



Clouds Second

Jordan Nahabetian
Photo taken on March 15, 2018
Altostratus in the morning
Boulder, CO
ATLS 4519

Context

This was the second cloud assignment for Flow Visualization where my classmates and I are given the freedom to capture and cloud formation. In my first cloud image, I captured the sky at sunset and witnessed the colors and types of clouds typically seen in the evening in Boulder, CO. For this image, I planned to instead capture the sunrise, especially because the sunrise is captured far less than its sunset counterpart. This exact photo was not planned. I was looking out my east-facing window one morning and was blown away by the beauty of it. I used my phone and got the image right away.

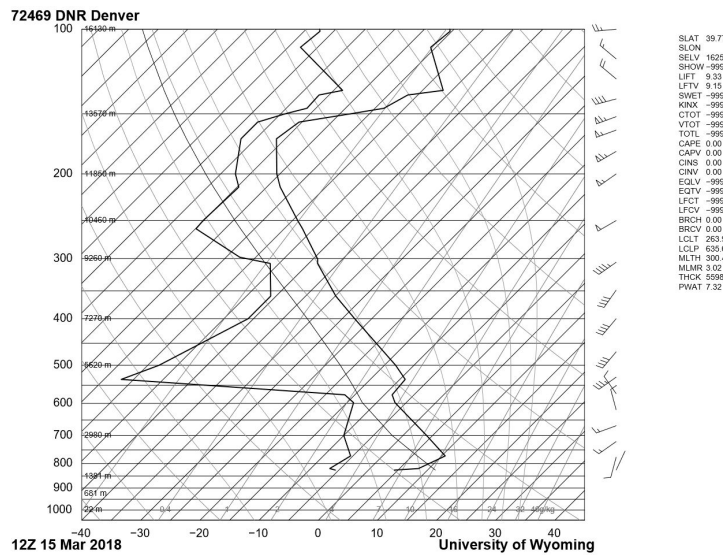
Time and Space

This image was taken facing directly East in Boulder, CO at 7:30 am on March 15, 2018. This was captured near ground level which is approximately 5,430 ft in elevation. The camera was perpendicular to the ground. The room I was in was on the second floor of the building, which is why image captured a good amount of sky behind the trees.

Conditions and Clouds

The type of cloud most prominent in this image is a higher-level altostratus. These clouds are characterized by their flat and mostly-uniform appearance. Altostratus clouds are found in the mid layer of the atmosphere which is between 6,000 and 23,000 feet above ground and don't normally form precipitation. A notable effect of the altostratus clouds as compared to the lower-level stratus cloud is that the sunlight shining through these clouds look more diffuse and not as direct as it does in stratus. This is due to the combination of liquid and ice particles within the altostratus cloud. The ceilometer measurements for this day indicate that the clouds that occurred were in the higher half of the mid-range level, which is about 16,000 ft. The clouds the night before this we high-level cirrostratus with a generally clear sky. Although the morning had

some blue in the sky and that atmosphere was stable, by noon lower level cumulus clouds began to cover the sky to the west and there was a little precipitation later that evening.



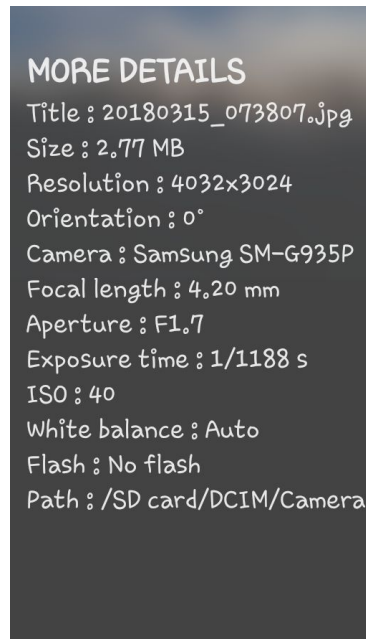
Altostratus clouds are typically developed when the high hanging cirrostratus clouds sink lower in the atmosphere or when a larger layer of air gradually and uniformly moves upward.

Another important aspect of this image is the condensation trail, or contrail, which is formed by airplanes. There are two of these trails that meet and an almost-perfect 90 degree angle here. Contrails form at anywhere from 28,000 ft to 40,000 ft. with negative temperatures of the troposphere. The hot and moist gases released by the airplanes immediately cool and freeze in these conditions and create ice crystals in the high altitude. The fact that the contrails developed means that the atmosphere was relatively moist. As seen in the images, there is really only one area of the contrails that looks like a “bump” which means that there was not much wind where they were formed.

Photographic Technique

There’s a really interesting characteristic of clouds that passes us by a lot. The clouds we see in the sky connect us to surrounding land masses. Sometimes we can even see clouds in the distance that are hovering over another state. The clouds in this

image were quite high and the ones in the far distance, because they were so high and still visible, were hundreds of miles away. I took this image on my Galaxy s7 and the following are my image specifications.



In post-processing, I did a couple of things. First, I cropped off a bit of the ground. I also increased the contrast, increased the yellow saturation, and increased the black in the shadows. I also increased the yellow level and decreased saturation in the blues. This was all done to emphasize the morning gradient of colors and the clouds' interaction with them.



Left: Original



Right: Edited

Reflection on Image

This image turned out really well. The process of taking this picture shows how the sky gives the beauty and all the photographer does is capture that beauty in a captivating way. The artistic nature of this image was given to me and there was little work that I did other than notice it. I really like this image and the underlying serene mood of it. The only thing I may have changed is the slight reddish tint in the clouds.

The sky is a wondrous place with complexities that support life. I believe everyone should look at the sky more often.