

## Clouds Second – Spring 2018



*Figure 1: Final Image*

### **Context:**

The second cloud assignment is the secondary assignment in capturing the texture and variability of clouds. I was driving home after class and noticed some spectacular clouds on the horizon. The overall coloring had a great gradient and the clouds were practically backlit. I enjoy how the mountains created a vastly different texture than the clouds above it, as seen in Figure 1. In post processing I brought the coloring of the mountains down to black to create a silhouette effect, increased saturation to accentuate the shading in the cloud itself, but did not crop the image because of how well the initial image was framed.

### **Circumstances:**

This image was taken in Broomfield, CO off 136<sup>th</sup> Avenue near Main Street. The image was taken facing west with high winds. The camera was elevated approximately 15 degrees above horizontal, evident by the mountains seen in the original image. See Figure 3. This image was taken at sunset around 5:15 PM on March 30<sup>th</sup>, 2018.

### **Cloud Identification:**

The image used for this project is interesting because it shows how many different varieties clouds can be visible from a single frame. In the far background, seen behind the focal point of the image, is a thin layer of cloud covering majority of the sky. Judging by the skew-T diagram in Figure 2, this is an altostratus approximately at 11000m. Typical of altostratus, the formation is a mid-level layer of gray

cloud which is featureless in appearance. These clouds are normally formed between 2000m and 7000m [1]. This cloud is above the upper limit of this classification, but shows all the characteristics of the altostratus genus.

The aspect of the image I was attempting to display at the focal point when initially photographing is the mountain wave cloud. The classification of cloud is a very typical formation for the front range of Colorado. This identification is due to the parallelism to the mountain with a visible gap in between. Usually caused by a bounce of air, such as the draft off the mountains, as the stable air passes over raised land features it can form clouds directly above the protrusion if enough moisture is present in the atmosphere [3]. Finally, the lower half of the image details a cloud that covers the horizon. The classification of this cloud can be a stratocumulus, but this specimen is a great example of the Foehn Cloud Wall. The wall is a variety of cap cloud formed by condensation right over top of the mountains. This type of cloud is very similar to a mountain wave cloud but is much larger. Additional conditions come from the weather preceding and following the image. There was snow earlier in the week, so this image may be indicative of the trailing end of a cold front [4]. The wind was awfully strong approximately 17 mph with 32.2 mph gusts when this image was taken, but the Skew-T diagram shows the CAPE equal to zero being a result of a stable atmosphere. [2]

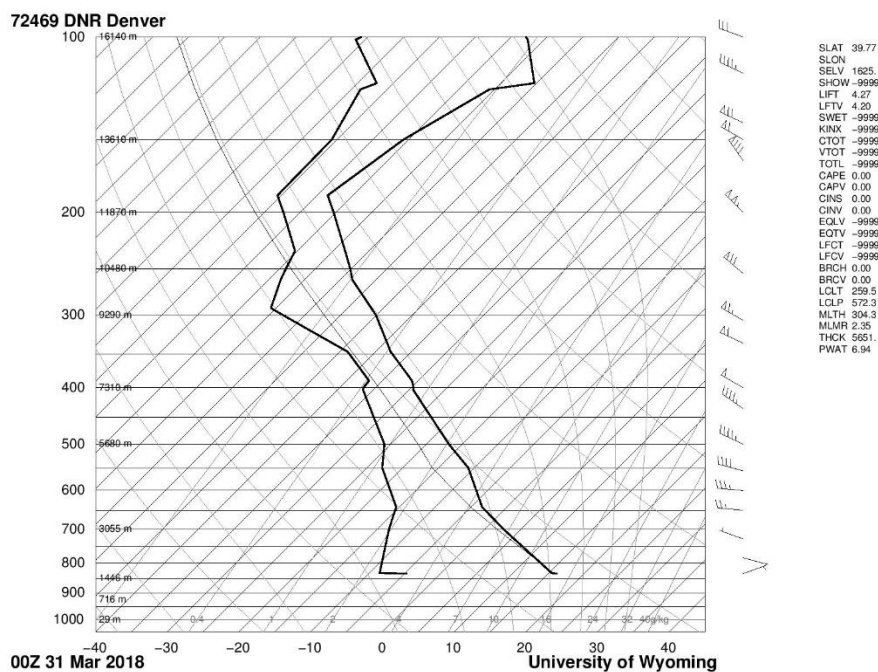
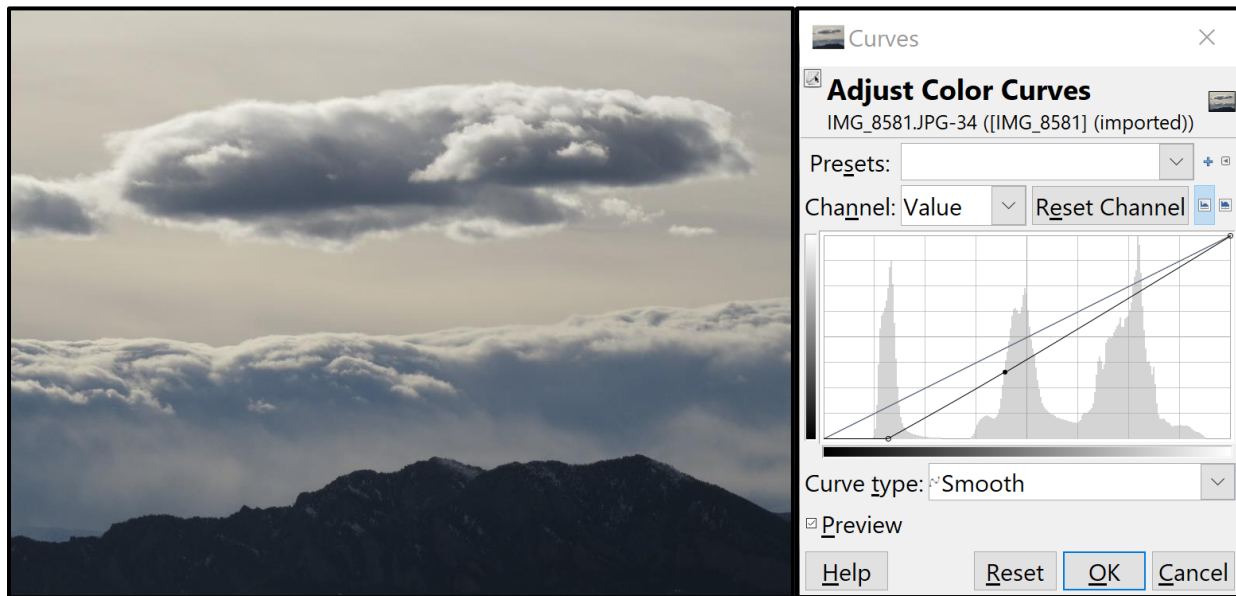


Figure 2: Skew-T diagram for March 30, 2018 6:00PM Denver

### **Photographic Technique:**

The original photo show in figure 3 is 4000 pixels x 3000 pixels. The camera used is a Canon PowerShot SX50 HS. The camera was held 15 degrees above horizontal. All of the clouds were above the mountains and multiple miles away, but were so large and visible they could be photographed from Broomfield. The estimated elevations of the clouds are 11000m for the altostratus, approximately 7000m for the

mountain wave cloud, and slightly lower for the Foehn cloud wall. The field of view is about a mile wide at the focal point. The cloud was 2 fingers width above the ground and 1 finger width in width. The camera specifications are: an aperture of f/5.6, and ISO of 80, and a shutter speed of 1/1600 s. The focal length was 40mm, focused at infinity, and zoomed in to frame the image. The final image seen in Figure 1 was not cropped, thus the dimensions remained the same at 4000 pixels x 3000 pixels. Post processing required color curve manipulation using GIMP, see Figure 3 for the exact specification. The image was originally backlit by the sunset and I wanted to emphasize this by increasing saturation to give the mountain wave cloud more detail and depth, drawing the viewer's attention to above the silhouetted mountains.



*Figure 3: Original Image with Color Curve*

**Critique:**

The image frames the stratocumulus clouds in a very aesthetic manner, there are a lot of gradients and overall has a very menacing appearance, which was what the original intent was. I like how the light from the sunset backlit the clouds, giving a sense of depth to the clouds. The shading was beautiful and one of the clouds I needed to photograph. The gray to white gradients work out very well and give add a good sense of texture. If I were to revise my composition, I would attempt to play more into the rule of thirds, unfortunately as it stands the image is almost split into two at the Foehn cloud wall. Although cropping may aid in fixing this, it would eliminate a large portion of the mountains in the foreground which is an element I enjoy. I enjoy how the end result turned out, and am satisfied with the composition of the image.

## **References:**

- [1] Pretor-Pinney, Gavin. *The Cloudspotter's Guide*. Hodder & Stoughton, 2007.
- [2] University of Wyoming College of Engineering. (n.d.). Retrieved March 15, 2018, from <http://weather.uwyo.edu/upperair/sounding.html>
- [3] "Wave Cloud." Accessed April 21, 2018, from [https://en.wikipedia.org/wiki/Wave\\_cloud](https://en.wikipedia.org/wiki/Wave_cloud)
- [4] Weather History for Boulder Muni, Boulder, CO, CO | Weather Underground. (n.d.). Retrieved March 15, 2018, from [https://www.wunderground.com/history/airport/KBDU/2018/3/30/DailyHistory.html?req\\_city=&req\\_state=&req\\_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=](https://www.wunderground.com/history/airport/KBDU/2018/3/30/DailyHistory.html?req_city=&req_state=&req_statename=&reqdb.zip=&reqdb.magic=&reqdb.wmo=)