



Clouds Second Report  
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## Background and Context:

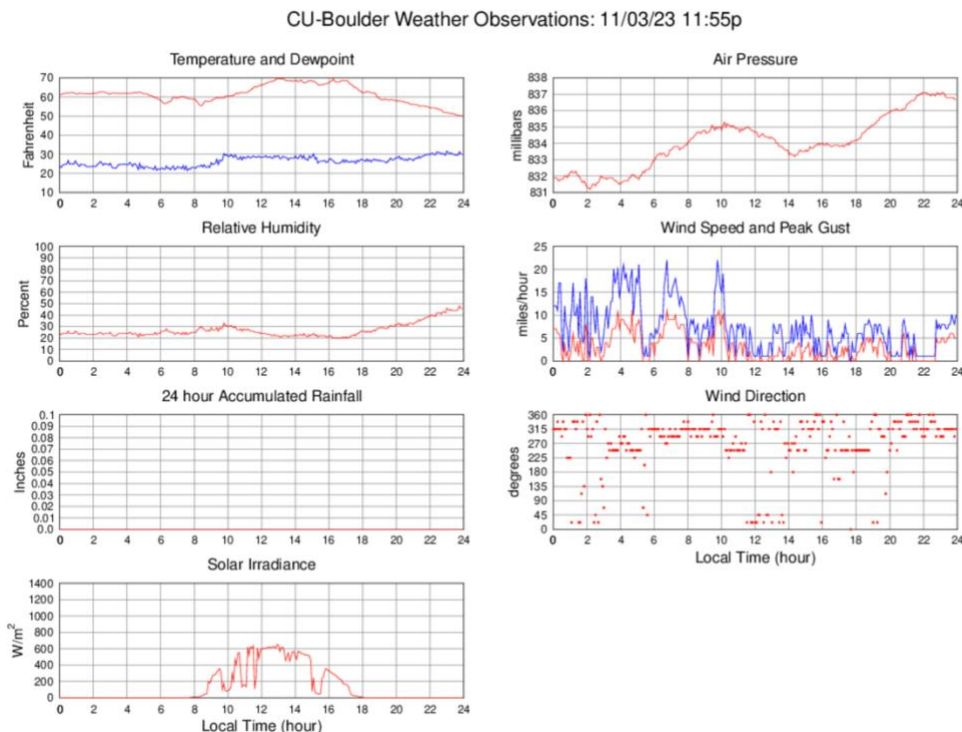
Clouds are indeed a fascinating phenomenon. Their beauty lies in the fact that each person envisions their unique shapes, influenced by their imagination. Moreover, clouds serve as valuable indicators, explaining weather patterns, wind and temperature variations, climate change, and offering abundant artistic inspiration.

I took many pictures of clouds mostly in my phone camera. I settled on this image due to it's interesting shape, it's massiveness and it's symmetry.

This image was taken in Boulder, CO near UMC on Novemebr 3, 2023 at 7:32 AM during the sunrise using my phone camera.

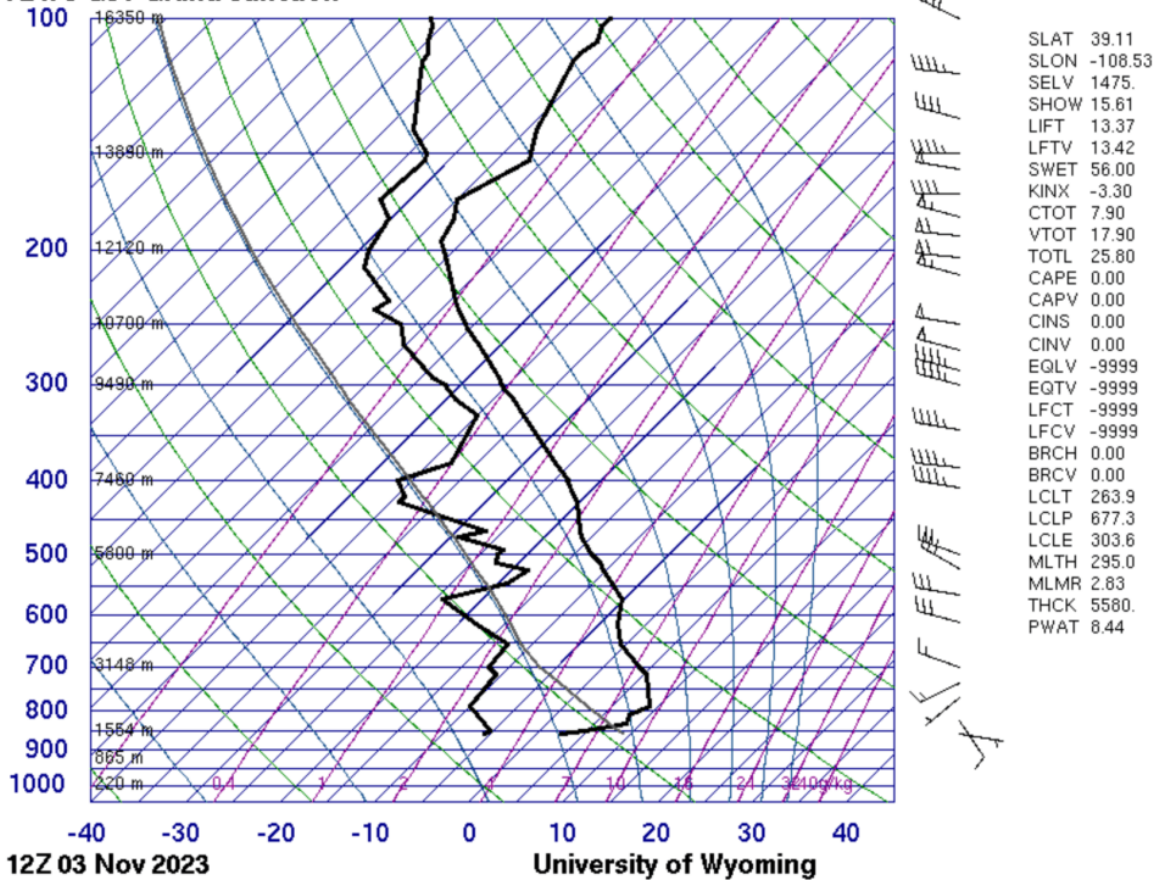
## Cloud Classification and Weather Data:

I believe the clouds in this image to be Altocumulus clouds. They are at a high altitude they are puffy and rounded shape and are formed at an altitude between 6500 to 20000 feet above sea level. They usually do not bring heavy precipitation and cover the sky partially and are usually formed on warm days. This can be verified from the weather data taken from CU Boulder ATOC department.



From the graphs it can be seen that the day on which the clouds have formed is a warm day and the humidity levels are low. Another way to verify is to look at the Skew T plot of that day.

### 72476 GJT Grand Junction



This plot was taken from University of Wyoming's weather data archive. This is the Skew T plot at Grand Junction which is 250 miles southwest of Boulder at 5 AM. Altocumulus clouds are typically formed at an altitude between 2000 m and 6000 m. From the Skew T it is likely that the clouds have formed at an altitude of about 5000 m, clouds are likely to form where two black lines are closest to each other.

### Photography:

This image was taken on my phone camera, a OnePlus Nord CE2. The camera settings are:

Megapixels: 64MP  
Aperture: f/1.79  
Shutter Speed: 1/556  
ISO: 100  
Focal length: 4.7 mm

The phone automatically set the settings, It also uses an AI settings to make the image look better. I cropped the image using Darktable. Here is the original image for



comparison.



### **Conclusion:**

This image skillfully captures the majestic allure of the clouds. The golden hues, courtesy of the sunrise, lend it an awe-inspiring quality. Its vast expanse resembles a celestial spaceship enveloping the sky, adding an intriguing dimension. Exploring alternative editing techniques could potentially elevate the image, unveiling its complete and captivating potential.

### **References**

1. CU-Boulder Weather Observations: 10/17/23 11:55p.” *University of Colorado Weather Network*, CU Boulder ATOC, 3 Nov. 2023, [sundowner.colorado.edu/weather/atoc1/PAOSweather20231017.html](https://sundowner.colorado.edu/weather/atoc1/PAOSweather20231017.html).

2. Hertzberg, Jean. "Clouds 3: Skew - t and Instability." *Flow Visualization*, Flow Visualization, [www.flowvis.org/Flow%20Vis%20Guide/clouds-3-skew-t/](http://www.flowvis.org/Flow%20Vis%20Guide/clouds-3-skew-t/). Accessed 30 Oct. 2023.