western	----	----
Kale	April 1 st	Eastern Mt.	----	----
Lettuce (leaf)	April 1 st	Eastern Mt.	----	----
Lettuce (bibb plants)	April 1 st	Eastern Mt.	----	----
Lettuce (head plants)	April 1 st	Eastern Mt.	----	----
Muskmelons	April 20 th	Western	----	----
Okra	April 20 th	Western	----	----
Onions (sets)	----	----	Spring Only	All
Onions (plants)	April 1 st	Eastern Mt.	----	----
Onions (seed)	April 1 st	Eastern Mt.	----	----
Parsley	April 1 st	Eastern Mt.	----	----
Parsnips	April 1 st	Eastern Mt.	----	----
Pumpkins	April 20 th	Western	----	----
Southern Peas	April 20 th	Western	----	----
Summer Squash	April 20 th	Western	----	----
Tomatoes (plants)	April 20 th	Western	----	----
Watermelons	April 20 th	Western	----	----
Winter Squash	April 20 th	Western	----	----

April Vegetable Gardener's Calendar for Western KY

April 1st	- Move transplants to garden for BROCCOLI, CAULIFLOWER, COLLARDS, LETTUCE, CHINESE CABBAGE, SWISS CHARD, and ONIONS FROM SEEDS. - Start seeds outdoors for SPINACH, MUSTARD, RADISHES, LETTUCE, and SWISS CHARD
April 5th	- Start seeds indoors for MUSKMELONS, WATERMELONS, and SQUASH - Start seeds outdoors for SWEET CORN, BEETS, CARROTS, MUSTARD, SPINACH, RADISHES, and LETTUCE.
NOTE: Add 10 days for Central KY and 15 for Eastern KY to these dates for spring and summer crops.	

April Crop Operations

	First Week	Second Week	Third Week	Fourth Week
Small Grains	Wheat about 5" tall	-----	-----	50% of Barley heading
Soybeans	-----	-----	-----	-----
Tobacco	75% of beds seeded 20% of bed plants emerged	-----	All beds seeded 50% of bed plants emerging	90% of plants emerged
Corn	-----	Planting BEGINS 5% done	16% of crop planted	25% of crop planted
General Farm Operations	-----	-----	Plowing for all crops 60% complete	-----

April Beef Operations

Spring Calving Herd	<ul style="list-style-type: none"> • Continue providing magnesium in the mineral mix until daytime temperatures are consistently above 60 degrees.
Fall Calving Herd	<ul style="list-style-type: none"> • Pre-weaning period
All Cattle	<ul style="list-style-type: none"> • Continue supplemental feeding as needed.
Forages	<ul style="list-style-type: none"> • Complete seeding of alfalfa • Determine need for supplemental forages such as millet or sudangrass. • Prepare for start of hay harvest • Prepare fencing and water for grazing season and BEGIN grazing early pastures • Plant corn for silage and warm season grasses if weather permits • Assess opportunity for weed control using recommended herbicides (always read and follow label recommendations).