

Central Rockies and Front Range Late-Season Winter Storm 10 -12 May, 2014

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Meteorological Overview: Over the Mother's Day weekend of 2014, a significant late season snowstorm impacted areas of the central Rockies and the central High Plains. While significant spring snows are not necessarily unusual for this region, this storm did break a record in Cheyenne, WY on 11 May for the heaviest calendar-day snow since records began in 1883. Snow began in the late morning of Saturday, 10 May in the central Rockies, and continued through the early evening hours of Monday, 12 May. The heaviest of the snow occurred during the afternoon and overnight hours Sunday, 11 May into Monday, 12 May.

Around 0000 UTC on 10 May, a closed upper-level low was entering the Pacific Northwest. The low weakened slightly as it dipped southward towards the Great Basin, but strengthened again once it crossed into southern Utah by 1200 UTC on 11 May. At this time, low pressure had organized at the surface in south-central Utah, and moderate snow was falling across parts of the central Rockies in Colorado and southern Wyoming.

Over the next 8 to 12 hours, the surface low drifted slowly eastward, but once it reached the higher terrain of the central Rockies, it lost definition at the surface. At the same time, a second low had formed in the lee of the Rockies and was strengthening as it moved into the central plains, which helped to advect the coldest air into the mountains. This intense surge of cold air, combined with the dynamic lifting aloft, helped the heaviest snow form over the mountains of Colorado and into the central High Plains.

Generally, most places received anywhere from 4 to 12 inches of snow across the central Rockies and into the central High Plains. In the highest terrain of northern Colorado and southern Wyoming however, totals approached 2 feet, with a few places even exceeding 3 feet! In addition to the heavy snow, plenty of extremely dry air and high winds were filtering into the southwestern U.S. on the backside of the storm, which prompted the issuance of "red flag" warnings by the National Weather Service. East of the upper trough, plenty of instability and moisture streaming northward out of the Gulf of Mexico helped to fuel some very heavy rainfall and severe weather from the central/southern Plains to the Ohio Valley.

Impacts: Travel across the central Rockies was quickly compromised and became dangerous or impossible throughout the duration of the storm. Delays and cancellations were common at area airports, and numerous accidents blocked major roadways. The storm was blamed for at least one fatality along U.S. Highway 285 near Denver. In Wyoming, the storm prompted the shutdown of I-80, a major truck route, stranding thousands of motorists and causing overcrowding of rest stops along the interstate.

Widespread power outages were also common across the central Rockies as heavy wet snow weighed down power lines and brought down newly greened trees. Among the power outages

was Denver International Airport, but luckily, impact from this was minimal due to a backup generator in place.

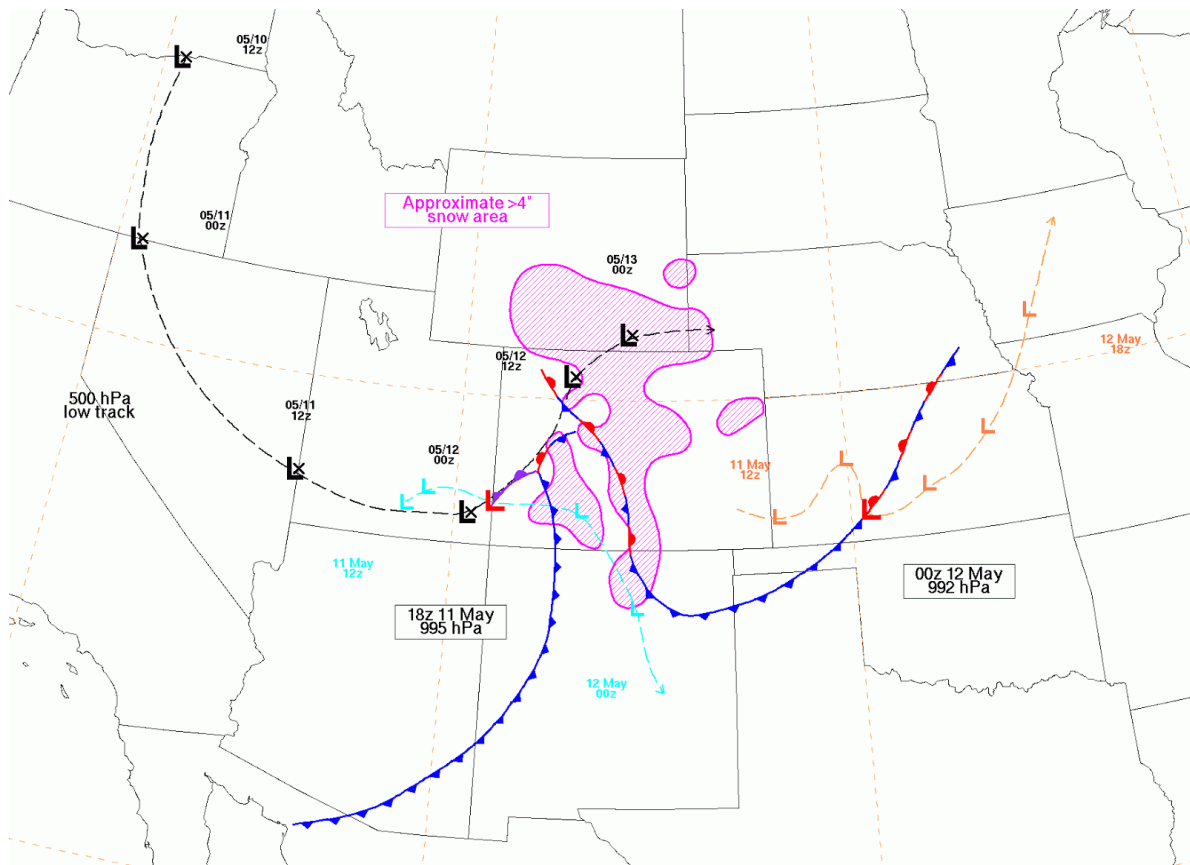


Figure 1: 500 hPa low pressure track (black), surface low pressure tracks (cyan and orange), approximate area of greater than 4 inch snow depth (magenta), and frontal positions at select times.

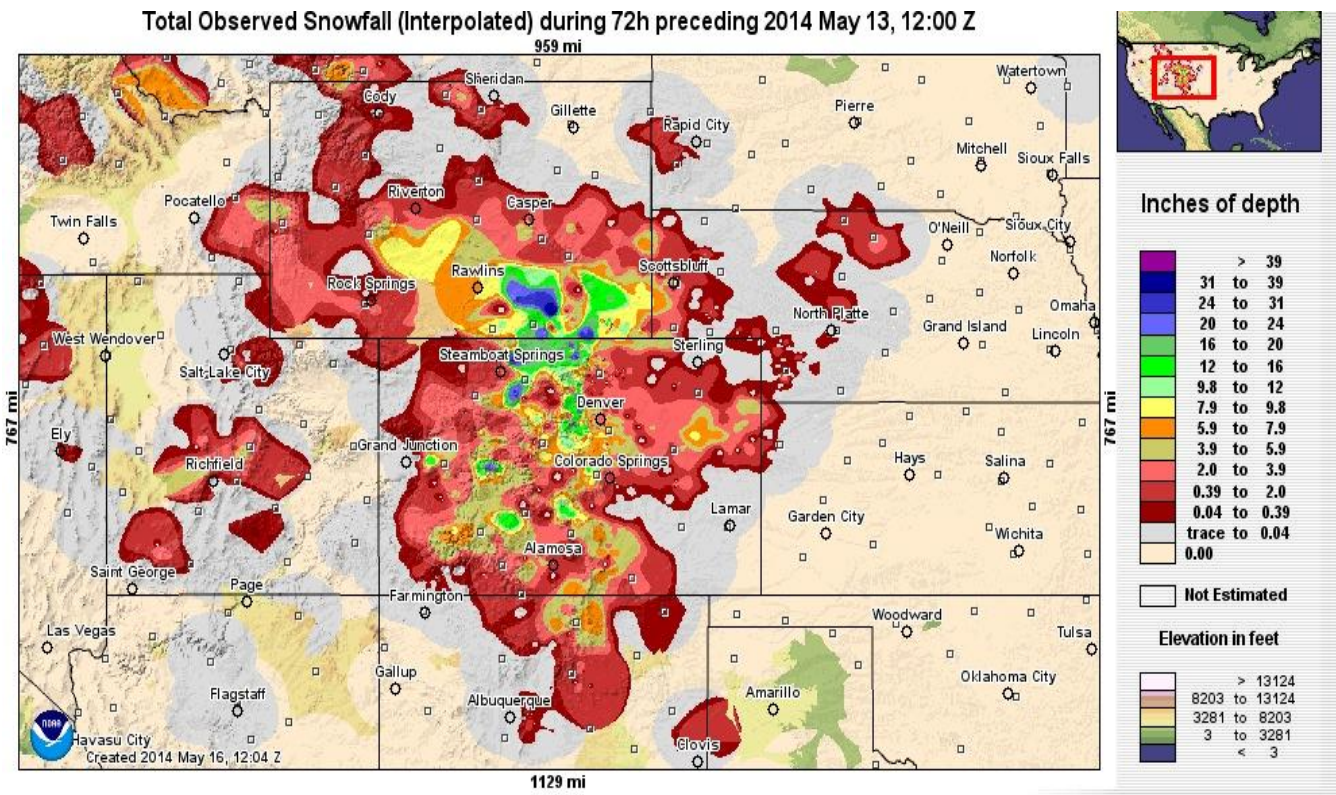


Figure 2: Total observed snow depth from 1200 UTC 10 May, 2014 to 1200 UTC 13 May, 2014 (courtesy of NOHRSC)



Figure 3: Snow falling on a blossoming tree in Fort Collins, CO on 11 May, 2014 (courtesy of the Associated Press)