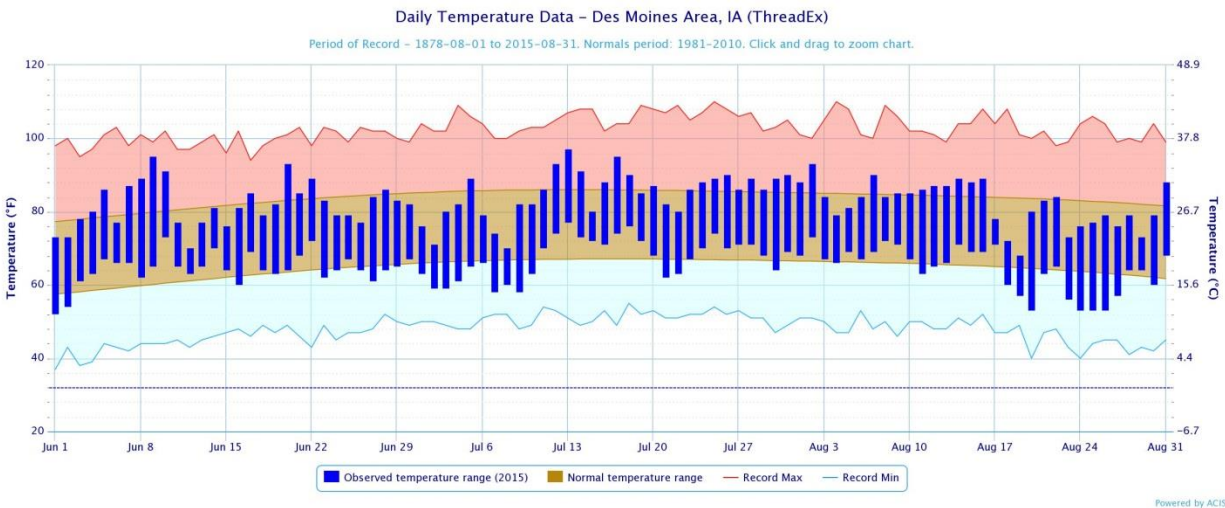


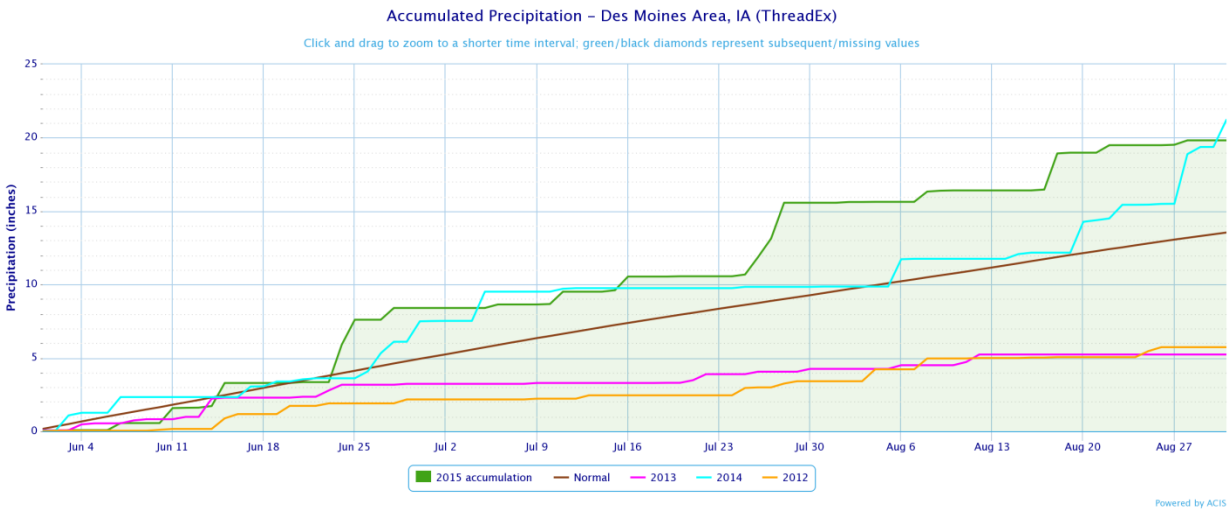
A look back at Summer 2015 and A look forward to Autumn For Des Moines, IA

Summer 2015, defined by meteorologists as June through August, is now in the books. At Des Moines, the average temperature over these three months was 74.1 degrees, which is right at the normal value. Meanwhile 19.82 inches of rain fell, which is an impressive 6.28 inches above the normal value of 13.54 inches and makes this the 11th-wettest summer on record. Remarkably, seven of the top 11 wettest summers (with records going back to 1878) have now occurred since 1990.

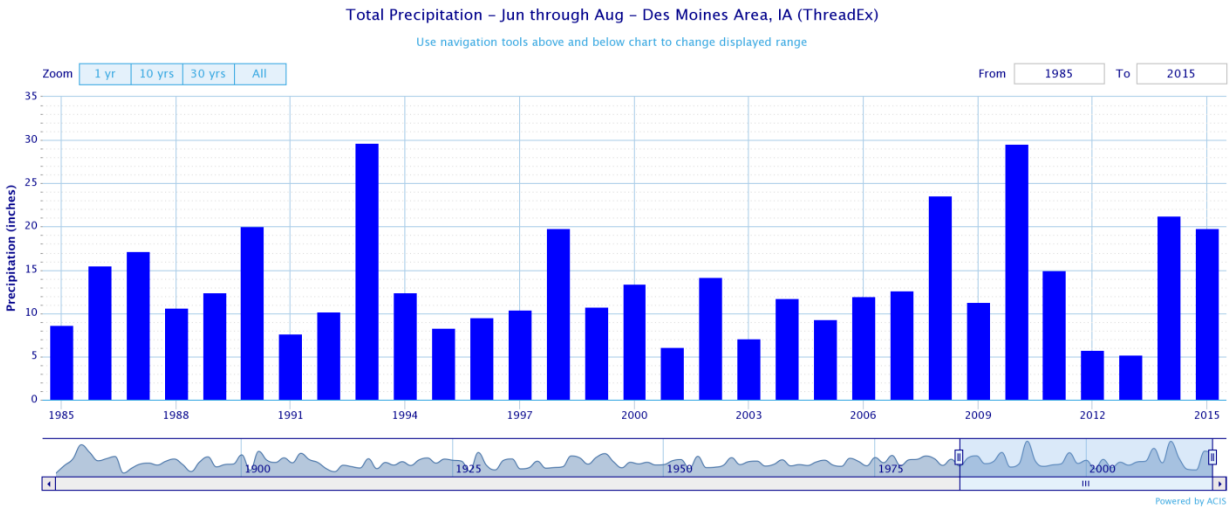
The graph below shows the high and low temperatures (represented by a blue bar) for each day this summer, with the normal values (brown band) and record values (red and blue lines) also plotted. Note that for most of the summer, temperatures stayed within or close to the normal range and no daily records were even approached.



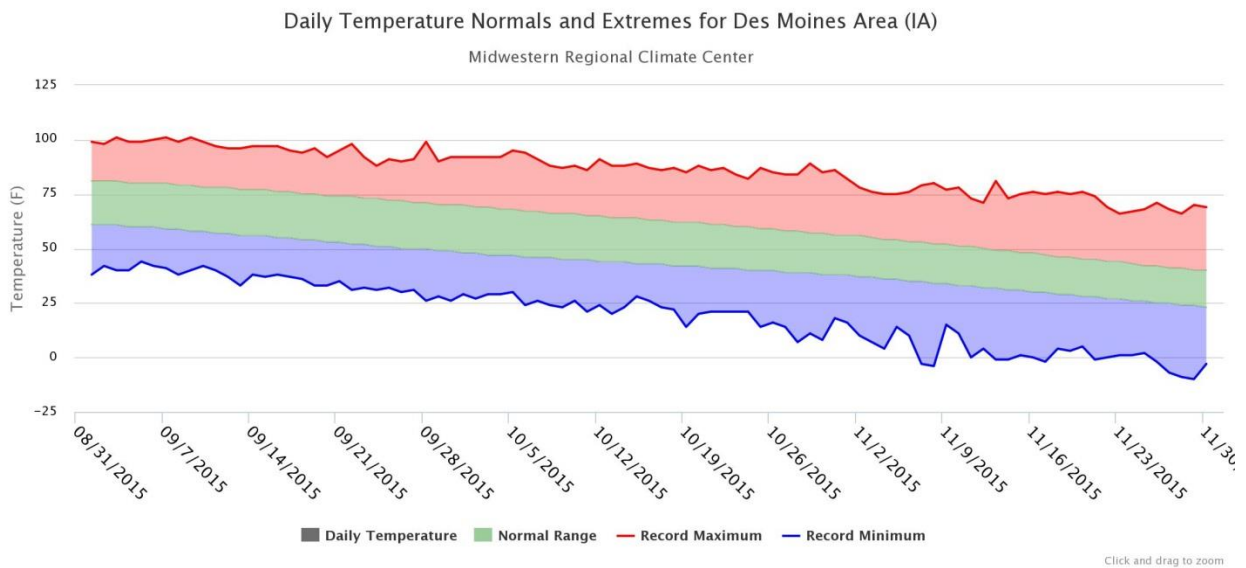
While summer 2015 was wet at Des Moines with nearly 20 inches of precipitation, the rainfall was distributed pretty evenly over time. The accumulation graph below shows rainfall piling up this summer (green line) as compared to 2014, which ended up with nearly the same total amount largely due to a very wet late August, and 2013 and 2012 which were much drier.



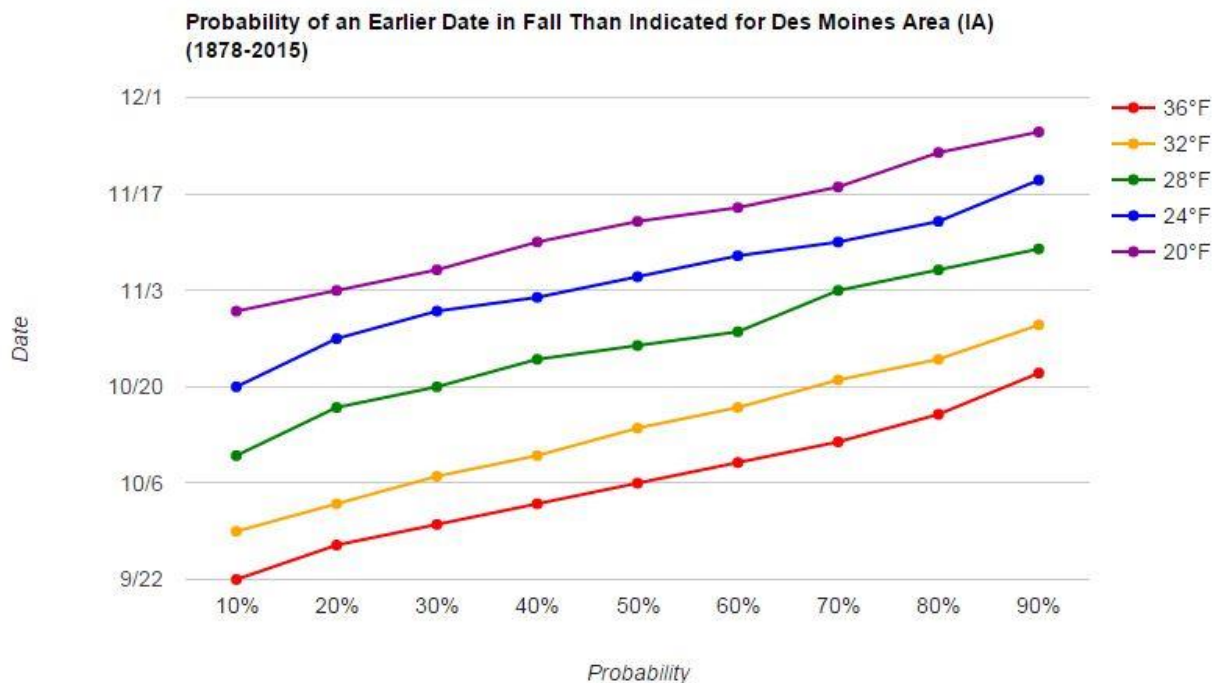
Again, the 19.82” of rain this summer made it the 11th wettest with records going back to 1878 in Des Moines. Below is a graph of total precipitation for each of the last 30 summers, with 1993 and 2008 standing out as easily the wettest during that time, and 2012 and 2013 depicted as remarkably dry. In fact, this summer Des Moines received almost quadruple the amount of rain that it did in either 2012 or 2013.



Looking ahead to autumn, it is always a time of great transition particularly with regards to temperature. Daily normal temperatures will be falling steadily, accelerating downward from late October through November as depicted in the plot of daily normal and record temperatures below.



Along with the falling temperatures comes the question of when the first frost and freeze will occur. As can be seen below, half of the years on record at Des Moines have seen a freeze (temperature of 32 degrees or lower) by October 14th, while about 90 percent of years have seen a freeze by Halloween.



Finally, autumn also brings the first appearance of snow. At Des Moines the average date of the first flakes is November 1st, but snow has fallen as early as September 16th during the remarkable storm of 1881. The average date of the first one inch snowfall is not until November 26th, but it has come as early as October 10th which occurred just back in 2009.