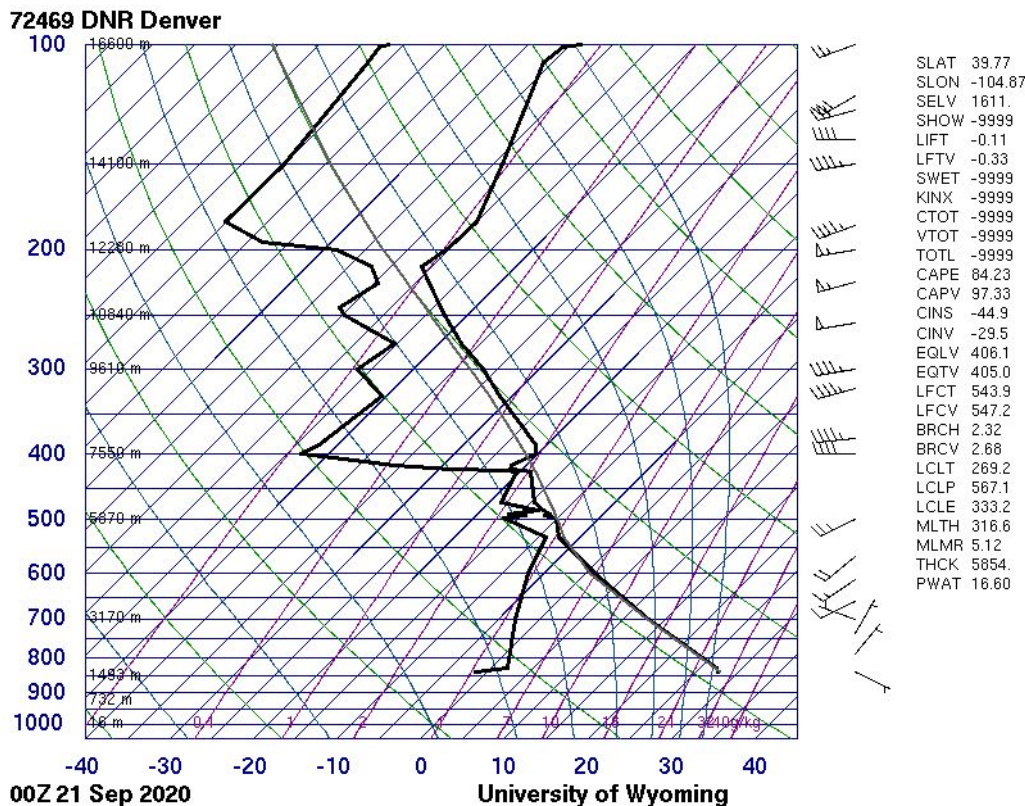


Cloud Image 1: Golden, Colorado

This image was taken for the first cloud image assignment. I took this image in order to capture the sunset and light play off of the clouds over the mountains, and the crepuscular rays. I also wanted to capture the contrast of the different cloud types and their colors and textures. In particular, the orange color of the sunset contrasting with the bright blue of the sky I found to be particularly beautiful.

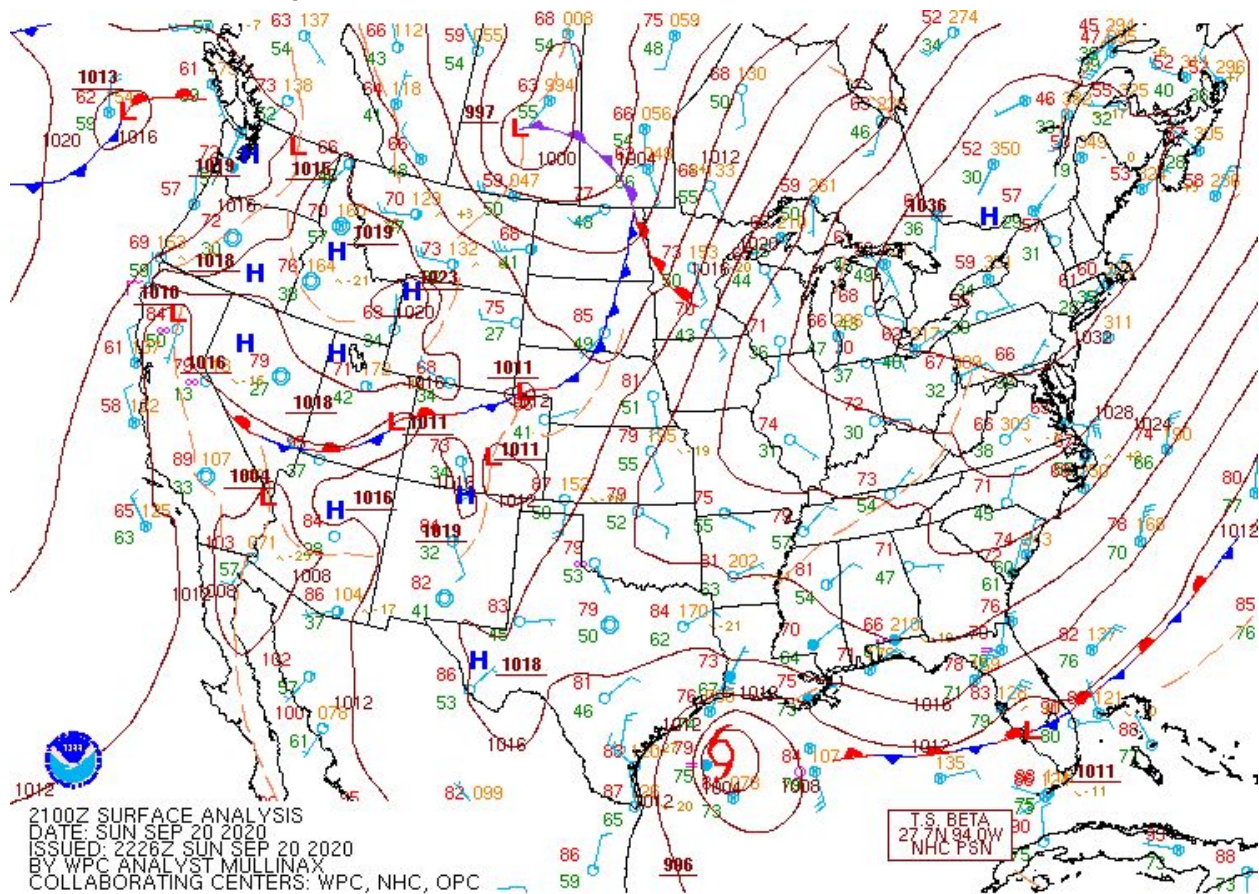
This picture was taken in Golden, Colorado, at Summit View Villages apartments, at an elevation of about 5860 ft. It was taken facing West, directly towards the mountains and the sunset. The angle of the camera was slightly upward, since the mountains elevated the horizon. This sunset was captured on September 20th, 2020, at 18:47 MDT.

There appear to be low grey stratus clouds, higher bright white altocumulus clouds, very high white cirrus clouds, and a mature to dissipating stage of cumulonimbus in the bottom right corner. There is also a contrail in the bottom center of the picture. These cloud types were reflective of the rest of the sky as well. There was locally drizzling rain on and off for a few hours previous to this image, which contrasted with the clear, warm weather across the past few days. Despite the rain, it maintained a warm temperature and bright environment. The SkewT diagram from Denver International Airport can be seen below, gathered by the University of Wyoming.



The diagram indicates little instability, with a CAPE value of 84.23. The bottlenecks on the graph where the two lines intersect indicate that the dew point is the temperature of the air (meaning that the ambient temperature is the same temperature as when atmospheric water vapor condenses), meaning that clouds can be expected notably at about 20,000 ft and 24,000 ft. This is observable in the image, given the different elevations where clouds are apparent. However, it must be noted that the location where the image was taken, and the location of the SkewT at DIA are notably far (Nearly 40 miles).

Given that locational difference, I decided to also include a weather map of the United States, to view a broader perspective of the atmospheric phenomena that were occurring. This information was gathered, presented, and archived by NOAA/ The National Weather Service. I have included this diagram below.



This image was taken on the camera of an iPhone 6s Plus. The f stop was f/2.2, with an exposure of 1/527, and an ISO of 25. The focal length was 4 mm. I would estimate that the field of view is about 2 miles, with the mountains being approximately a mile away. This image was edited in darktable. The saturation was increased to intensify the colors, and an s-curve was given to the color in order to darken the mountains to black, and increase the range of contrast. The image is 4032/3024 pixels, and was cropped. I also edited out a bright streetlight in the bottom left of the image. Below, the original image and the edit are placed side by side:



Original



Edit

This image reveals several types of fluid phenomena in the atmosphere. I like how many different types of clouds you are able to see-- and while they are different, I also like how they work harmoniously in the image. I appreciate how it combines the beauty of nature, as seen in the different types of clouds and contrasting colors of the sunset, and the beauty of the manmade world, as seen in the contrail and the vertical antennas. I fulfilled my intent with this image, and I am proud of how it turned out. I think if I were to develop this further, I would work on my editing of the colors. I want to improve the level of brightness I have, so that I don't oversaturate the image and lose information in the bright whites.