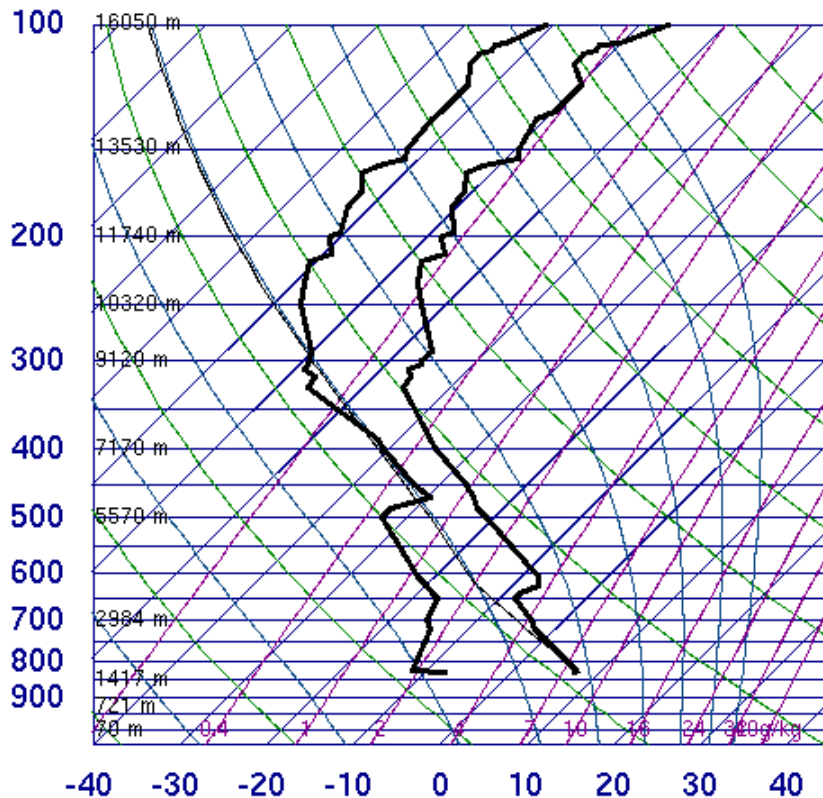Guy Casavan

2/29/12

Film 4200

Clouds 1 Report

This image was taken for the first of our two cloud assignments for the Flow Visualization course. I had been observing clouds for several days and taking pictures, and due to the present weather patterns, I had noticed that most of the clouds were very large. Due to this, I wanted to capture an image that stood out from what I expected the majority of images to look like. I was sitting on my deck on the evening of the 21st when my friend remarked about looking for familiar shapes in clouds, and so I ran to get my camera and we sat there for the better part of an hour looking at the small clouds that were being blown off the larger strato-cumulus clouds. As a result I had many images to choose from that I was intrigued by, before I settled on this one. I liked this image particularly because of the shape I saw in it (that of a rubber chicken) but also because it is amorphous and open to interpretation, which I feel draws the viewer in. I also liked the detail in the wisps surrounding the subject and the larger cloud it came from.

This photograph was taken from the deck of my house at the corner of 9th St. and Arapahoe Ave. in Boulder, CO. It was taken while I was facing due West towards the mountains, at approximately a 75° vertical. The image was taken at about 4:24pm, on the 21st of February, 2012.

The cloud shown in the image is what I believe to be a "rotor cloud", because it had broken off from the larger body of the strato-cumulus cloud, and as I was

observing it, it was rolling and rotating over itself in the wind. I believe that these rotor clouds were able to form because of a shearing effect that cross winds had on the clouds caught in the middle, and that the winds pulled smaller clouds off the edges of larger bodies and rolled them until they dissipated. The rest of the sky exhibited the typical mountain wave clouds that form off the front edge of the Flatiron range west of Boulder, and had been for some days previous and afterwards. Winds were fairly fluctuant on the day this image was taken, going from still at times, to 30mph or more in gusts, with an average of about 18mph. the skew-T plot pictured below:

(Atmospheric Soundings)

exhibits the weather patterns for the time and day that the image was taken. The atmosphere on this day was fairly stable, as seen by the CAPE measurement of 0.00. However, clouds were able to form at an altitude of approx. 3000-3600m (which is the altitude I believe the clouds in my image were located at), as can be seen in how the graph takes a sharp deviation in slope from the right-most bold black line (which indicates the temperature of the atmosphere) from the thin, constantly sloping black line in the middle (which indicates the temperature of the module on the weather balloon). This deviation is significant, because it means that the atmosphere is causing clouds to form at that altitude. I think that this is a fairly accurate representation of how close the clouds were to me when I was observing them, because I could make out a wide variety of details in the clouds, and I felt very close to them in an innate sense. The cloud formation at this altitude suggested by the skew-T and traditional cloud observation would be stratus clouds, but the clouds I was observing seemed to be puffier in some spots (suggesting a cumulo-variety) and mountain-wave in others (suggesting lenticularis). This makes sense for the weather patterns exhibited in the skew-T, the windiness of the day in question, and the lack of precipitation.

I estimate the distance from object to lens to be about 3200m. The focal length was about 36mm, with an f-stop of 5.6, at ISO 400, and an exposure time of 1/2500. The image was captured on a DSLR (Canon Rebel XS). The original image was 3888 x 2592 px., but was cropped to 3729 x 2157 px. I chose to do this to cut out some unnecessary space that filled the top and bottom of the image. I also lowered the brightness of the image (to cut down on the glare of the white of the

cloud) increased to contrast (to heighten the difference between pale sky and cloud) increased the clarity (to enhance the edges and wisps coming from the clouds) increased the vibrance (to give the edges a more distinct look to separate from the background sky) and also adjusted the black slider on the levels (in order to deepen and expand the blacks, and give the cloud more distinction from the background).

I really like my image because I feel that it communicates the cloud-spotting nature that is introduced to people when they are young: seeing familiar images in amorphous clouds. I see a rubber chicken, my friend sees a lizard, classmates see anything from cats to dragons; however, no matter what is seen in the image, I feel that the viewer connects with it in their own way, and is able to give it a personal meaning. I feel that this lets my image be viewed multiple times, and for longer periods of time than the run-of-the-mill cloud image. I like the color of the background that I was able to achieve through my Photoshop manipulations; it gives the image an outer-space feel, ethereal in a way. I have, however, received various comments from classmates about the framing/cropping of the photo. Some wanted to see more of the source cloud, and other wanted to see less of it, with more focus on the subject cloud. Obviously I cant please everyone, so I feel that this middle-ground is suitable to the image, even if it incites dissent. I like being able to see the cloud which "gave birth" the subject cloud, and I feel that seeing more of it would distract from the image at hand. I think that the amount of detail and the close proximity at which the image was taken gives a lot of insight to the fluid physics of clouds, and I am glad that my image stands out for this reason. I did fulfill my intent through this image, but it has left me wanting to photograph clouds more, and I am

excited to see what I can produce for the next assignment. I think that something would like to improve for the next assignment would be to find a phenomena of cloud variation that exists, because while I like this image, it is, in essence, just a plain cloud captured at the right moment. I want to capture something in clouds that is rarely seen, or hasn't been seen before.

Works Cited

- "Atmospheric Soundings." *Wyoming Weather Web*. University of Wyoming, 21 Feb. 2012. Web. 29 Feb. 2012. <http://weather.uwyo.edu/cgi-bin/sounding?region=naconf&TYPE=GIF%3ASKEWT&YEAR=2012&MONTH=02&FROM=2200&TO=2200&STNM=72469>.
  The data for my cloud analysis was collected at station 72469 at 00Z on 22/2/12.