

Flatirons Sunset Clouds

The picture in Figure 1 was taken around 6:40 pm on top of the parking structure of lot 436 on the University of Colorado Boulder's campus. While driving on Saturday 10/2/04 right around sunset just cresting the hill on US 36 heading into Boulder, I saw an amazing cloud. What was so appealing about the cloud was the magnificent glow of this cloud. I decided to take the picture on top of the parking structure in order to get above the buildings and trees in the skyline. That way I could get an unobstructed view of the cloud. This cloud was west of the parking structure and appeared to be right over the mountains, just north of the flatirons (facing a little north-west from the parking structure). The reason this cloud picture was chosen over the other pictures of clouds was that as I stated before, this cloud was so astonishing, it was the first object I saw as I crested the hill. The purpose of photographing this cloud was two fold: first, to capture its brilliance, and second to bring a little scientific meaning to the development of such incredible clouds.



Figure 1. Flatiron Glowing Cloud

Looking at the cloud in Figure 1 it appears to be a cumulus cloud. The glowing cloud on 10/2/04 appeared to be just a couple of hundred feet above the top of the mountain which would appropriately make it a cumulus cloud. Figure 2 is a skew-T plot of the sounding data for October 2, 2004. I downloaded the sounding data approximately an hour after taking the photo, but I believe that this was the morning sounding data on 10/2/04. This will suffice although I believe that the afternoon sounding data would probably more accurately depict the current atmospheric conditions of that time. The yellow line in Figure 2 seems to transition at about 2800 m (approximately 9200 ft), which suggests the formation of clouds at this level. I believe a cloud at this level would appropriately be named a cumulus cloud. The white line on the right is the temperature profile and the white line on the left is the dewpoint profile. Both the temperature profile and the dewpoint profile are close to the yellow line around the height of 2800m, also suggesting the relative ease of the formation of a cloud at this level.

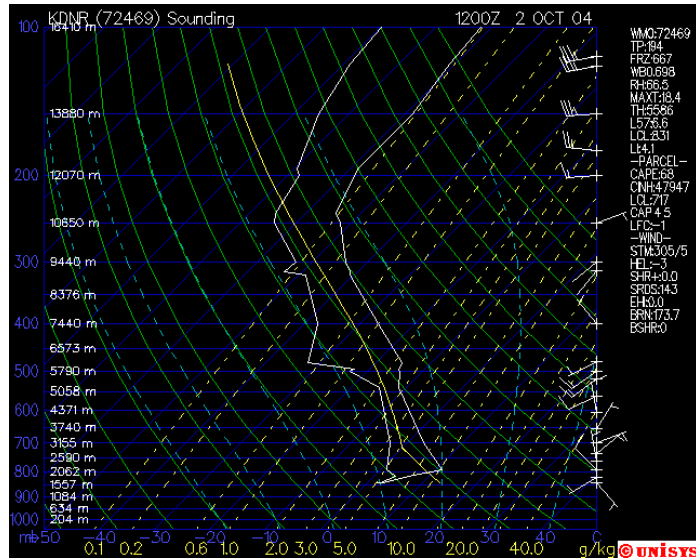


Figure 2. Skew_T Plot [1]

This image in Figure 1 was taken with a digital camera with the manual focus set on infinity. The picture was taken with a shutter speed of 1/87.3 s. With this shutter speed, motion blurring was not an issue as seen in the picture, especially because clouds often have a relatively low speed associated with them. An approximate size of the field of view (again approximate) is about 500 ft by 600 ft. The distance from the camera to the cloud is unknown.

Camera Settings for this photograph

Camera used Nikon Coolpix 4300

- Metering: Matrix
- Mode: P (Exposure Mode)
- Shutter: 1/87.3s
- Aperture: F4.9
- Focal Length: f24.0 mm
- Focus: INF (infinity)
- Sensitivity: Auto (usually ISO 100)
- Digital Tele: X1.00
- Image Qual: HI
- Pixels: 2272 x 1704
- File Size: 11452 KB

Photoshop processing was used to crop the image.

[1] http://weather.unisys.com/upper_air/skew/skew_KDNR.html