

Clouds Second

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Introduction:

For the “Clouds Second” assignment, our purpose was to capture the formulation of fluid physics with clouds. I captured a few images of clouds leading up to the due date of the assignment. Although it is fall/upcoming winter, the skies were so beautiful. I usually never really see much color in the sky during the gloomier and cold months. This was captured outside of my house in Aurora, CO. There is a beautiful trail left behind from a plane that really draws the image together.

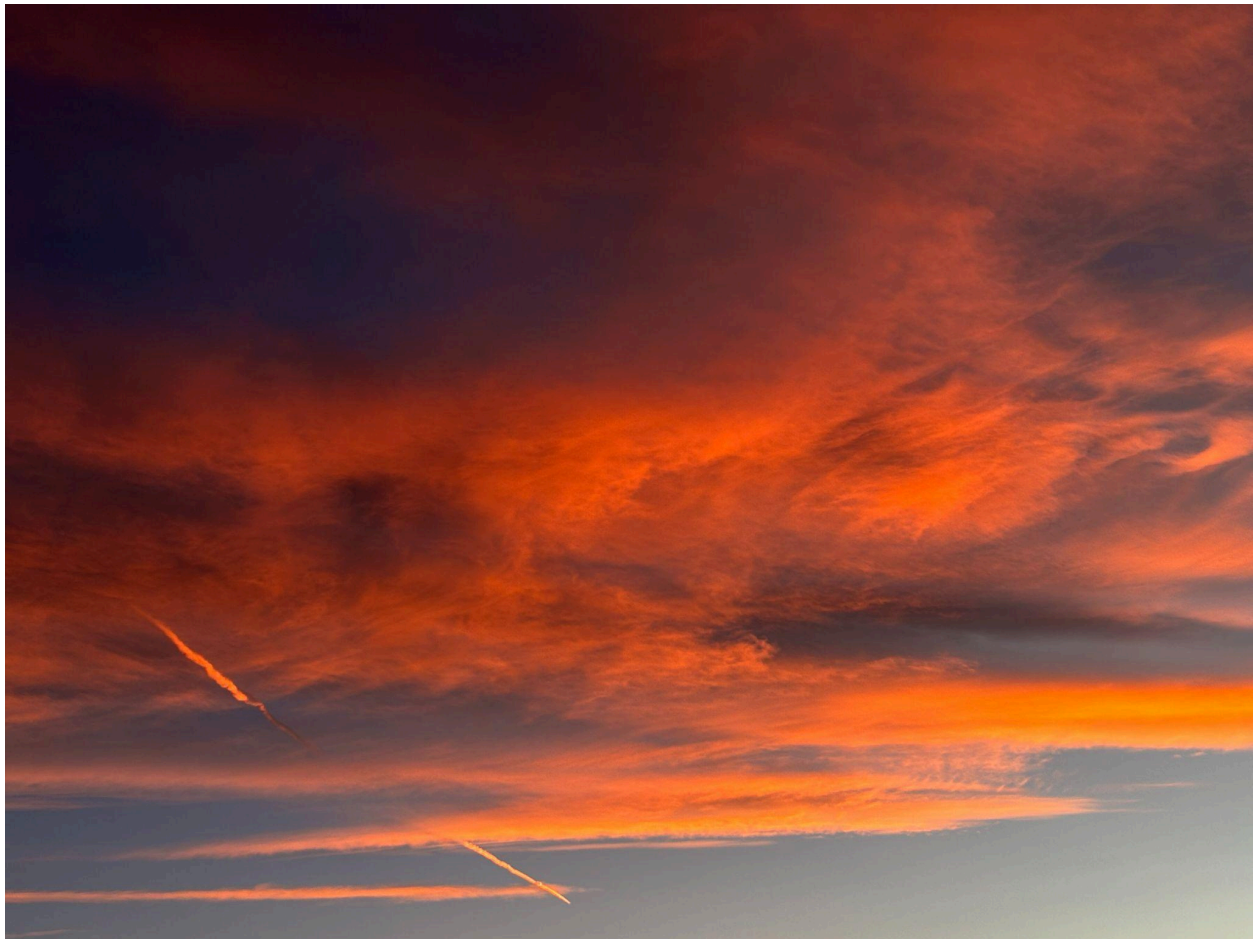


Figure 1: Raw Image

Circumstances:

On November 23, 2024 at around 5:52PM, I was sitting at my house in Aurora and realized there was an orange hue surrounding my room. I looked outside my window and a beautiful scenery was revealed to me. I grabbed my phone camera to capture the clouds. The camera was facing North, and the elevation was approximately 5000 feet.

Description:

Through the beautiful depiction of orange and purple skies, The colors suggest that the atmosphere is shifting in temperature. In image 2 (Skew-T Data), the data shows how there is significant separation between temperature and dew point profiles in the higher levels. This can result in a dryer atmosphere. My camera was pointing south and captured a contrail that shows up on the bottom left of the corner. The contrail is a bit lighter than the clouds which represents that the contrail could actually be behind the clouds rather than behind. The contrail is traveling about 15,000ft from the ground. Through the wind profile, the Skew-T shows that there is increasing wind speed with height, showcasing distributed clouds in the image. The conditions of the clouds are stable because there is a lack of CAPE. and no connective activity. We are able to see cirrus and cumulus clouds due to the stable conditions. Cirrus clouds are produced by strong upper-level winds that stretch to the clouds. They also form in high-altitude moisture and are seen in faint places in the image. Cumulus clouds are formed through rising air in a stable environment. Through the rising of air cooling to dew point, the water vapor condenses and forms clouds. These are the formation of clouds in the image taken.

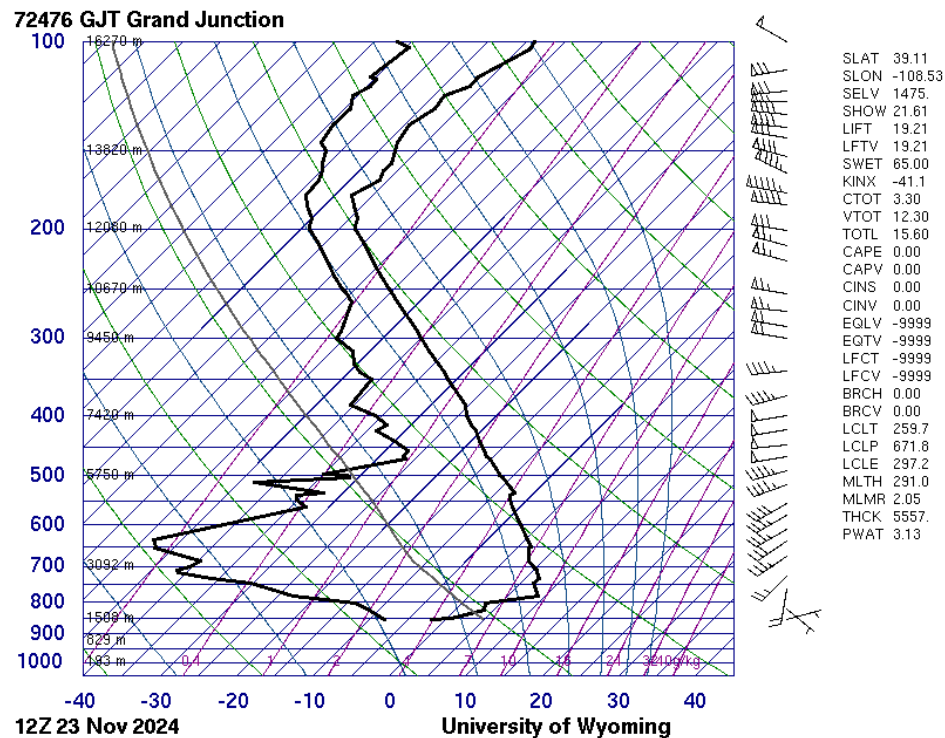


Image 2: Skew T Data

Technique:

Taken on my iPhone 15, here are the settings: ISO: 32, Aperture: f/1.6, Focal length: 58mm, SS: 1/187, Resolution: 4032 x 3024. I noticed the image was captured very well with the colors and frame, so I decided not to edit it and because I was satisfied with the results of the image.



Figure 3: Raw Photo

Conclusion:

Overall, the project was successful. I think that giving myself more opportunities to go outside to take pictures was very helpful. I really enjoyed finding details like the contrail to make the image look more interesting. I think I was able to capture a beautiful sunset and it was very rewarding to experience such a unique cloud flow.

References:

Met Office. (n.d.). Stratocumulus clouds. Met Office.

<https://www.metoffice.gov.uk/weather/learn-about/weather/types-of-weather/clouds/low-level-clouds/stratocumulus#:~:text=How%20do%20stratocumulus%20clouds%20form,warm%2C%20cold%20or%20occluded%20front>