



Missouri Growing Season 2012: A Look Back

Did you ever notice that the term “vintage,” which literally means “the yield of wine or grapes from a vineyard or district during one season,” is applied to most anything that may vary from year to year? Informally, the term may be used to describe a) a group or collection of people or things sharing certain characteristics; b) a year or period of origin: a car of 1942 vintage, or c) age; (<http://www.thefreedictionary.com/vintage>). The term is also used to indicate “of the best,” e.g. the songs were “vintage Gershwin,” the film was “vintage Alfred Hitchcock,” or the novel was “vintage John Steinbeck.”

It’s interesting to note that all of this informal usage is related to the grape “vine,” an acknowledgement that thanks to Mother Nature, no two vintages are alike – perhaps similar, but not identical. Ever since the dawn of civilization when people first noted the pleasure of the fermented grape, winemakers have used the raw materials of the annual grape harvest to produce wine, with some vintages producing better sensory results than others.

And so it continues. The savvy winemaker will note Mother Nature in action during the growing season as the grape vines move through their phenological stages from budburst to flowering, to veraison, and on to harvest. All aspects of the weather at the various phenological stages, have contributed to the characteristics of the harvested raw materials. The experienced winemaker, having paid attention to the weather affecting the vintage, will adjust the vintage’s winemaking tactics to compensate/ amplify the year’s weather-related effect on the grapes.

As 2012 draws to a close, let’s review the significant aspects of the year’s weather throughout the growing season, March through October, specifically average temperature/month and precipitation by month. The tables below divide Missouri into four quadrants, roughly using US 63 as the east/west divider, and US 50 as the north/south divider. For all of the stations, the 2012 figure is compared to the 30-year average for 1981-2010, unless otherwise noted. The tables below present both variances in temperature (F°) and precipitation (inches), for the 2012 growing season.

NE Missouri:

TEMPERATURE (F °)

Station NAME (County)	2012 Growing Season Avg. °F	Avg. 1981-2010 °F	°F Above or Below (-) Avg.	% Above or Below (-) Avg.
COLUMBIA (Boone)	69.0	64.2	+4.8	+7.5%
ROSEBUD (Gasconade)	65.3	63.0	+2.3	+3.7%
SHELBINA (Shelby)	65.0	62.9	+2.1	+3.3%
ST CHARLES (St. Charles)	68.5	64.7	+3.8	+5.9%
STL – LAMBERT (St. Louis Co.)	70.8	66.8	+4.1	+6.1%
WARRENTON (Warren)	67.1	63.8	+3.3	+5.1%

The average temperature differences within the NE region of Missouri ranged from +2.1° in Shelbina (Shelby County) to +4.8° in Columbia (Boone County).

PRECIPITATION (Inches)

Station NAME (County)	2012 Growing Season Avg. (Inches)	Avg. 1981-2010 (Inches)	Inches, Above or Below (-) Avg.	% Above or Below (-) Avg.
COLUMBIA (Boone)	24.64	32.76	-8.12	-24.8%
ROSEBUD (Gasconade)	21.80	31.23	-8.05	-25.8%
SHELBINA (Shelby)	27.06	31.73	-4.67	-14.7%
ST CHARLES (St. Charles)	25.82	29.63	-3.81	-12.9%
STL – LAMBERT (St. Louis Co.)	24.55	29.54	-4.99	-16.9%
WARRENTON (Warren)	23.58	28.08	-4.50	-16.0%

The precipitation deficits within the NE region of Missouri ranged from 3.81” in St. Charles to 8.12” in Columbia.

Note that there is a separate spreadsheet available, which provides the information on a monthly basis. Simply email leonardellim@missouri.edu to request the detailed spreadsheet. You’ll be able to observe, for instance, that all six stations were 27.9% to 33.9% warmer in March than average (“May in March”), and September and October were 1-3% cooler than usual. Regarding precipitation the 2012

drought began in early May within this region, with most stations reporting normal precipitation to date through April 30. Rains from Tropical Storm Isaac benefited the east central counties more than Boone and Shelby Counties.

SE Missouri:

TEMPERATURE (F °)

Station NAME (County)	2012 Growing Season Avg. °F	Avg. 1981-2010 °F	°F Above or Below (-) Avg.	% Above or Below (-) Avg.
CAPE GIRARDEAU (Cape Girardeau)	68.9	66.7	+2.2	+3.3%
CLEARWATER DAM (Wayne)	68.3	65.3	+3.0	+4.6%
FARMINGTON (St. Francois)	69.1	63.9	+5.2	+8.1%
FESTUS (Jefferson)	69.2	64.5	+4.7	+7.2%
POPLAR BLUFF (Butler)	69.1	63.9	+5.2	+8.1%
POTOSI (Washington)	67.3	64.1	+3.2	+5.0%
VICHY-ROLLA (Maries, Phelps)	67.7	64.7	+3.0	+4.6%

The average temperature differences within the SE region of Missouri ranged from +2.2° in Cape Girardeau to 5.2° in Farmington and Poplar Bluff.

PRECIPITATION (Inches)

Station NAME (County)	2012 Growing Season Avg. (Inches)	Avg. 1981-2010 (Inches)	Inches, Above or Below (-) Avg.	% Above or Below (-) Avg.
CAPE GIRARDEAU (Cape Girardeau)	19.08	31.33	-12.25	-39.1%
CLEARWATER DAM (Wayne)	18.15	31.87	-13.72	-43.0%
FARMINGTON (St. Francois)	21.80	31.23	-9.43	-30.2%
FESTUS (Jefferson)	20.28	29.52	-9.24	-31.3%
POPLAR BLUFF (Butler)	24.69	31.76	-7.07	-22.3%
POTOSI (Washington)	20.28	29.52	-9.24	-31.3%
VICHY-ROLLA APT (Maries, Phelps)	26.86	32.72	-5.86	-17.9%

The precipitation deficits within SE region of Missouri ranged from 5.86” at Vichy-Rolla Airport to 13.72” at Clearwater Dam in Wayne County.

SW Missouri:

TEMPERATURE (F °)

Station NAME (County)	2012 Growing Season Avg. °F	Avg. 1981-2010 °F	°F Above or Below (-) Avg.	% Above or Below (-) Avg.
CARTHAGE (Jasper)	70.7	66.3	+4.4	+6.6%
CLINTON (Henry)	68.6	64.2	+4.4	+6.9%
ELDORADO SPRINGS (Cedar)	68.2	65.7	+2.5	+3.8%
EMINENCE (Shannon)	68.5	66.5	+2.0	+3.0%
SPRINGFIELD (Greene)	68.4	65.5	+2.9	+4.4%
WEST PLAINS (Howell)	67.8	64.9	+2.9	+4.5%

The average temperature differences within the SW region of Missouri ranged from +2.0° in Eminence (Shannon County) to +4.4° at both Carthage (Jasper County) and Clinton (Henry County).

PRECIPITATION (Inches)

Station NAME (County)	2012 Growing Season Avg. (Inches)	Avg. 1981-2010 (Inches)	Inches, Above or Below (-) Avg.	% Above or Below (-) Avg.
CARTHAGE (Jasper)	38.01	33.26	+4.75	+14.3%
CLINTON (Henry)	25.09	35.94	-10.85	-30.2%
ELDORADO SPRINGS (Cedar)	42.13	35.90	+6.23	+17.4%
EMINENCE (Shannon)	20.03	32.68	-12.65	-38.7%
SPRINGFIELD (Greene)	25.49	33.29	-7.80	-23.4%
WEST PLAINS (Howell)	23.55	32.27	-8.72	-27.0%

The SW region exhibited both precipitation surpluses and deficits, with the surpluses in Jasper and Cedar counties, primarily occurring during March, April and September, with May- July mirroring the drought

within the rest of the state. The other four stations reported deficits ranging from 7.80” in Springfield to 12.65” at Eminence (Shannon County).

NW Missouri:

TEMPERATURE (F °)

Station NAME (County)	2012 Growing Season Avg. °F	Avg. 1981-2010 °F	°F Above or Below (-) Avg.	% Above or Below (-) Avg.
CHILLICOTHE (Livingston)	67.8	63.3	+4.5	+7.1%
KCI (Platte)	68.6	64.6	+4.0	+6.2%
KIRKSVILLE (Adair)	64.9	62.0	+3.0	+4.8%
MARSHALL (Saline)	68.5	66.5	+2.0	+3.0%
NEW FRANKLIN (Howard)	67.2	64.2	+3.0	+4.7%
ST. JOSEPH (Buchanan)	66.9	64.2	+2.7	+4.2%

The average temperature differences within the NW region of Missouri ranged from +2.0° in Marshall (Saline County) to 4.5° in Chillicothe (Livingston County).

PRECIPITATION (Inches)

Station NAME (County)	2012 Growing Season Avg. (Inches)	Avg. 1981-2010 (Inches)	Inches, Above or Below (-) Avg.	% Above or Below (-) Avg.
CHILLICOTHE (Livingston)	20.17	33.53	-13.36	-39.8%
KCI (Platte)	16.39	32.63	-16.24	-49.8%
KIRKSVILLE (Adair)	24.31	33.48	-9.17	-27.4%
MARSHALL (Saline)	23.18	32.49	-9.31	-28.7%
NEW FRANKLIN (Howard)	22.58	33.12	-10.54	-31.8%
ST. JOSEPH (Buchanan)	18.06	29.36	-11.30	-38.5%

The precipitation deficits within NW region of Missouri ranged from 9.17” at Kirksville to 16.24” at Kansas City Intl Airport in Platte County.

In summary, note the following average %s for above-average temperatures and below-average precipitation for the 2012 growing season, by region:

Region of MO	2012 Growing Season Temperature: Avg. % above 30- year normal	2012 Growing Season Precipitation: Avg. % below 30- year normal
NE	+5.27%	-18.52%
SE	+5.84%	-30.73%
SW	+4.87%	-14.60%
NW	+5.00%	-36.00%

The two eastern regions of the state were hotter than the two western regions. The NW and SE regions were much drier than the SW and NE regions of the state.

So what will the 2013 growing season provide us as challenges? Recall that one year ago at this time, we had no idea that 2012 would yield such extremes in high temperatures and precipitation deficits. We must necessarily conclude with “We’ll see.”

Note: As mentioned previously in the section following the NE region, if you wish to obtain the spreadsheets that support the monthly detail reported here, simply email your request to leonardellim@missouri.edu.

References: all of the meteorological data came from the National Weather Service at <http://www.nws.noaa.gov/climate/>, specifically from the NOW (NOAA Online Weather) Data stations, for the following NWS locations: St. Louis, MO; Kansas City, MO; Springfield MO; and Paducah, KY.

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