MCEN 5151
Clouds First
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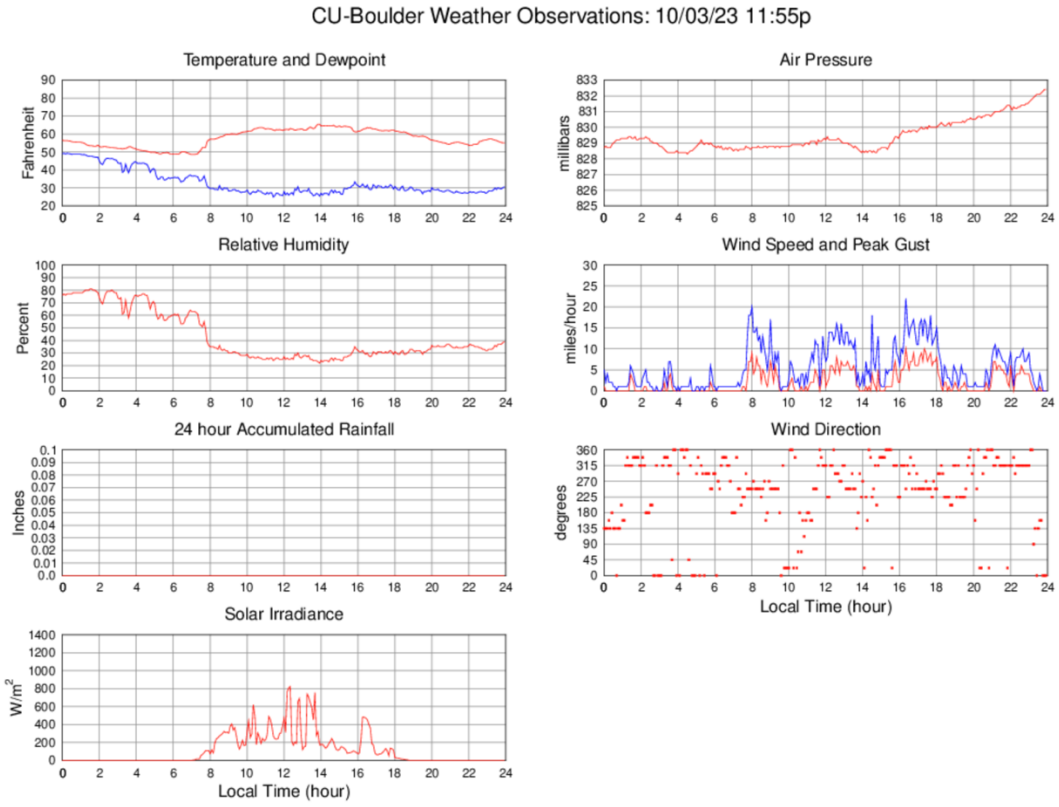
Background and Context:

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.

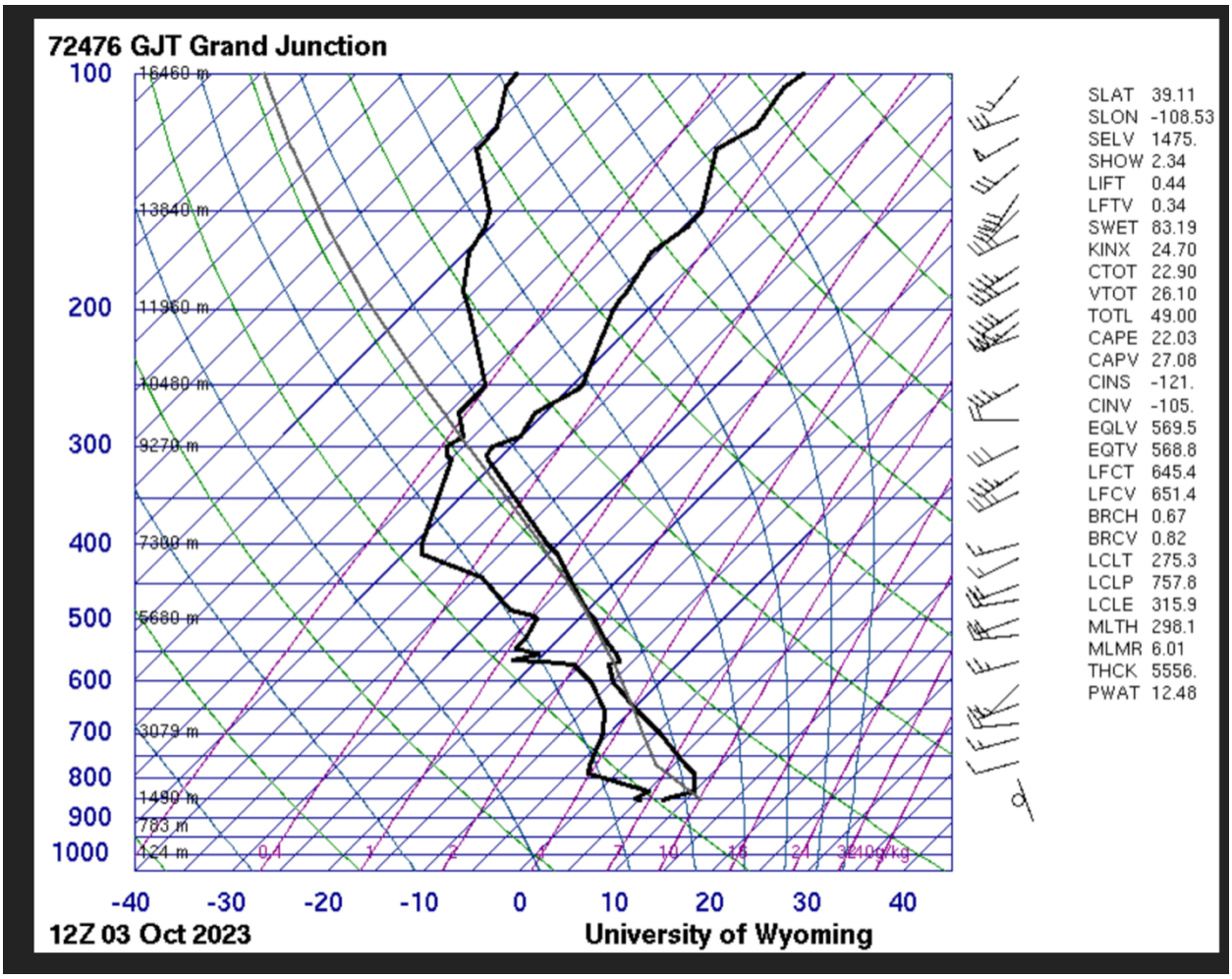
This image was taken in Boulder, CO near Folsom Street on October 3, 2023 at 8:12 AM using my phone camera

Cloud Classification and Weather Data:

I believe the clouds in this image to be Cirrostratus clouds. They are at a high altitude making them Cirrus clouds, they are fairly thin and cover a large portion of the sky. It can also be verified through the weather data taken from CU Boulder ATOC department.



From the graphs we can see that there was not much of an increase in temperature during that day, likely indicating that it was a cloudy day. Around that time there is an increase in the windspeed and a higher windspeed maintains uniform shape in the clouds. Another way to verify that is to look at the Skew T plot of that day.



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. Cirrostratus clouds are typically formed at an altitude between 6000 m and 13000 m. From the Skew T it is likely that the clouds have formed at an altitude of about 9270 m, clouds are likely to form where two black lines are closest to each other. It also shows that there were likely other types of clouds formed during that day in lower altitudes.

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 did not make any edits to the image, this is the original image.

Conclusion:

This image effectively captures the grandeur of the clouds, with its diagonal arrangement and symmetrical composition adding to its visual appeal. The gradual diminishment of the clouds creates a sense of depth and perspective. It's intriguing to explore how alternative editing techniques could further enhance the image, unlocking its full potential.

References

1. CU-Boulder Weather Observations: 10/17/23 11:55p." *University of Colorado Weather Network*, CU Boulder ATOC, 18 Oct. 2023, 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/. Accessed 30 Oct. 2023.