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Clouds First Report:

Altostratus Clouds in Winter Part on January 28, 2018 at 4:35 p.m.

Context

This image was taken for the Clouds First assignment. I wanted to capture clouds at sunset or around sunset since this is usually when the colors of the sky are really beautiful and the clouds really add to this aesthetic. I had planned on using a nicer camera than my iPhone 6 to capture these clouds but I happened go for an evening walk and these clouds were so cool with the sun shining through that I chose to snap a picture anyway. I had to take several images to have the contrasts be okay and for the glare from the sun to be minimized. I ended up capturing these orographic clouds that are in the altocumulus classification, shown in the final image in Figure 1.



Figure 1: Final Clouds First image.

Circumstances

These clouds were captured on January 28, 2018 at 4:35 p.m. in Winter Park, Colorado. I was standing on a slight hill but my camera was pretty level with the horizon which means it had a very small angle from the horizontal.

The Clouds

The clouds that I captured are orographic clouds in the altocumulus class. They are clouds caused by mountains and winds and flow associated with mountains. However, they are altocumulus clouds due to their altitude and appearance. Winter Park is at 9,000 ft, and the clouds are even higher than this—maybe 10,000 or 11,000 ft. Thus, they are mid-level clouds which are clouds that are between 6,000 and 20,000 ft. The puffy shape of the clouds means that they are altocumulus, since altostratus clouds are more linear and thinner which does not match the captured clouds' shape. Air is forced over the mountains to create these clouds. The clouds were also in a stable atmosphere, as verified in the skew-T diagram in Figure 2.

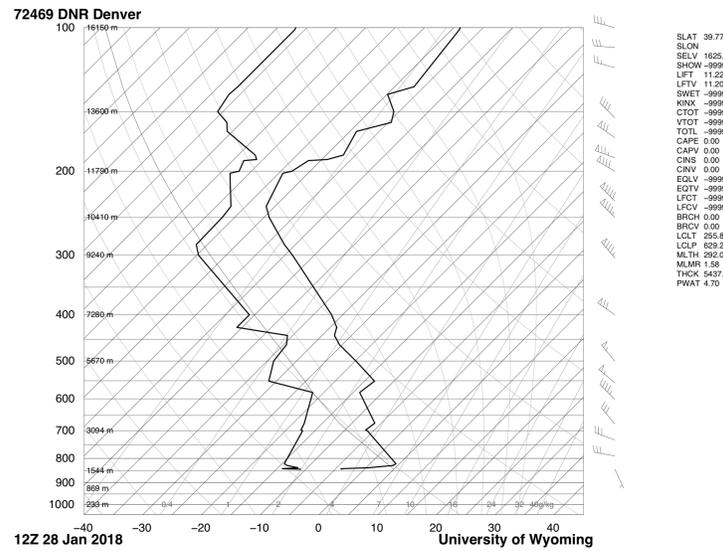


Figure 2: Skew-T diagram.

The CAP number from the diagram is 0.00, which means the atmosphere was stable. I do not remember the weather perfectly since this image was taken so long ago but I believe it had snowed either the night or day before. This general weather and the stability of the atmosphere makes sense with the clouds that were captured.

Photographic Technique

The field of view that encapsulates the clouds is probably several miles wide. The distance from the clouds to my camera was also enormous, ranging from maybe half a mile to more than a mile at the furthest clouds. I took this picture with my iPhone 6, which has 29mm f/2.2 lens and a 1/3" sensor^{1,2}. The original image was 3264 × 2448 pixels and the final image was 2319 × 1904 pixels. The focal length was 4.15 and the exposure time was 1/4,405. The original image is shown in Figure 3.



Figure 3: Original image.

I altered the brightness and contrast of the image and cropped it to create the final image in Figure 1 and 4.



Figure 4: Final image.

What the Image Reveals

I really like the sun coming through the clouds in this image. The walking individual and the fence provide leading lines that point to the clouds and the sun. I also really like the colors of the sky and the depth of the clouds. The clouds are nice and fluffy as well. The light reflected off the snow is really beautiful as well. I fulfilled my intent because I enjoy looking at this image and the effect is very beautiful. I would improve this image by darkening the side of the building and by getting rid of the sun spot reflection.

Citations

- 1 Apple iPhone 6. (n.d.). Retrieved March 21, 2018, from https://www.gsmarena.com/apple_iphone_6-6378.php
- 2 Photography Terms Explained for Mobile Phone Cameras. (n.d.). Retrieved March 21, 2018, from <http://www.cameradebate.com/2014/photography-terms-aperture-focal-length-sensor-size-image-stabilization/>