Rockies and Plains Early Spring Storm
15-17 April, 2016
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Meteorological Overview:

During the day on 14 April, an upper-level low moved onshore in the Pacific Northwest. By 00 UTC on 15 April, with the upper-level low centered over Washington state, a cold front was crossing the central Rockies, south of a surface low crossing Wyoming. At this time, snow was confined to the highest elevations of western Montana/Wyoming and northern Utah, and was generally light. By 12 UTC on 15 April, the initial upper-level low had moved into the northern Intermountain region and was weakening. Light to moderate snow continued across the northern Rockies at this time, becoming more widespread in western and central Montana. Also by this time, additional shortwave energy moving into the base of the broader upper-level trough marked the beginning of a rapid amplification that occurred across the Great Basin and Four Corners region during the following 24 hours. Snow began to fall during this timeframe across western Colorado, and would gradually become heavier and expand east to lower elevations as heights fell rapidly across the region, the result of the rapidly developing upper-level low.

At 12 UTC on 16 April, the mid/upper-level low reached peak intensity across northwestern New Mexico. At the lower levels, a second area of low pressure also began to develop across the southern High Plains during the day. This low would serve to strengthen low/mid-level frontogenesis from the eastern half of Colorado to western Nebraska through the day on 16 April, maintaining a band of moderate to heavy snow through late evening. After this time, the mid/upper-level low began a slow weakening trend. Eastward progress was nearly non-existent, however, as an upper-level ridge amplified across the Great Lakes. As a result, the system lingered over the central Rockies for several days, and light snow persisted into the early morning hours of 18 April.

The storm produced late-season heavy snowfall accumulations from the central Rockies into the Front Range and the foothills, including the Denver and Boulder areas, which both received a foot or more. The highest reported storm total was near Pinecliffe, CO, approximately 10 miles southwest of Boulder, which received 50.6 inches. Reports of 2 to 4 feet of snowfall were common in this vicinity.

Impacts:

The storm had substantial impacts on the Denver/Boulder metro area. Over 800 flights were cancelled at Denver International Airport, primarily on 16 April. Over five thousand customers

in the metro area lost power, and power crews were brought in from surrounding states to assist with repairs. Numerous highways were closed at points during the storm, including portions of I-70. Additionally, power poles were downed by the storm as far north as Montana. No fatalities or injuries were directly attributed to the event. A monetary damage amount of $50 thousand was reported for this event, although the damage amounts were likely much higher.

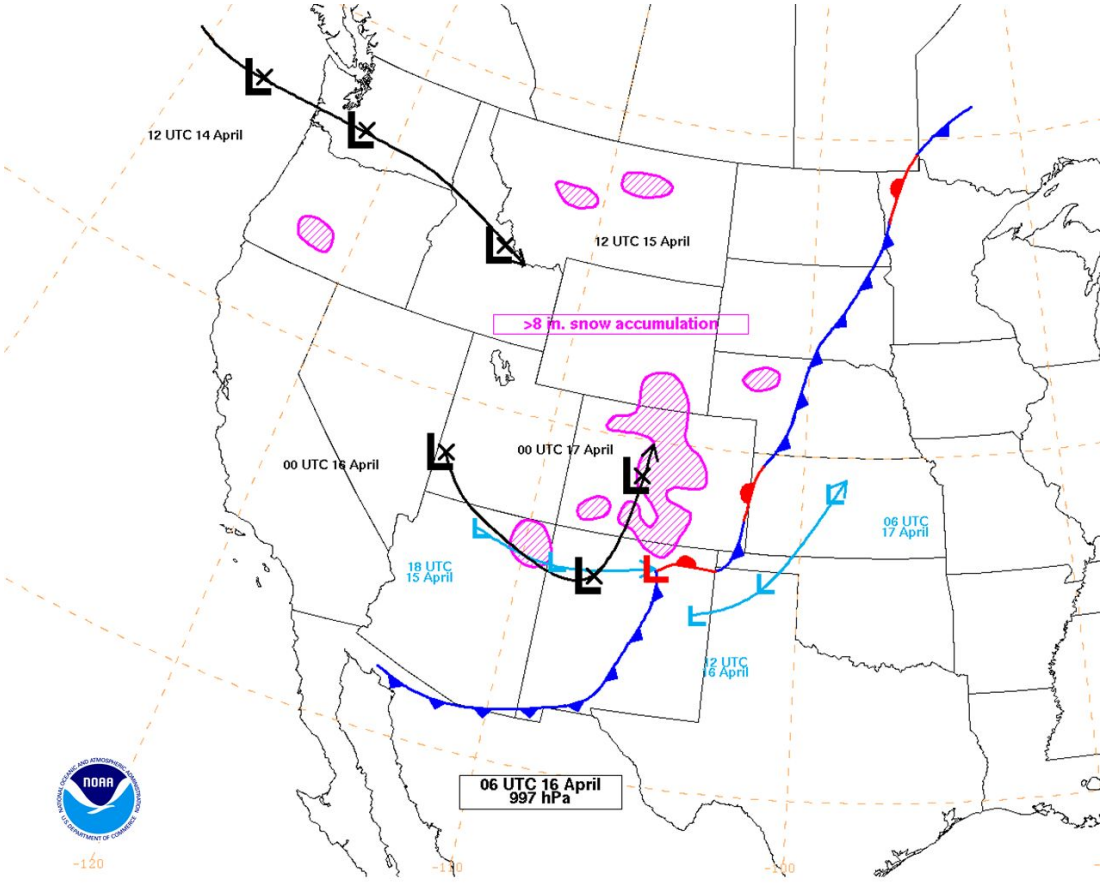

Figure 1: Surface low tracks (blue), 500 hPa low tracks (black), approximate areas receiving greater than 8 inches of snow (magenta) are shown along with the WPC surface analysis from 06 UTC on 16 April, 2016.

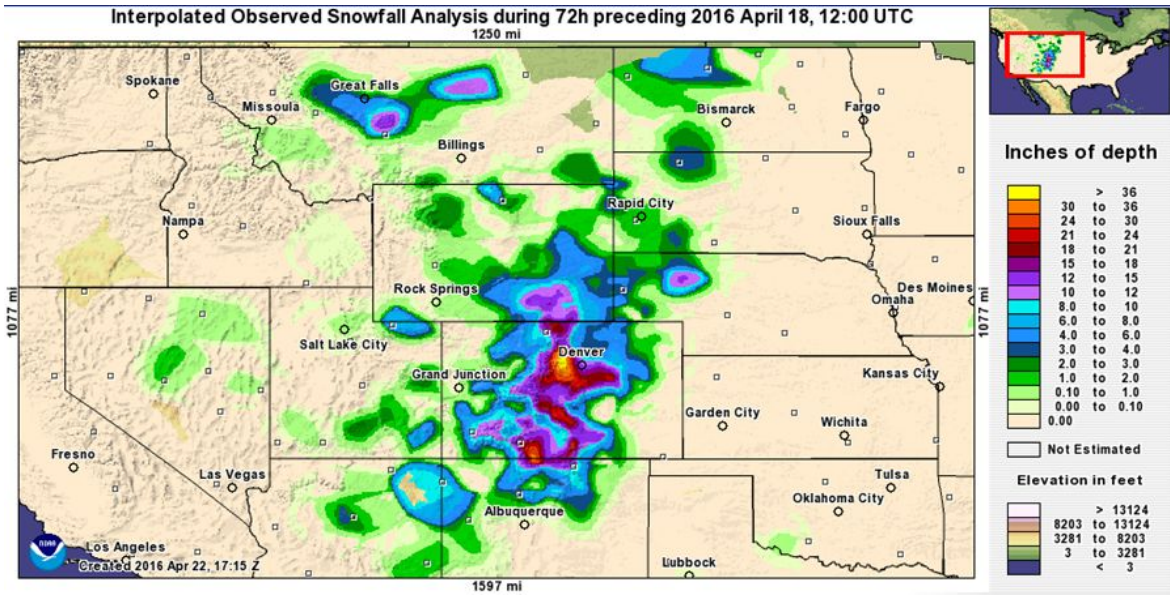

Figure 2: Interpolated Observed Snowfall Analysis during the 72 hours preceding 12 UTC on 18 April, 2016. (NOHRSC)