

Clouds First Report

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Flow Visualization

October 28th, 2019



This cloud image was taken on October 8, 2019 at approximately 3pm in Boulder, Colorado. The image was taken more specifically within Williams Village. The day consisted of bright blue skies with a cool temperature of 75 degrees Fahrenheit. The clouds here were extremely visible with no obstruction of viewing them from tall buildings or trees. I personally chose this picture out of the other ones that I took due to the interesting shape and formation of the clouds at the time. I also liked how these clouds were off center in the image and did not take up all of the space.

The image was captured with an iPhone 7. The iPhone 7 does not have too much capability in adjusting camera settings manually. The automatic settings that were used to capture the image are as follows: aperture was $f/1.8$, focal length 3.99mm, ISO 20, and a shutter speed of $1/4366s$.

The iPhone 7 does not automatically display the metadata of an image. I used an app called “Exif Metadata” to pull the previously mentioned camera settings. The ISO is so low due to being outside with plenty of sunlight when taking the image.

When looking other cloud photos, I noticed that a majority had the approach of minimal post-processing. I personally wanted to practice my photo editing skills, so I opted for a less realistic aesthetic when producing the final image. When editing the original image, I brought the contrast down to darken the color of the sky in the background. The Chroma of the image was altered. Through this altering, the edges of the clouds were changed to a grayish color. This new gray color highlighted the edges of the clouds were highlighted more.



Figure 1. Original/Un-edited cloud picture

I believe that the clouds captured are cumulus fractus clouds. The cloud has a cotton-like appearance and has smaller clouds surrounding a slightly larger cloud. The smaller clouds are a result of strong winds shearing a larger cloud. These types of clouds usually appear before or after a storm. It is important to note that there was a snow storm two days after this image was taken. When examining a Skew-T diagram for the Denver area for this day, the atmosphere was stable. This is shown by the CAPE value of 0 in the diagram below.

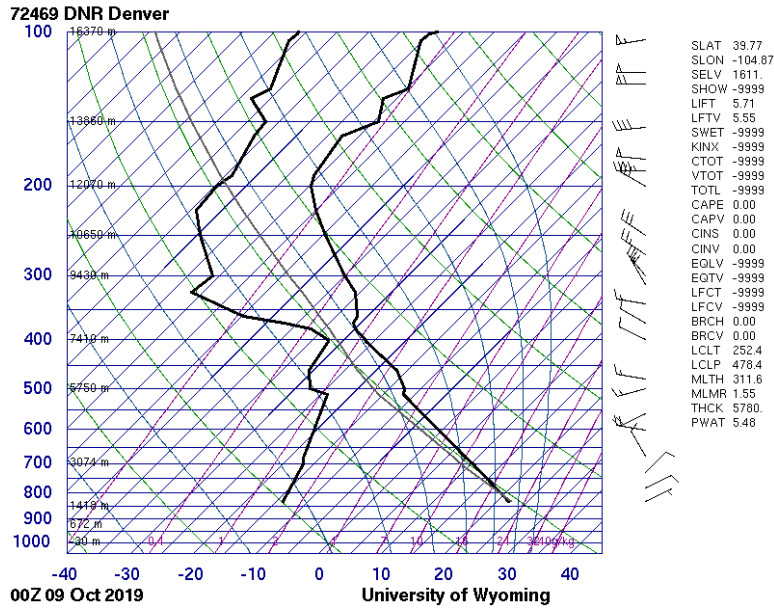


Figure 2. Skew-T diagram for October 8th, 2019 in the Denver area

I personally like this cloud image due to the unrealistic approach that I took. It reminds me of artwork that would appear in a fantasy novel. If I were to recapture a similar image of this kind of cloud, I would possibly center the clouds a little bit more. I feel like the blue sky is a slight distraction from the overall intended subject in the image.

References

Fractus Clouds Information

https://en.wikipedia.org/wiki/Fractus_cloud

Skew-T Diagram

<http://weather.uwyo.edu/upperair/sounding.html>