Blushing Skyline

Cloud Type: Stratus
Cloud Location: Boulder, CO
Time of Image: October 17, 2023 at 6:29 PM

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I Introduction

This picture was taken for the second cloud assignment for Flow Visualization. We were assigned to take pictures of clouds and explain how they formed. I decided to capture this image because I really like the pink color that is reflected on the clouds from the sunset. This image is very aesthetically pleasing with focus on the clouds. I also took this picture because I liked how the cool colors in the cloud complemented the light blue toned sky. About 10 minutes before this I captured the image shown in **Figure 2**. I thought the colors in the picture were good, but they weren't as vibrant as I wanted. I figured I'd wait for the sunset to get stronger before taking my final image.


Figure 2: Clouds 10 minutes before Final Image

II Circumstances

This image was taken on October 17, 2023 at 6:29 pm. It was taken in Boulder, CO. This image was taken relatively close to campus. This photo was taken at an elevation of about 5,430 feet. The camera was facing almost straight up into the sky. It had been a relatively clear day, but clouds began rolling in at night around 6:00 pm.

III Cloud Information

The clouds shown in the picture are stratus clouds. The rest of the sky had clouds scattered throughout. The weather during the day had been clear, but the sky began to fill with clouds around 6:00 PM. Stratus clouds exist in the bottom layer of the atmosphere, below 2000 meters. The Skew T diagram is shown in **Figure 2** below.
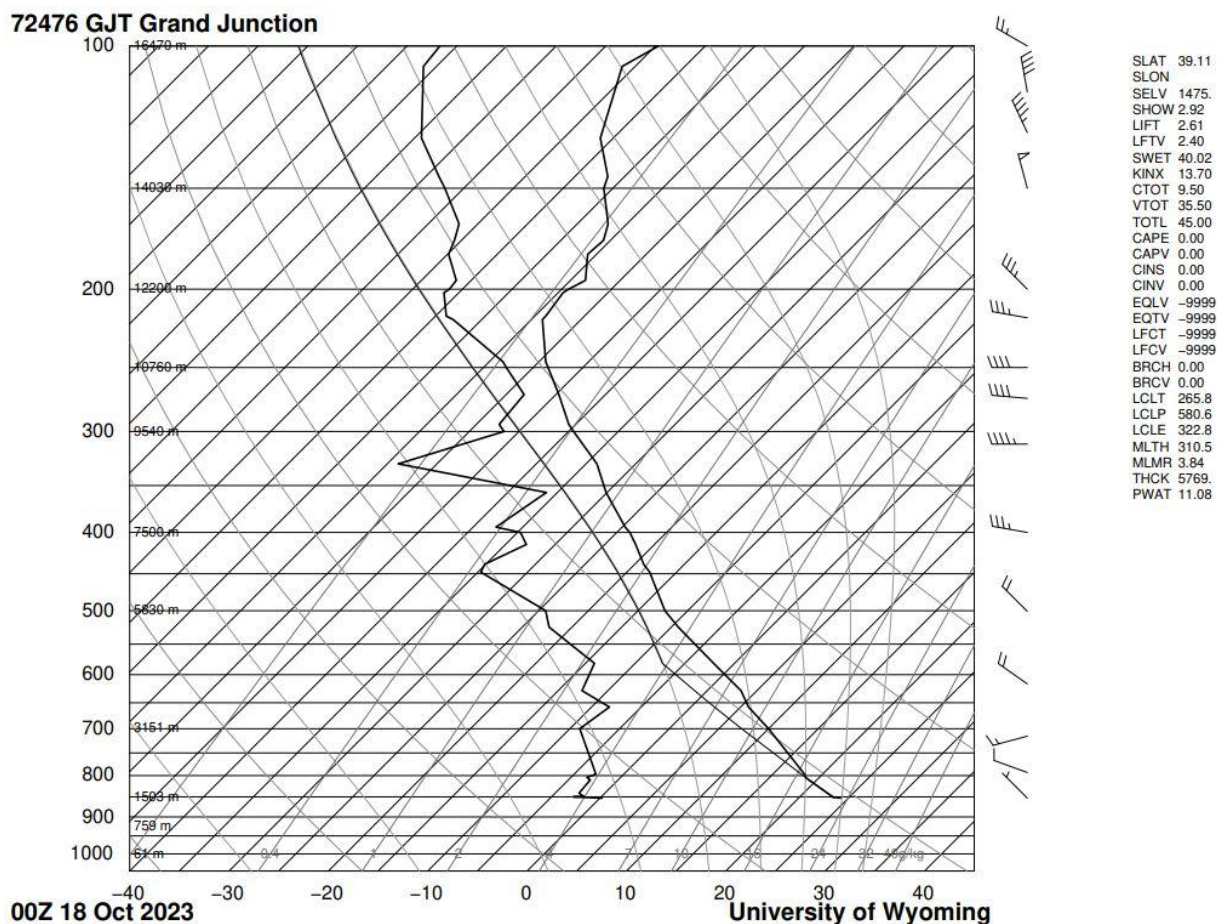
Figure 2: Skew-T Diagram

The Skew-T diagram is from Grand Junction so the altitude of the clouds does not really correspond with the ones found in Boulder. As shown in the diagram, the CAPE value is 0.00. This corresponds to a stable atmosphere. Stratus clouds tend to appear in cool calm conditions[1]. The presence of stratus clouds comes with little to no rainfall[1], which was shown when rain did not appear the next day. I believe that my prediction of stratus clouds is correct because the clouds have a uniform layered appearance. The clouds are also thick and opaque which are more characteristics of stratus clouds.

IV Photographic Technique

This picture was taken on an iPhone 12 with a wide camera lens. The settings on the phone were an ISO of 200, a focal length of 14 mm, an aperture of *f*/2.4 and a shutter speed of 1/60 s. The field of view is about 45 degrees. The size of the initial image was 3024 x 4032 px. The dimensions of the edited image are 2242 x 1223 px. I chose to crop it, so that the main focus was the clouds rather than the buildings and trees. The distance from the lens to the clouds was likely about 12000 feet. The original and edited images are shown in **Figure 3** and **Figure 4** below.

Figure 3: Unedited Image
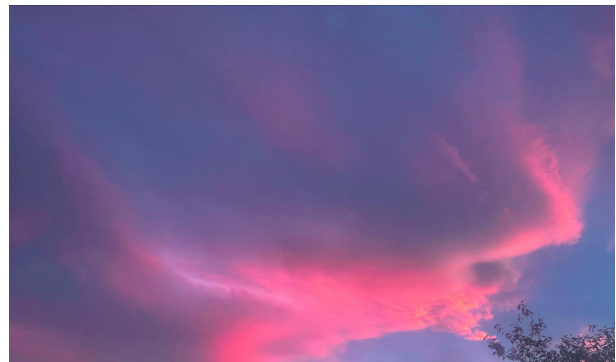
Figure 4: Edited Image

The photo editing software I used was Darktable. I started by cropping the image using the cropping tool. I then increased the green-magenta contrast and decreased the blue-yellow contrast using the color contrast tool. Finally, I decreased the exposure using the exposure tool. The goal was to make the clouds more vibrant than they had in the original image.

V Image Analysis

I really like this cloud picture, especially with the edits. I think the bright pink that is captured in the image is very beautiful. I think the picture does a good job capturing the vibrancy of the clouds. I think the physics of the clouds are shown well and these are a great example of stratus clouds. In the future, I think I could improve the focus of the image, but overall I am very happy with how it turned out.

V References

[1] *Stratus clouds*. Met Office. (n.d.).
https://www.metoffice.gov.uk/weather/learn-about/weather/types-of-weather/clouds/low-level-clouds/stratus#:~:text=Stratus%20clouds%20form%20in%20calm,little%20light%20to%20pass%20through.