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Cloud Image Report

Clouds are some of the most accessible and visible works of natural beauty in our daily lives. The purpose of this image is to capture a moment of the sky when a cloud formation creates a beautiful or interesting display. I would have preferred to photograph a cumulonimbus, but the opportunity did not arise. The image I chose was appealing to me because of the interesting effects of the lighting from the setting sun.

I took the image behind my house near the northwest side of campus of the University of Colorado at Boulder. The photo was taken on February 10th 2010 at 5:30pm. At this time, the sun had just dropped below the mountain line and was beginning to color the clouds with the light of a setting sun. I was looking southwest towards the mountains at an angle of approximately 70 degrees from the horizon.

During that time of the day it was 37.4 degrees Fahrenheit. The sky contained a few different cloud types, including mountain wave clouds. It was a good day for cloud photography because it was cloudy from 7:00am to 9:00pm. The wind at ground level was calm besides a few light gusts. The photograph I took consisted mostly of the edge of an altocumulus cloud. Towards the bottom of the image you can see a cirrocumulus cloud that is higher in the sky. Figure 1 displays skew-T the conditions of the atmosphere at 6:00pm at Denver the day the photo was taken.

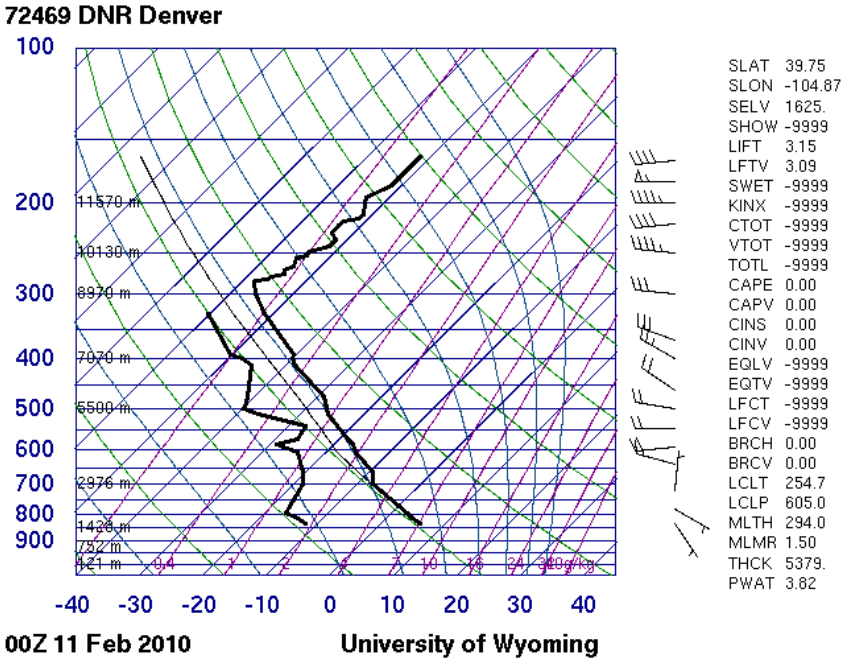

Figure 1: Skew-T Plot

The skew-T plot confirmed my initial thoughts for the cloud types. The plot shows that the air temperature profile and dew point temperature get closes at approximately 5000m and once again at 7000m. This indicates that there are clouds in the mid-level range and also high-level clouds. This made it is easier for me to determine if the clouds were stratocumulus or altocumulus. The winds at these

heights were between 18-22 knots for the middle level clouds and 28-32 for the high level clouds. The air parcel temperature line shows that the air was stable around the time of the picture and that the air is unsaturated. These kind of atmospheric conditions usually result in small cumulus clouds[1]. The wind speed gave the clouds the wispy look at the ends.

The field of view for the image is approximately 60 degrees with a focal length of 28mm. The picture was taken with a relative aperture of f/9, an exposure time 1/160, and an ISO number of 100. The camera used was a Canon EOS Digital Rebel digital camera. The dimensions of the image are 3072x1917 pixels. The image used natural sunlight only, so there was no flash involved or additional lighting. Photoshop was used only to make the blacks blacker and the whites whiter. This made the sunlight more vibrant and gave the blue sky a better contrast with the clouds. The original photo can be seen at the end of this document.

For my final image I was trying to capture the interesting effects of the wind and lighting on two different cloud types. The lighting makes it easy to distinguish that there are two different cloud heights displayed on the image. Both clouds show a similar reaction to the wind. The image was focused and zoomed on the wispy edge of the altocumulus. The scale of the cirrocumulus is much larger and the wispy effect is only visible at the bottom right. I believe this gives the two clouds a nice continuity, while also informing the viewer that they are not equal. I think that I have done a fine job contributing to the perception of clouds as art and I hope you enjoyed my photograph.

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1. http://www.ace.mmu.ac.uk/eae/weather/Older/Stability_of_Air.html

Figure 2: Original Photograph