

Clouds 1 Report

By Cara Medd



MCEN 4151 Flow Visualization

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Introduction

The second assignment for MCEN 4151 is the Clouds assignment. The purpose of this assignment was to encourage students to observe clouds on a daily basis and try to understand what is happening in the atmosphere while doing so. There are many types of clouds but I typically enjoy the clouds that completely layer the atmosphere and make it feel like as though you are in a airplane.

Location

This image was taken at the Radium Hot Springs in Kremmling Colorado on March 1st at 3:32 pm. The image is facing West and the camera was angled a few degrees above the horizontal.

Atmosphere

On the day the photo was taken, there were clear skies in the morning but that quickly changed once the afternoon hit. While on my journey at the hot springs the sun got lost in the clouds to see that the sky was completely covered in a layer of clouds. This was a perfect day to capture a beautiful stratus cloud. The picture was taken in the afternoon just before we left to head back home to Boulder. From the picture, one can see that the sky was formerly blue and visible but once the clouds came in they completely took over the atmosphere. These clouds are stratus unglates. The atmosphere was considered stable because the CAPE was 0.00. The following figure shows the Skew- T diagram for Denver on March 1st around 3 pm. This is the closet Skew T available for Kremmling.

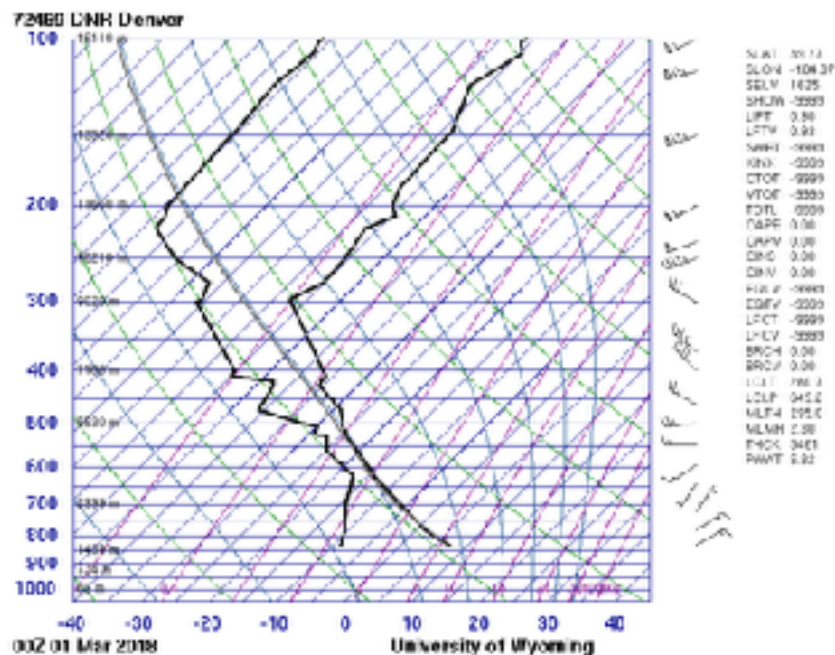


Image Capture

The photo was taken with a Canon D90. The aperture was set to 5.5 and the shutter speed was set to 1/800. Because the picture was taken outside with a fair amount of light available, the ISO was set to 200. To edit this photo I used Adobe After Effects. In this photo the constant was increased and so was the exposure. This allowed the layering of clouds to show more of a distinct shape instead of having them all blend in together. The original photo is displayed below:



Conclusion

This image shows the layering of stratus unguates clouds covering the sky. Clouds pass over our heads every day and always exhibit fluid flow phenomena, so its important to be observant of this. The original photo didn't show the layering as much as it did in real life, so using the editing program really helped exaggerate the physical features of the clouds. In the future I will make sure not to have any distractions in my cloud photo such as the power lines that are visible in this photo.