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2/29/12

Clouds #1

This picture was taken in Boulder, Colorado at the corner of 30th and Aurora at approximately 4:00pm on February 21, 2012. The camera was pointed south-east at about a 60 degree angle from the horizon. In this picture, I wanted to capture the edge of the cloud rather than the entire cloud. I took the picture in an attempt to look at the abrupt ending of the cloud with the sky behind it. Before capturing this picture I took several throughout the week and I ended up choosing this picture because I really liked the color of the sky and how the edges of the trees were in the picture.

When I ended up taking this picture the weather was pretty warm and nice; however a front was moving in and it was becoming cooler. There were significant winds that day and the next day was going to bring enormous winds all day long. The types of clouds in this picture are altostratus. The environment that day was stable and can be seen in the Skew T plot [1]. This can be seen in the plot as well as from having the CAPE being equal to 0.

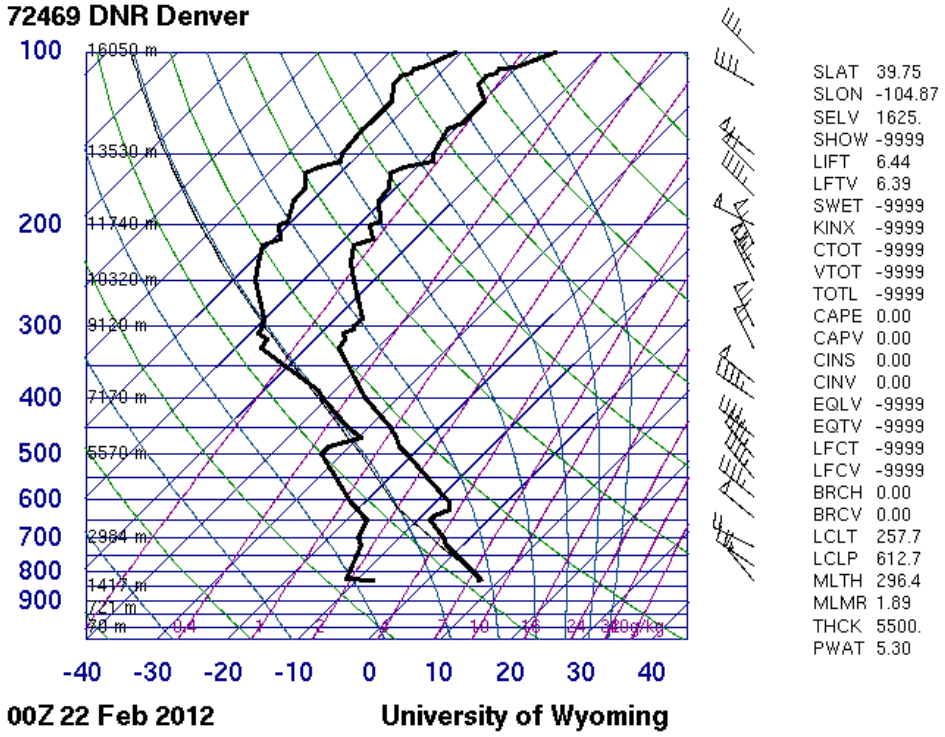

Figure 1: Skew T Plot

These types of clouds normally form at high altitudes and are generally perpendicular to the direction of the wind. I am also assuming that the winds were playing a large role in the way the clouds were appearing that day. Also there was a front moving in that was also affecting the clouds. Normally these clouds appear at an altitude of between 6,500 to 23,000 feet [2]. I believe that the clouds taken in this picture are at approximately 16,000 feet above ground, due to the angle of the camera. These types of clouds are usually gray and fibrous, and are capable of spanning thousands of miles [2]. Altostratus clouds are formed by the rising of a large air mass that condenses into a cloud. These clouds can take the form of a featureless sheet of cloud or they can be fragmented or appear wavy due to wind [3]. These clouds are mainly composed of ice or water droplets [4]. They can also rise at .16 to .33 feet per second and can be the result of a thickening cirrostratus cloud [4]. This picture shows a more fragmented cloud, due to higher wind speeds and an incoming front.

In this picture, I really wanted to show as much of the sky to really capture the edge of the cloud. I wasn't sure how to do a panoramic view, so I just zoomed out as much as I could to capture the cloud. I estimate that the field of view in the picture is 6,000 feet. The camera I used was a Sony DSLR-A230. The shutter speed was set to 1/250 sec and the F-stop was f/13, the ISO was 100, and the focal length was 30mm, and the final pixel dimensions are 3,732 by 2,448. I did end up editing this picture from the RAW image produced by the camera. I basically messed with the curves a little, added some saturation, and the contrast of the picture as well as cropping the edges slightly. I have also included the before and after pictures.

Figure 2: Final Picture

Figure 3: Original Picture

I think this image reveals what I wanted it to. I like how I kept the trees in the picture to create a nice contrast with the clouds. I like the appearance of the trees almost reaching out for the clouds and the clouds almost appearing to reach back towards the trees. I also really like the final color scheme for the picture. One thing that I don't really like about this picture is the view. I think the picture would have been more interesting if I had taken it from a different direction or if I was higher. One thing I would also consider if I was re-doing this picture again would be to consider including the tress in the border of the picture. I could never make up my mind if they were distracting or interesting to have in the picture. Overall, I am pleased with the picture I took and I think it clearly exemplifies the physics occurring in the clouds.

References

[1] "Atmospheric Soundings." *Wyoming Weather Web*. Web. 01 Mar. 2012.

http://weather.uwyo.edu/upperair/sounding.html.

[2] Pretor – Pinney, Gavin. *The Cloud Spotter's Guide*. Perigree, 2006.

[3] "Alto Clouds." *302 Found*. Web. 01 Mar. 2012. <http://eo.ucar.edu/webweather/alto.html>.

[4] "Altostratus Cloud." *Wikipedia*. Wikimedia Foundation, 26 Feb. 2012. Web. 01 Mar. 2012. <http://en.wikipedia.org/wiki/Altostratus_cloud>.