Cloud First Image



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Clouds are inspiring and can be imagined to be variety of shapes we know. For my first cloud assignment, I captured a beautiful cloud at a chilly day weather. The purpose of this assignment was to visualize and capture a cloud that resembles a type of clouds that we studied earlier. My cloud image was taken on September 20th, 2019 during the afternoon.

My cloud image was taken while heading home after school at 1:03 PM near a crosssection of Broadway & Baseline in Boulder Colorado. The direction of the photo was towards north east. Skew-T diagram shows the behavior of the weather and clouds surrounding the Denver area as shown in figure 1. It has been observed that the clouds at September 20th was not stable as the convective available potential energy (CAPE) value was 195.2.



Figure 1. Skew-T diagram

To recap the temperature, the day I captured the cloud image, it was varying from a minimum temperature of 45 F to 75 F [1]. The wind speed is approximated to be 3mph SW

[1]. Fortunately, the month of September when the image was taking was experiencing constant cloud cover which gave me a lot of opportunity to take multiple images. The altitude where the image was taken are approximated to be 1.64 km. above sea level. However, the cloud that has been captured was roughly 1.5-2 km above where I was standing. The cloud type illustrated in figure 3 showed a Stratocumulus accompanied with Straus which are found in low elevations. Stratocumulus is very common as it appears in lower elevations. Shown in figure 2 is a representation of the elevation of the cloud was taken. The Ceilometer, is an interesting device that sends laser or light source to accurately measure the elevation of clouds. It also can measure the aerosol concentration within the atmosphere.



Figure 2. Ceilometer reflectivity readings

The image was using my iPhone 7 with a 12-megapixel camera. Unfortunately, when taking the image, the camera setting such as aperture, ISO, and shutter speed were not able to be adjusted. However, I was able to adjust the focus to make the image looks as clear as possible. The image was taken with the following setting: aperture of F/1.8, exposure of 1/5988 sec, and ISO of 20. The exposure of iPhone camera is usually very fast in which you can freeze the moment wanted to be captured. The focal length of the iPhone 7 camera is 4.00 mm and the image size was 4032 x 3024 pixels. For final editing, I believe that the original image shows more aesthetic looking when no there is no adjustment in highlight and contrast. So, the image has only been cropped to focus more on the indented cloud that

I wanted to capture. The original and cropped image are shown in figure 3 and figure 4 respectively.



Figure 3. Original image



Figure 4. Cropped image

All in all, I had fun and enjoyed the journey of capturing as many clouds as possible throughout the week. It made appreciate the clouds, the science behind, and most importantly how is inspiring. I feel that I succeed in achieving my intent behind this image in which it was to capture a beautiful, inspiring form of clouds.

Reference

[1] Weather in September 2017 in Boulder, Colorado, USA. (2019). Timeanddate.com. https://www.timeanddate.com/weather/usa/boulder/historic?month=9&year=2017