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Flow Visualization

## **Clouds Assignment #1**

We see clouds everyday however I highly doubt that we think about the complexity of each cloud. Throughout the last few weeks I have begun to pay more and more attention to the sky. As warned there were several times that I saw amazing clouds but unfortunately did not have my camera with me. Luckily I was able to capture this image that displays the beauty of clouds in a sunset over the Front Range. This image exhibits a variety of cloud classifications while also illumination of the sky in different colors from the sun setting. This photo will be used to educate students about different types of cloud formations.

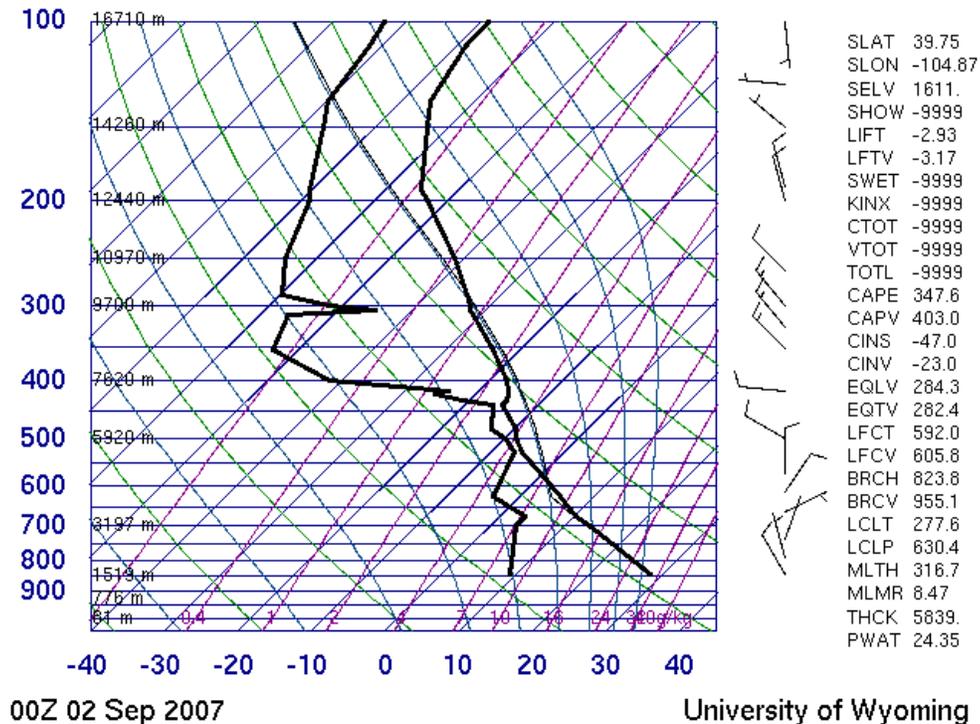
This photo was taken from a high-rise building in Denver looking west towards the mountains. Unfortunately since this assignment is purely observational it is impossible to replicate. In order to get an image of a sunset like this it is best to take the photograph from a high location in order to not have any obstructions in the frame. When photographing a sunset it is difficult to not get an image that is correctly exposed, often times the sun will cause the image to be overexposed. To avoid overexposure take a light reading of the sun rather than the clouds or the rest of the scenery. This will still cause the rest of the image to be on the darker side rather than blown out.

The visualization displayed in this image is the collection of water droplets suspended in the atmosphere to create numerous stratus and altostratus clouds. This

image displays a still image of the clouds as they pass over the mountains. The only lighting used in this image is from the natural sunlight.

The camera used when making this image is a Nikon D40X digital SLR. This camera has 10.2 mega pixels which captures 3,872 x 2,592- pixel images. The lens' total range is 18-135 mm, f/3.5-5.6. The size of the field of view in the image is very large, many miles. Also, the distance between the lens and the subject is immeasurable because it is so large. The focal length for this photo was 135 mm with an f stop of F/20. The exposure time was 1/1250 second and the ISO was 800. This photo was taken on September 1<sup>st</sup>, 2007 at 7:01 PM from Denver, CO. There were no manipulations made to this image after it was taken.

72469 DNR Denver



There were several images of clouds that I took on September 1<sup>st</sup> that I was fond of. I chose to use this image because I loved the colors that were created from the clouds. The only thing I would change about this image is that I wish the cloud was sharper but instead the mountains are in focus. I tried to further understand the physics associated with cloud and understand this particular day, however I am still struggling with it even after attending all the clouds lectures. Hopefully by the time the next cloud assignment is due I will be able to analyze the skew-T chart, for now I have just included it for the readers' sake.