

Cloud Report 2

This is the second cloud assignment, and for this one I really wanted to get a shot of a cloud species that isn't seen in Boulder as often; cirrus. I highly enjoy cirrus clouds and the shapes they can paint, and they aren't the most common clouds, especially in Boulder, which is why I was lucky and excited to see these particular clouds.

When there is a cloud assignment in the future, I find myself searching out my balcony window to see what kind of clouds/weather I should expect for the day. On the morning of March 3, 2010 at about 8:30 a.m., I looked out the window and saw these great clouds. I stood on my balcony and got a south-facing shot of them at about 40° from horizontal, indicating that these were fairly high clouds, which I will discuss in more detail later.

These clouds are a combination of cirrus uncinus and cirrus floccus. The uncinus characteristics are seen in the hook-like ends of some clouds and the fluffy, sheep-look of other clouds led to the floccus identification. These were some of the only clouds in the sky; the others were also cirrus and weren't very prominent. The weather the day before and after was clear, except for some moderate winds the day of. As the skew-t plot shows, the parcel line and neighboring air line have a very similar slope, meaning the atmosphere was stable (Fig. 1). Another good indication of less cloud formation and more stability is the CAPE value of 0. From this plot we also see the dew line get close to the neighboring air line at around 7260 m, which is where clouds are expected to form. This makes sense with my picture because the clouds were fairly high, and about 22,000 feet sounds totally reasonable (they were cirrus after all). For a skew-t plot like this, cirrus would be the expected cloud type, because the dew point was high and narrow, and the atmosphere was stable.

This picture was taken with my Sony Cyber-Shot H20 digital camera. The smattering of clouds in the photo was fairly wide, maybe 5000ft, and I wanted to capture all of them. I was probably 10,000 feet away from directly beneath the clouds, and knowing the elevation tells me that they were about 24,000 feet directly away from my camera. The focal length for this shot was 6.3 mm, the aperture at F/8, and it had an ISO of 80. There was no flash used, and the exposure time was 1/250 s. It was not cropped at all, leaving it at 3648 x 2736 pixels, but I did increase contrast, brightness, and some of the blue tones in photoshop.

Like I said before, there aren't a terribly high number of cirrus clouds in Boulder on average, and I was very pleased to find these great looking clouds. I am especially drawn to their wispy nature and the delicate hooks and fingers often found with them, so I think my picture turned out well in those fields. The physics showed up well, but the only problem I have is that there is a little blurriness I had to account for in photoshop. If I got an opportunity like this one again I would try to make a more appealing picture. Often I don't know how to show scale in

my cloud pictures without having a distracting element or something similar, so I'd like to work on that for future pictures. Going and finding something attractive to put in the foreground instead of just taking a quick shot would be ideal, so I will be trying to be more conscious of that. But I do think this picture still turned out well.

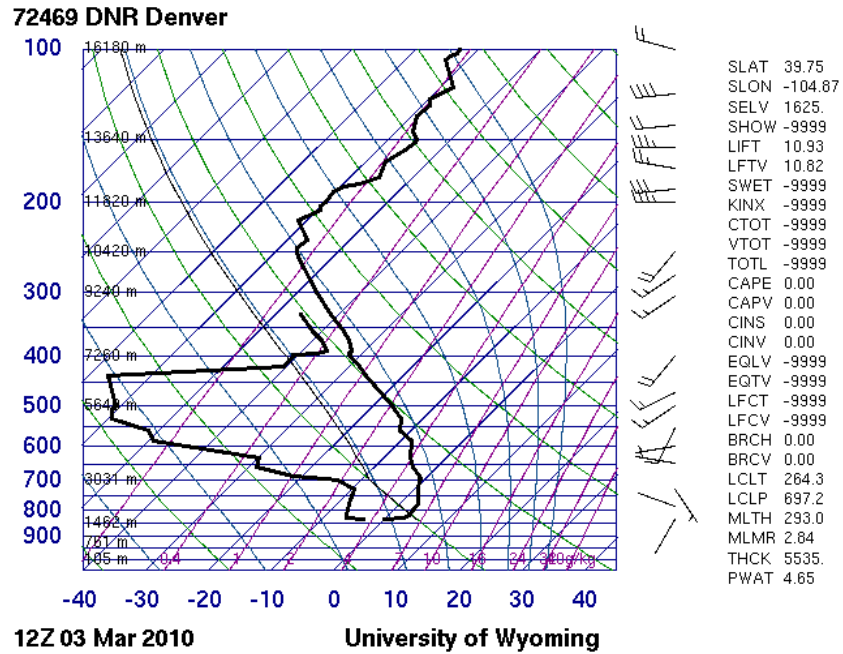


Figure 1: Denver skew-t plot from the morning of March 3, 2010

References

Skew-T plot. Denver sounding. Department of Atmospheric Sciences. <<http://weather.uwyo.edu/cgi-bin/sounding?region=naconf&TYPE=GIF%3ASKEWT&YEAR=2010&MONTH=03&FROM=0312&TO=0312&STNM=72469>>. University of Wyoming. 3 Mar. 2010.