CLOUD IMAGE 1

Mohamed Adil
Flow Visualization - CINE 4200

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I. INTRODUCTION

This report will talk in detail about the first cloud submission of the Flow visualization course at the university of Colorado boulder. It will discuss the artistic intent, the setting the submission picture was taken in, and finally the scientific analysis of the could behavior observed.

II. BACKGROUND

The image was chosen for submission due to the beautiful color contrast that was observed, and the composition of the cloud shown. It was taken approximately at 6:00 PM on October 13th 2020 from the balcony of my apartment in near CU Campus - Boulder, CO. The cloud direction was southwest at an incidence angle of around 25 degrees.

Figure 1: Clouds First submission - Edited

Looking at the atmospheric observation on that day, we see that there was moderate wind with a recorded max of 28 mph. No perception was recorded during that day or the days before it. The temperature was also steady during that period of days with highs around 80 Fahrenheit and lows around 55 Fahrenheit.[1]

III. ANALYSIS

A more detail analysis could be obtained using a Skew-T plot. Since there was not a plot readily available for boulder, the closest point, Denver international airport, data was used to obtain the plot. Th show plot is for October the 13th 2020, 00Z which resembles sunset time (~6:00PM). The plot indicate a stable atmosphere with CAPE of 0.[2] The cloud in the picture are believed to be cirrus due to its high altitude location and thick and bold profile.

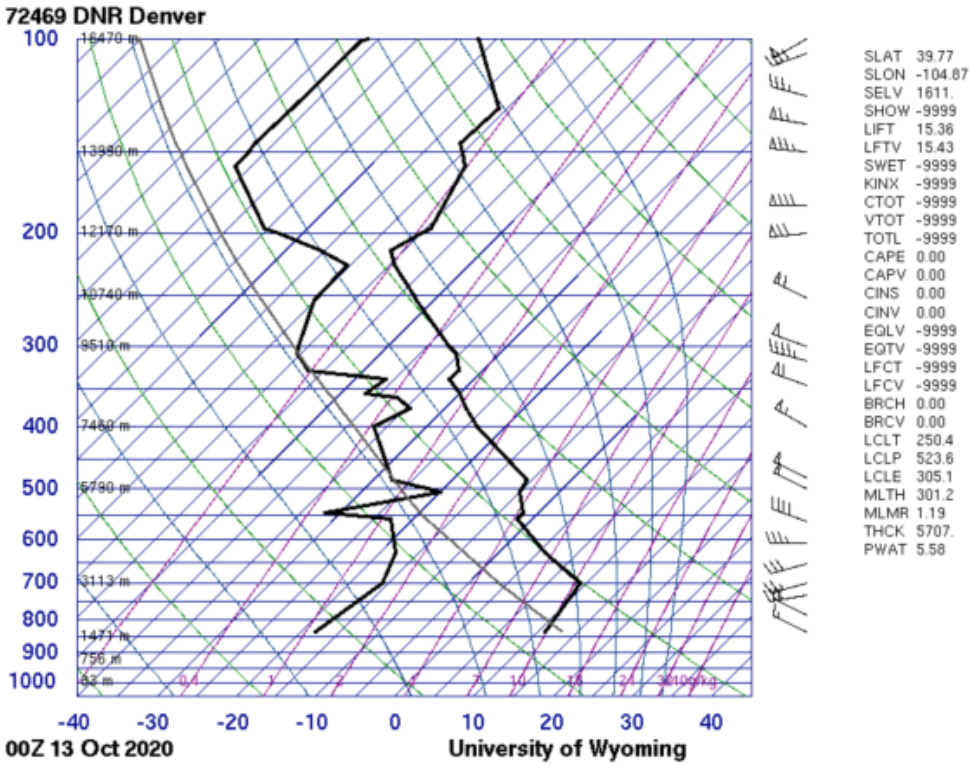

Figure 2: Skew-T plot showing the data for the image day-specific weather

The cloud image in this submission was taken using an iPhone 11 Camera with a wide lens setting on. The final image has a size of 4032×3024 px and a focal length of 1.54 with ISO of 160. The F number was f/2.4 and shutter speed was 1/121. The image was then post processed in photoshop and increased the sharpness and saturation and removed some distracting element.

Figure 3: Clouds First submission – Original

IV. CONCULSION

I am really happy with the end result and the post processing that I made to the image. The wide lens mode might have distorted the clouds shape a bit, but I still found it aesthetically pleasing to have the whole cloud in the frame gave it more context.

References:

1- "Denver, CO Weather History." Weather Underground, TWC Product and Technology LLC, https://www.wunderground.com/history/daily/us/co/denver/KDEN/date/2020-10-13

2- Atmospheric Soundings, University of Wyoming Department of Atmospheric Science, Oct. 2020, https://www.weather.uwyo.edu/upperair/sounding.html