Highlights for the Basin

March was warm and dry across the Basin with several states ranking in the top ten warmest and driest. For instance, South Dakota was 2nd driest and 7th warmest, while Nebraska was 2nd driest and 8th warmest. May, on the other hand, was extremely wet with many states ranking in the top 10 wettest Mays, such as Colorado (wettest), Kansas (2nd), Wyoming and South Dakota (5th), Nebraska (8th), and North Dakota (10th).

The extreme shift from dry to wet conditions this spring was illustrated well by South Dakota which had its driest start to the year (Jan-Apr), but then went on to have its 5th wettest May on record.

Many interesting temperature records were set during March. Locations in central Nebraska and western South Dakota set records for highest March temperature. Additionally, some stations from Colorado, Wyoming, and the Dakotas recorded their earliest 80°F day, while others in Nebraska had their earliest 90°F day.

Numerous locations had their wettest May on record including Colorado Springs, CO, Lincoln, NE, and Fargo, ND. Rapid City, SD had its snowiest.

The spring started off quite warm, with a large portion of the region having monthly temperature departures in excess of 6°F above normal in March. The warm weather continued during April, although temperature departures were not as extreme. May, on the other hand, was a complete reversal. With ridging in the eastern U.S., the Missouri River Basin states were cooler during the month of May with below normal temperatures across the Basin. The result was a spring which was, overall, above normal across the region.

There was a dramatic shift from dry to wet conditions this spring for much of the Missouri River Basin area. Early in the season, drought conditions were developing and worsening, however, a number of low pressure systems brought several heavy rain events to the region in May. This resulted in widespread precipitation totals that ranged from 200-400 percent of normal. The heavy precipitation broke numerous records, improved drought conditions, and caused flooding in both urban and rural areas.
Missouri River Basin snowpack peaked much below average this spring and, prior to the heavy May precipitation, reduced service along the lower Missouri River was likely. However, precipitation and subsequent runoff during May should allow for a full navigation season this year.

Reservoirs across the region are filling due to the heavy precipitation. For example, high flows in the South Platte River will allow Lake McConaughy to fill by the end of June.

Storms during the evening and overnight hours of May 6-7 brought extremely heavy rainfall to southeast Nebraska, including the capital city of Lincoln. Anywhere from 6-10 inches fell in approximately 8-10 hours and caused extensive flooding. Numerous roads were closed and some residents in Lancaster, Saline, and Jefferson Counties were evacuated from the rising floodwaters. Although there was damage from the flooding, the NRCS estimates that over $3 million in damages were prevented by flood control structures.

A combination of conditions this spring has impacted producers both positively and negatively. While dry conditions allowed producers in North Dakota and South Dakota to rapidly plant crops, wet conditions have made fields too wet to tend or completely submerged others. Untimely freezes in May also damaged crops, such as sugarbeets and canola in North Dakota.

Insect and disease issues have arisen due to the heavy May precipitation, especially in Kansas, Nebraska, and South Dakota. Leaf rust, stripe rust, and head scab have been reported in the wheat crops there. Additionally, the application of agricultural chemicals have either been delayed or lost.

According to the Climate Prediction Center, El Niño conditions continued this spring and are expected to continue and strengthen through the end of the year. El Niño impacts are most notable in the winter, and so the strength of the El Niño at the end of the year could help determine any impacts to the region.

Over the next three months, outlooks indicate increased chances for above normal temperatures for northern parts of the region and increased chances for below normal temperatures in lower parts of the basin. Meanwhile, the precipitation outlook shows increased chances for above normal precipitation for the majority of the region. While above normal precipitation may remove lingering drought conditions, it could also increase chances of flooding.

The excessive moisture from May could have residual impacts throughout the summer. Evaporation from the surface and transpiration from plants will raise relative humidities. With an increase in relative humidities, maximum temperatures should be slightly lower. However, even with lower temperatures, higher humidities may create muggy conditions and higher heat indices. Another impact that people may already be experiencing is an increase in mosquito activity.

3-Month Precipitation and Temperature Outlooks
Valid for July - September 2015

EC: Equal chances of above, near or below normal, A: Above normal, B: Below normal