Domenic DeCaro
Flow Vis MCEN 4151
10/21/2025

Clouds First

When I heard about the clouds' first assignment, it stuck in the back of my mind for a while. One day, when I was getting ready to head into Boulder from Highway 36, I saw a layer of clouds sitting below the Flatirons. Since this was such an interesting phenomenon, I knew that it would be a good choice for clouds first. In the moment, I had no clue what was occurring or what type of clouds they were, but I knew I needed to find a good spot to capture them.

This photo was taken on the lookout off of Highway 93 just south of Boulder on August 25th, 2025, right after noon. The camera was pointed almost directly west, parallel to the ground.

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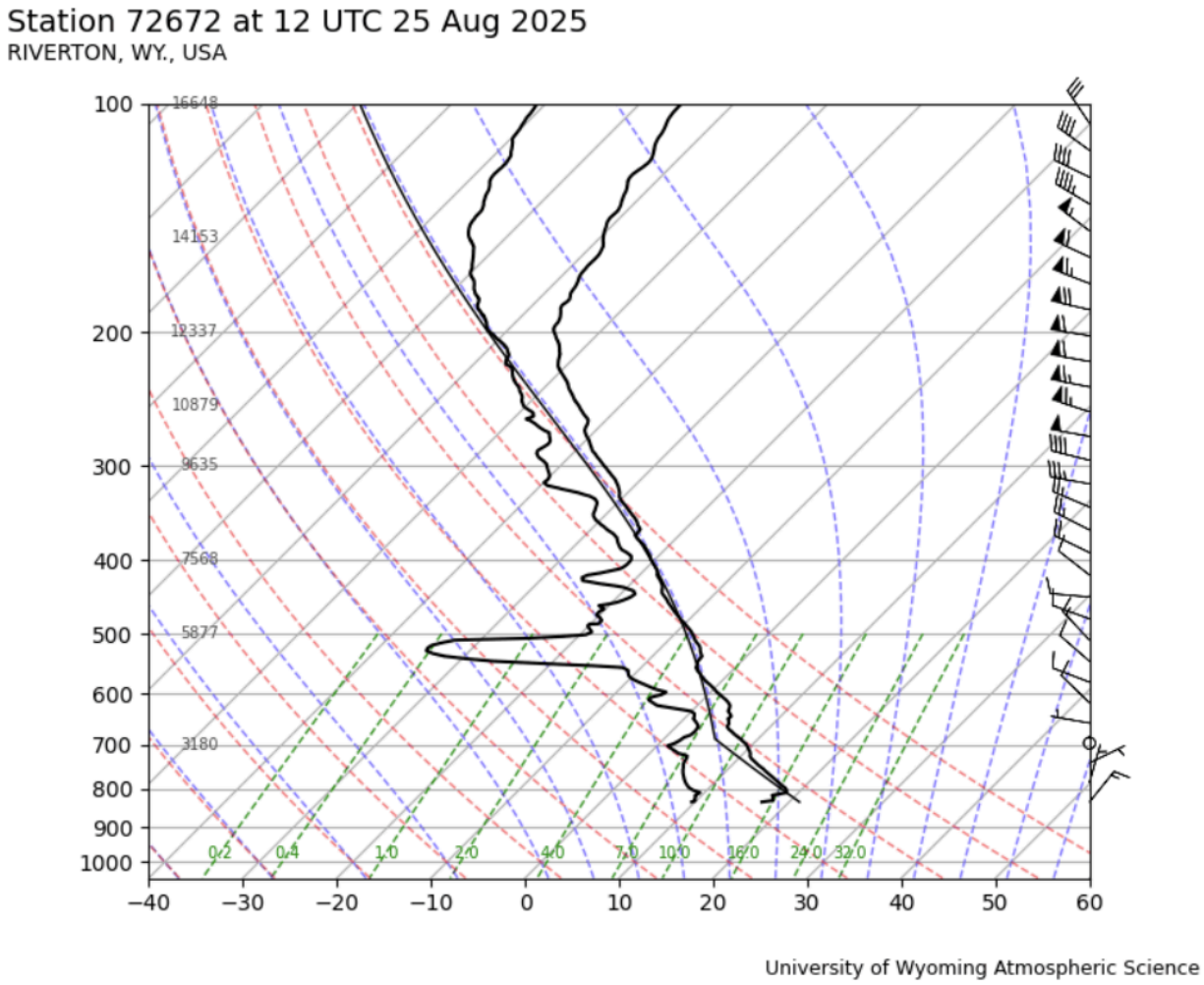

After further research and classes centered around cloud formations, I determined that the clouds lying below the flatirons are stratus clouds. Trapped below the flatirons by air flowing over them towards the camera. The lumpy, low elevation clouds above the flatirons are stratocumulus. These clouds were flowing towards the camera (east), which is what led me to the conclusion of how the lower layer of clouds has become trapped. These clouds also seem to be only a few thousand feet above the top of the flatoirns since they did not seem to be higher than the divide. The wind was pretty calm this day, and the lower layer of clouds only remained for 1-2 hours. The scew-t diagram found above is from the Riverton, Wyoming, station 72672. From this, we can see that the atmosphere is mostly stable, especially at lower altitudes, which explains the cloud formation seen.

There was not much technique used when taking this photo. I used my phone camera at .5 zoom setting, with all of the auto settings turned on. This captured the clouds very well and I didn’t see a need for changing anything. When I started editing I noticed that most of the

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changes I made lost some detail in the photo so I settled on not changing anything here either. The only change I made was the crop to focus the picture on the clouds below the flatirons and give the photo a nice layering effect. The photo is 1912 by 647 pixels, creating a panoramic effect almost.

This image shows a really cool phenomenon that happens around Boulder every so often. When I first took this photo, I really wanted to know what type of clouds these are, and I wasn't completely sure that my hypothesis was correct. Through the critique, I found that I was pretty close to my guesses. In the critique and in some classes following this assignment, I found only a few things I would have liked to try if I had another opportunity. First, I would like to have gotten a good time-lapse video to show the flow better since mine did not turn out well. I would have also liked to try and use an HDR method on this since the mountains seem slightly over-exposed and washed out.

References

University of Wyoming Department of Atmospheric Science. (2025, August 25). *Skew-T log-P diagram for Station 72672 (Riverton, WY), 12 UTC.* Retrieved from http://weather.uwyo.edu/upperair/sounding.html