



CoCoRaHS **OBSERVER**

Tell us how much rain and snow *you* got!



The Status of 2012 Thus Far

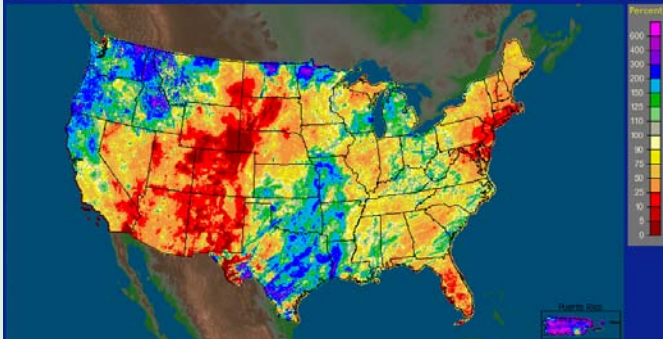
After a near normal start for precipitation in January, our 2012 has been drier than normal. Although we saw a respectable number of storm systems pass by the region in February and March, the moisture they had to work with was somewhat limited (with the exception of a couple of March systems). In addition, stronger than normal ridging began to set up intermittently from mid March through July. This caused the storm track to stray away from Kentucky, with extended periods of warm, dry weather. Below are images depicting the percentage of normal precipitation from February through July. The warmer colors indicate drier than normal conditions. Cooler colors indicate wetter than normal conditions. Other than a few isolated near-normal locations in March, and then some relief across northern Kentucky in May, we have seen an extended period of below normal precipitation that has now lasted for several months.

There are several factors that can influence storm tracks and available moisture for heavier rain events. In the large scale, the ENSO signal, or La Nina vs El-Nino can partially have an effect on Kentucky's weather over a more extended time period. However, other signals such as the Atlantic Oscillation and the Pacific Decadal Oscillation also play roles in the large scale circulation. Recall last year, precipitation totals were running well above normal in the spring (see page 2). Last year we also were experiencing a moderate to strong La Nina. This type of large scale abnormality can have a signal that has effects on precipitation in this part of the country. Comparatively, this year we started with a weak La Nina, and have recently transitioned to ...*(continued on page 2)*...

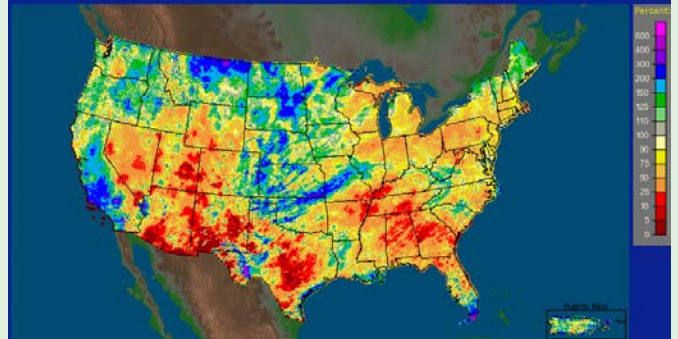
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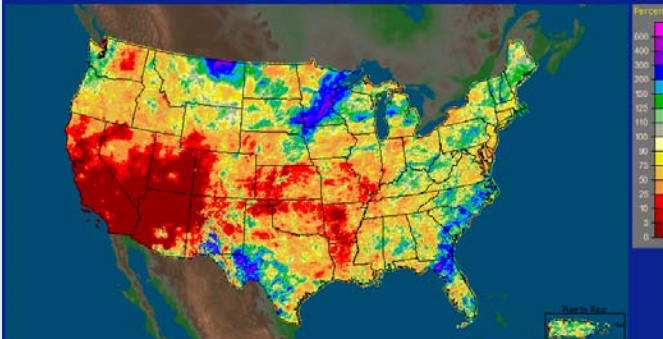
CONUS - Puerto Rico: March, 2012 Monthly Percent of Normal Precipitation
Valid at 4/1/2012 1200 UTC - Created 4/9/12 22:47 UTC



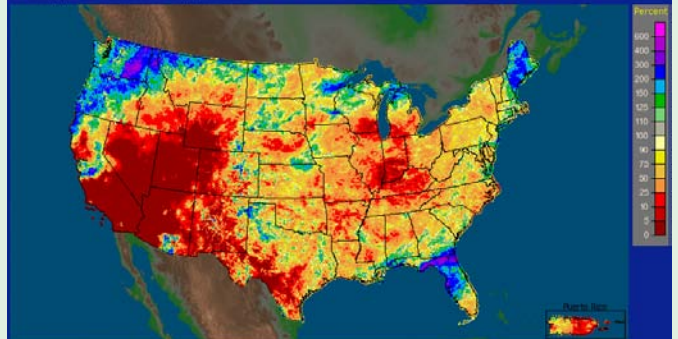
CONUS - Puerto Rico: April, 2012 Monthly Percent of Normal Precipitation
Valid at 5/1/2012 1200 UTC - Created 5/3/12 21:32 UTC



CONUS - Puerto Rico: May, 2012 Monthly Percent of Normal Precipitation
Valid at 6/1/2012 1200 UTC - Created 6/3/12 21:33 UTC



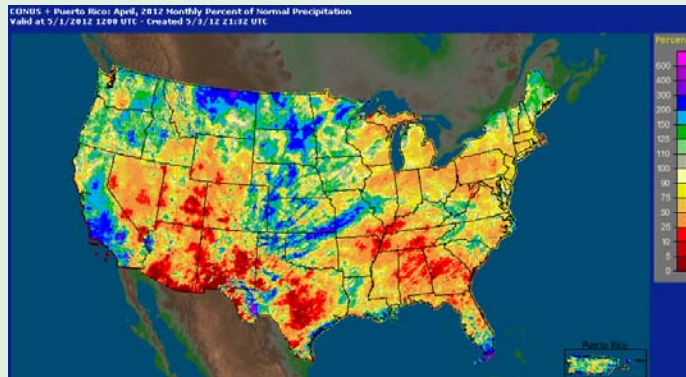
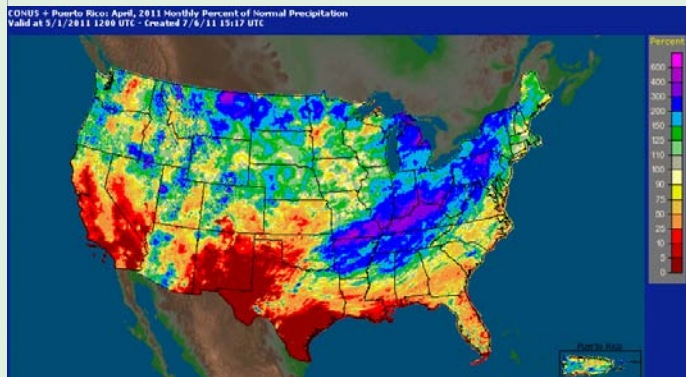
CONUS - Puerto Rico: June, 2012 Monthly Percent of Normal Precipitation
Valid at 7/1/2012 1200 UTC - Created 7/3/12 21:32 UTC



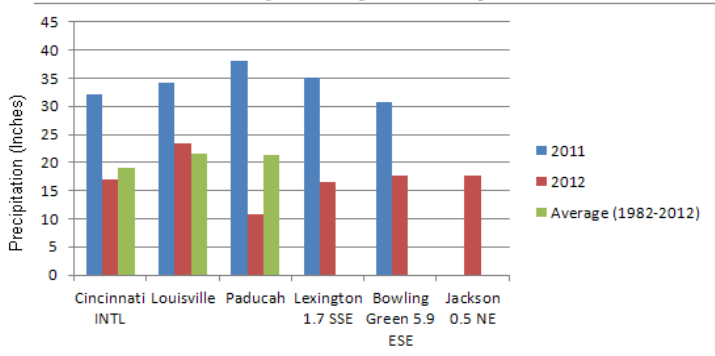


The Status of 2012 Thus Far (Continued from page 1)

Neutral, or possibly even a very weak El Nino. This type of setup usually has a very weak signal for our area. Therefore, it is likely due to other sources of variability that have contributed to the cause of the drier than normal period we are experiencing. Below are images comparing last April to this April's precipitation departure from normal. This is the most extreme example to contrast last spring's to this spring's variability. Also below are several observation stations' (including CoCoRaHS) comparisons of precipitation through May 31st, versus last year through May 31st, with select stations' 30 year data comparisons.



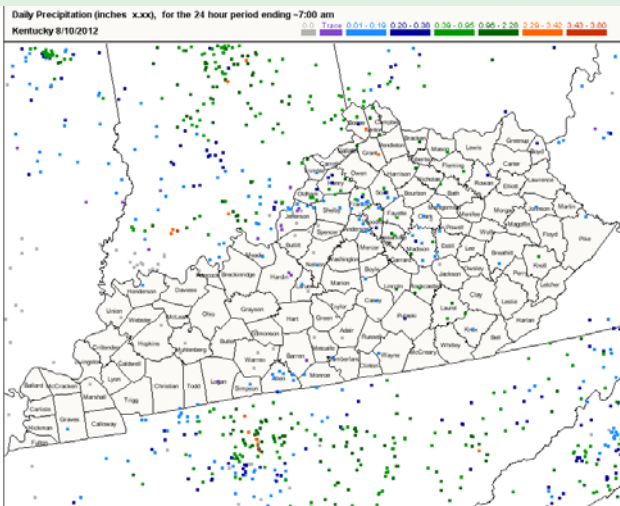
January 1 - May 31 Precipitation



April 2011 % of normal precipitation (top-left), April 2012 % of normal precipitation (top-right), and station comparisons (left).

A very apparent difference between 2011 and 2012 can be seen at several stations across Kentucky (left). Some of these locations saw double in 2011 compared May of this year. These stations include both long term climate locations as well as those from CoCoRaHS observers.

Every Report Is Important - Including Zeros!

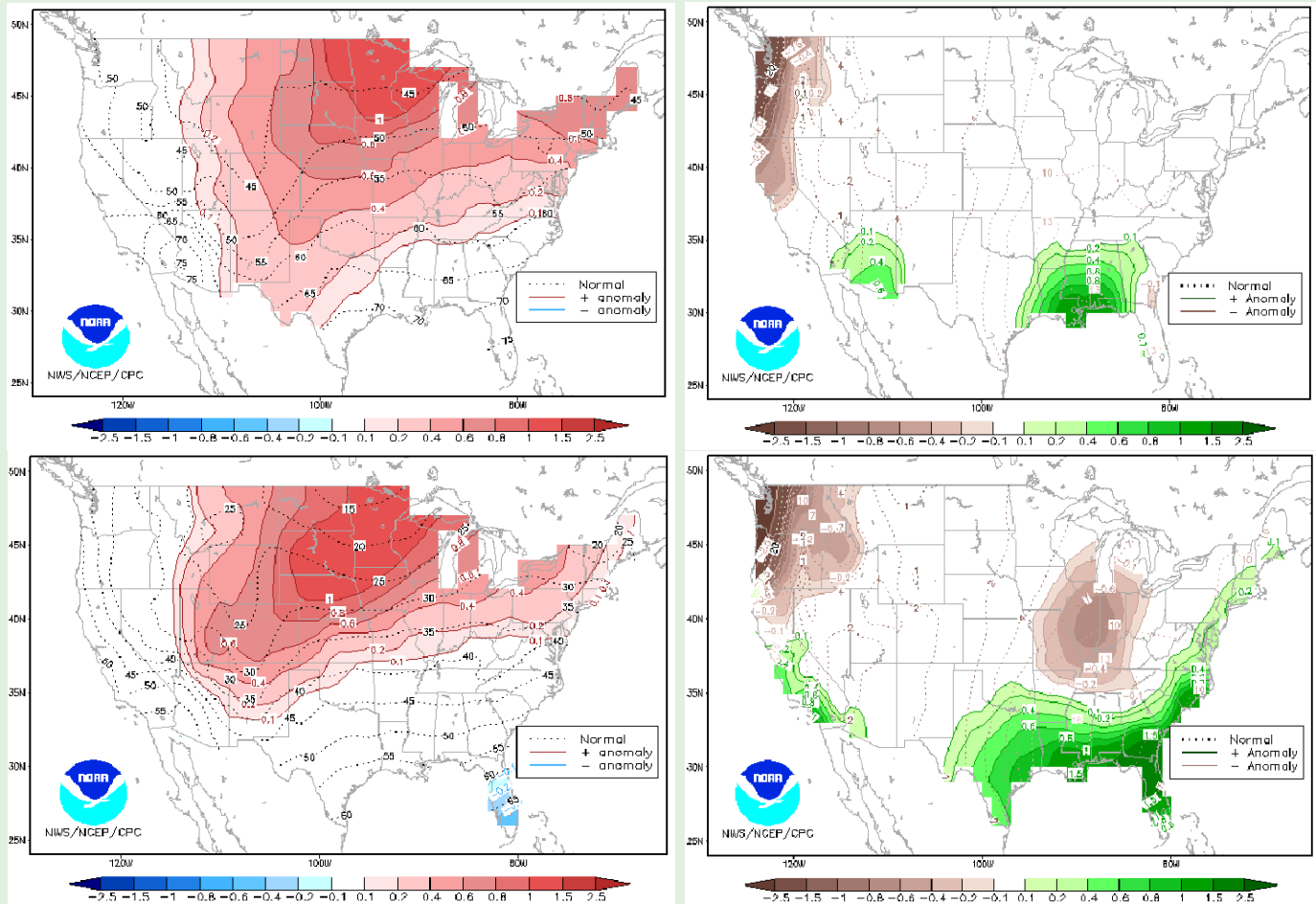


This map is a CoCoRaHS report readout from August 10th, 2012. On this particular day, thunderstorm activity occurred across a large portion of the Ohio and Tennessee Valleys. What is important to see here is how variable the precipitation amounts are from one location to the next. Also note the more void areas that contain a few zero reports (gray) which are few and far between. The zero reports are just as important as the one with 2.5" of rainfall! This is due to the highly variable nature that can occur with rain events, especially with the hit or miss thunderstorm varieties we see in the summer. Also of importance is to know during an extended dry period who got beneficial drought relief that day and who did not.



A Look Ahead

As we head into the fall months and eventually winter, what should we expect?



Temperature anomaly forecasts (top-left) and precipitation anomaly forecasts (top-right) for the Sept/Oct/Nov time period are issued by NOAA's Climate Prediction Center. Many factors are looked at, including the ENSO state, which suggests after starting autumn with near neutral conditions, an El Niño may develop. Many other factors and different global patterns influence the product. They indicate that there is only a slight chance for above normal temperatures and equal chances of above/below normal precipitation. The bottom images are for probabilities of warmer/colder or wetter/drier conditions for the Nov/Dec/Jan time frame. Based on the images shown, one could expect during this time period that Kentucky has equal chances of experiencing warmer, colder or near normal temperatures, with the best chances for warmer than normal conditions across the northern Plains. When looking at the precipitation probabilities of above/below normal conditions during this time period, there appears to be some signal that this period could end up drier than normal for the western portions of Kentucky. Deeper into the winter (images not shown here), there appears to be an ongoing signal that drier than normal conditions may persist statewide with a potential for above normal temperatures across the northern half of the state.

Note, that these images are experimental and are also updated each month. Therefore, the above outlook may differ from the next product issuance.



March 2, 2012 Severe Weather Outbreak

A strong low pressure system tracking northeastward across the Midwest helped trigger severe thunderstorms across Kentucky during the afternoon and evening of March 2nd. Several tornadoes touched down in the state of Kentucky. Some were intense tornadoes, being rated at EF3 or greater. Below are images taken from one of the strongest tornados of the day that struck Morgan County and caused significant damage to the town of West Liberty. This particular tornado was rated as an EF3, with winds estimated at 140 MPH and a maximum width of 1580 yards. That converts to nearly a mile wide swath of damage that was occurring at times along this tornado's path as it traveled over 25 miles. Unfortunately, 6 fatalities as well as 80 injuries with an estimated 3 million dollars in property damage occurred as a result. Many other tornadoes touched down in Kentucky that day, causing a total of 22 fatalities,* and over 150 injuries.*

*preliminary and estimated Damage photos from NWS Jackson, KY webpage



Special Thanks to You, our Kentucky Observers

We would like to give special thanks to those observers who make the time each and every day to record an observation. Your data are very important to the scientific community including university research and the National Weather Service. Below is a list of the 20 observers who have submitted the most consistent reports since January 1st (through September 11th)



Top 11 Most Consistent Observers so far this year in KY are:

Observer ID	Number of Reports (Max 256)
KY-AL-4	256...Perfect!
KY-BT-1	256...Perfect!
KY-ES-2	256...Perfect!
KY-FR-1	256...Perfect!
KY-GL-1	256...Perfect!
KY-NL-4	256...Perfect!
KY-OL-1	256...Perfect!
KY-BH-1	255
KY-CS-4	255
KY-JF-29	255
KY-LA-4	255

How variable have we been??

Highest Rainfall Totals This year-to-date (9/12/2012 reporting at least 240 of the 256 days):

KY-WR-19	46.75 Inches
KY-HD-5	39.05 Inches
KY-CS-4	37.86 Inches
KY-FR-11	37.73 Inches
KY-GT-2	36.93 Inches

Lowest Rainfall Totals This Year to-Date (9/12/2012 reporting at least 240 of the 256 days):

KY-HS-1	20.86 Inches
KY-MU-1	22.89 Inches
KY-GV-1	23.80 Inches
KY-HN-2	25.01 Inches
KY-HY-3	25.27 Inches



For questions and/or comments about this newsletter, please contact information below:

E-mail:
Andrew.Latto@noaa.gov



Helpful Links and Information

Obtain replacement or extra equipment from our official suppliers:

<http://www.weatheryourway.com/cocorahs/store.html>

<http://www.ambientweather.com/strgloteprra.html>

For information on Ohio climate:

<http://www.geography.osu.edu/faculty/rogers/statclim.html>

<http://www.cpc.noaa.gov/>

For current forecasts and severe weather warnings:

<http://www.weather.gov>

For river information:

<http://water.weather.gov/ahps/>

For drought information:

<http://drought.unl.edu/dm/>

<http://droughtreporter.unl.edu/>



Stay Tuned!

The folks who brought to you this edition of the **CoCoRaHS *OBSERVER*** would like to continue to keep you informed of the latest weather stories and continue to recognize your importance as observers. With this in mind, every effort will be made to get you a new newsletter semi-annually, if not even more frequent! Your feedback is very important in order to provide the best newsletter possible. So if you have any ideas for potential stories in the next issue, please do not hesitate to let us know! If you would like to contact the editor, please see the contact information above. The next newsletter is tentatively planned to be available in March or April, 2013.