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MCEN 5151

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Cloud Image 2 Report

This image was taken for the "Cloud Image 2" project, and was done alone. The original intent was to capture a daytime shot with a leafless tree, kind of like a follow-up to my previous cloud image with the night setting with the scary looking trees and ominous clouds. The reason for this will be explained in the final paragraph. Unfortunately, it was hard to capture a similar scene with the setting I had used for the previous image; I think I just wasn't getting the same emotional vibe during the day. Once I found the right location for this though, I only took about seven images (a record low!) before I got something I felt was what I really wanted. The final image was taken on Sunday, April 10, 2011 at 3:10 PM in a small, secluded area behind my house to give a brighter but still kind of depressing solitary mood when compared to my previous cloud image.

This image was taken behind my house on Sunday, April 10, 2011, as mentioned previously. The original submission had a cooling filter and upped contrast as well as a little bit of cropping done. Due to the lack of presence of the clouds in this iteration (as well as my not being fully satisfied with how it turned out), a second image was submitted, this time focusing on the space between the roof of the house on the left and the tree on the right. Additionally, the new image did not have any brightness/contrast adjustments but had a black and white filter applied.

Fortunately, due to the perfect lighting at the time, very little Photoshop work was required since the lighting was perfect to begin with; the only thing that needed editing was a couple of things that needed to be cropped out. The angle of elevation was approximately 60^{o} and the time was 7:07 PM. The elevation was so shallow for a cloud picture specifically to incorporate the trees, which I feel added a lot to the image.

Upon visual inspection, the clouds were decently low to the ground, definitely lower than 5000 m; to support this estimate, the Skew T plot[1] indicates most of the clouds in the atmosphere at the time were at around 4000 m. Additionally, the clouds were formed into distinct clusters with bumpy edges; upon visual inspection, the proper classification for them would be Altocumulus Castellanus Perlucidus[2]. Fortunately, there was no rain during the image, and the cloud conditions at the time were relatively calm with most of the sky visible and only a few patches of clouds. The Skew-T plot can be seen in figure 1 below; the plot indicates that the atmosphere was relatively stable that day due to the 0 CAPE (meaning there was definitely no electrical discharge in the atmosphere) [1]. It is also apparent that the clouds are most prominent at about 600 millibars of pressure and at about 10 degrees celcius (as seen by the behavior of the dark black pressure and dew point lines) [1]. Since the lines were extremely close

to each other, this indicated a chance of rain later on, I don't quite recall if there was rain later that night though.

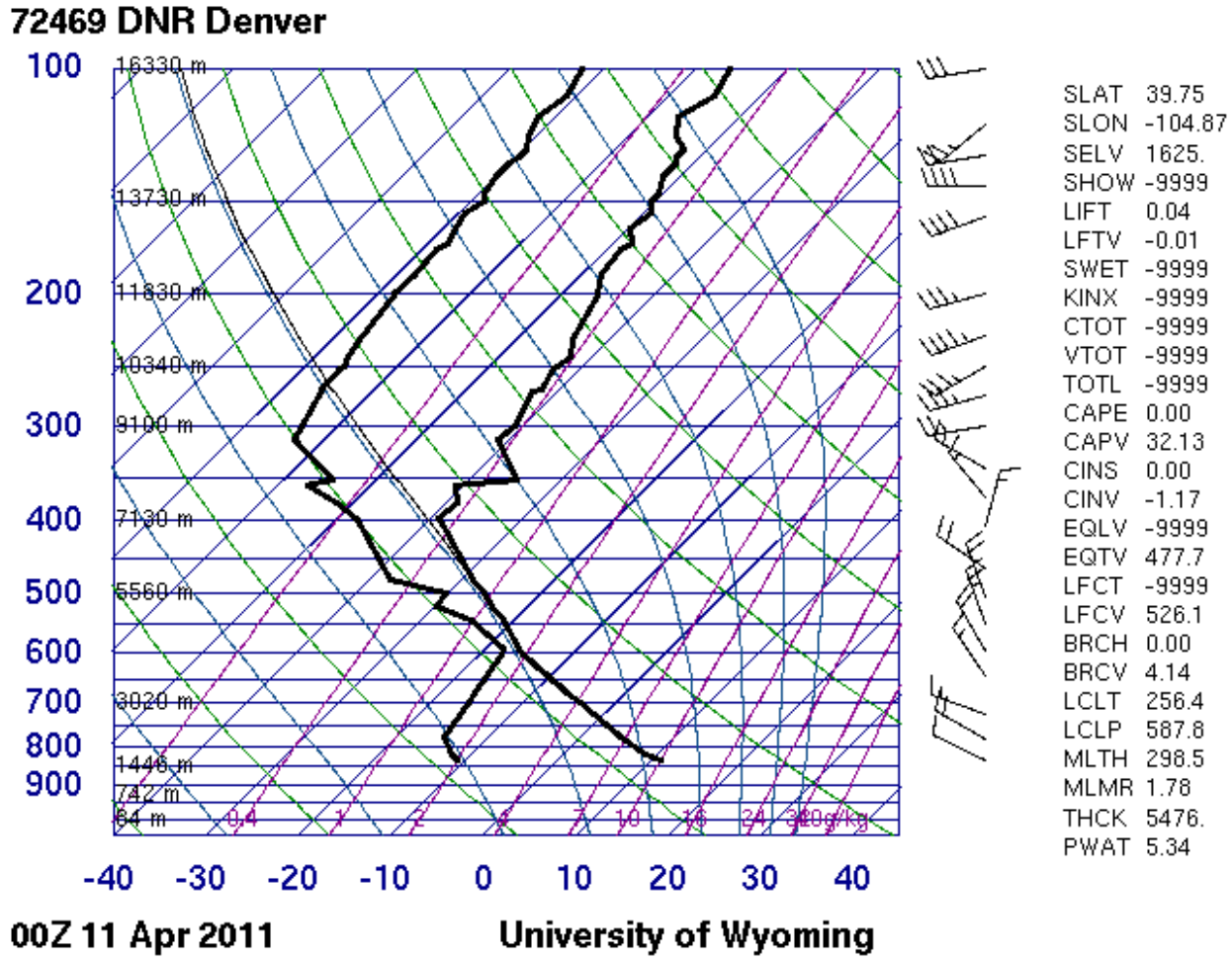

Figure 1. Skew T plot for the Denver weather station on April 10, 2011 at 6:00 PM local time, or April 11, 2011 at 12:00 AM GMT[1].

The only lighting used for this image was natural lighting from the sun. Aside from that, nothing was used to manipulate the subject of the image. The goal was to have the clouds be emphasized in this image, but at the same time have other objects impeding them almost like a prison; I wanted the feel of the clouds to be somewhat oppressive for reasons that will be explained later on.

The field of view was approximately 2.5 m (going off of the plane where the house and trees exist) and the distance from the object to lens was approximately 15 m (again where the house and trees exist). The lens focal length was 10 mm with an ISO speed of ISO-100. The exposure time was 1/800 seconds and the max aperture was 3.4375. A Sony DSC-W180 digital camera was used to capture the image. The pixel width x height is 1608 x 744. Photoshop was used to crop the original image (original dimensions were 3648 x 2736).

I wanted to expand off of the idea from my first cloud image to reflect an aspect of human nature that has always fascinated me: change. Bad people are not always born as such, and conversely, good people are not always born as good people. Humans change as they go through life, and not all of these changes are good. My first cloud image was taken during the night and had a calm but foreboding quality to it. The presence of objects constricting the sky was minimal in contrast with the composition of the second image. Despite being during the day, the second image is vastly more unpleasant, and the black and white definitely adds to that effect. Originally, I wanted to take another image of the same location as the first but during the day time, and manipulate it in photoshop to look even more foreboding than the first, but the campus is just too beautiful during the day! I had actually considered putting a red filter over this image after doing the black and white to exaggerate the negative effects of this image, but I did not like what it did to the image. The cloud physics are interesting in this image since the Altocumulus Castellanus Perlucidus classification of clouds usually forms in clusters among other clouds of the same species. This species is also indicative of Cumulonimbus cloud formation and rain in the near future, which follows what the Skew T plot says. To expand on this idea, the next image in the series would have to be taken during a rain storm in a similar location.

References:

[1]University of Wyoming (2011), http://weather.uwyo.edu/upperair/indices.html#CAPE

[2]Cloud Appreciation Society (2009), http://cloudappreciationsociety.org/

[3]Hamblyn, Richard. *The Invention of Clouds: How an Amateur Meteorologist Forged the Language of the Skies*. New York: Picador, 2002.