

Clouds First Report

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MCEN 4151

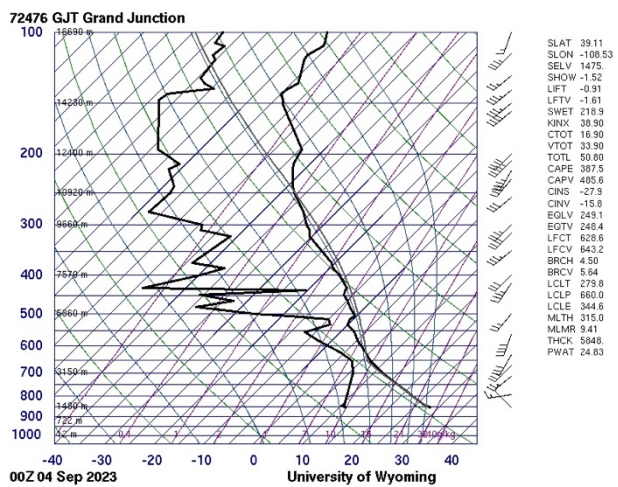
10/30/23



This image was taken for the first cloud assignment. I think the way the sun shone through the gap in the clouds makes the photo very beautiful. I wanted to capture the details in the clouds while also being able to see the rays of the sun clearly and I think I achieved that goal.

I saw these clouds on September 3rd at 4:25 p.m. in Edgewood, Colorado, and thought that they would be perfect for my cloud photo. I took this photo facing southwest, and my phone camera was tilted about twenty degrees upward. I was in a parking lot then, so I wanted to ensure that I didn't get any light poles or trees in the photo. I identified the clouds that I photographed as cumulus clouds. I

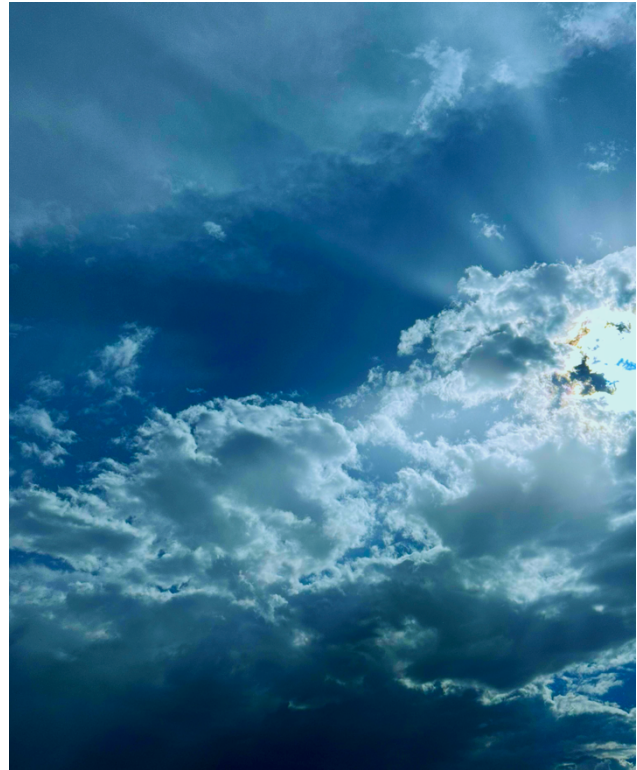
categorized them as cumulus because of their low altitude and fluffy appearance. No rain or snow accompanied these clouds, and there was not that much wind. The sky was kind of like the day before, with clear skies occasionally being covered by white fluffy clouds. The skew-T diagram¹ for September 3rd at 6:00 pm (MT) shows that clouds would be expected to form at lower elevations of around 3000 m, which is around the



¹ Skew-T diagram from University of Wyoming Sounding Data

height that the clouds in my photo appeared to be. These cumulous clouds were likely formed due to a slightly unstable atmospheric condition causing pockets of less dense air to rise and then condense into the fluffy white cumulous clouds.

The photo was taken from my iPhone 14 pro back camera. The field of view was 32 degrees, the ISO was 50, the shutter speed was $1/66667$ s, and the aperture was $f/1.78$. The original photo was 3024 x 4032 pixels, and my final edited photo was 3024 x 3710 pixels. In post-editing I cropped out a light post and messed around with the color balance, highlights, and contrast a little. I set the contrast to +29 and the highlights to -57. I also put the whites up to +18, saturation to 51, vibrance to 33, and temperature to -35. To top it all off, I used Apple's auto-editing tool to see what kind of changes it would make. It ended up making many small adjustments to everything, but the most noticeable was turning the brilliance up 30. The before and after photos are below with the original being on the left and the edited on the right.



My photo turned out better than I thought it would. I wanted to capture the beauty of the clouds in the sky, and I succeeded while also being able to learn about the physics of these clouds and how they form. I like how striking the image is with the rays of sunshine piercing the clouds. I also really like the framing of my photo and how the clear and cloudy parts of the sky contrast against each other. To take the ideas behind this photo further, I can try to photograph other types of clouds and other weather conditions to try to better understand the physics in our atmosphere.

References:

1. University of Wyoming College of Engineering Sounding Data:
<https://weather.uwyo.edu/upperair/sounding.html>
- 2.