

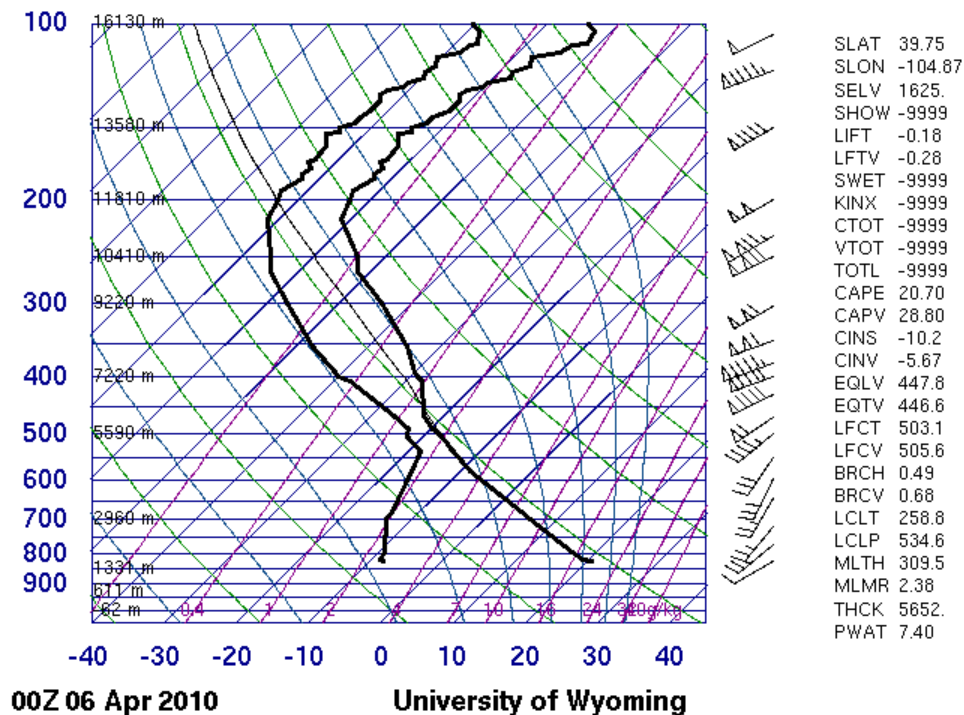
Cloud Image 2 Report

This image was taken for the second cloud assignment. My intent was to capture a still frame-shot of some very rapid moving cumulus fractus clouds. I took several pictures, some were either too blurry or had too much cloud in the frame, but I felt that this particular image was perfect. It balanced both the sky and the clouds perfectly, and depicted exactly what I wanted.

This image was taken outside of the front revolving doors of the Engineering Center here on campus. I was facing west, towards the Flatiron Mountain Range. When the image was captured, the camera was at an angle of 80 degrees from the horizontal. It was taken on Monday, April 05, 2010 at 1:50 p.m. in the afternoon.

As mentioned before, cumulus fractus are the type of clouds that are pictured in this image. Cumulus clouds are normally, low, detached, puffy white clouds that tend to be randomly scattered across the sky [1]. Cumulus fractus clouds are cumulus clouds that have ragged edges and are beginning to break apart. They can form in the moist air below other cumulus clouds [1]. The rest of the sky had a similar appearance to my image. It was vivid blue everywhere, scattered with white cumulus and cumulus fractus clouds. For the most part, the weather was very clear and there was no rain or snow that occurred within 24 hours prior to the image or 24 hours after the image was taken. The winds however, were quite intense, especially in the upper atmosphere where the clouds were.

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The skew-T plot depicted on the previous page is one for Denver at 6:00 p.m. on the date that the image was taken. You can see that the CAPE is 20.70, meaning that the atmosphere was not stable. Clouds would be expected in the altitude range of 2,000 to about 5,000 feet. Expected clouds to be seen would be cumulus and cumulus fractus clouds, when being based on the skew-T plot and weather conditions. This is exactly what was observed in my image. I would estimate that the clouds depicted in my image were at 2,500 feet. The winds were quite strong on the Earth's surface and were moving southeast. In the upper atmosphere, the winds were causing the clouds to break apart in infinitely various ways and to move across the sky rather quickly.

For this image, I believe the field of view to be around 1,000 feet from the top to the bottom of the frame. Because I was standing almost directly beneath these clouds, I believe the distance from the object to the lens was approximately 2,500 feet. The lens focal length was 17 mm and the F-number was 8. The camera used was a 10 megapixel digital Nikon CoolPix S60. The image has a width of 3648 pixels and a height of 2736 pixels. The shutter speed used was 1/392 of a second and the ISO was set to 64. No manipulations were made to this image using Photoshop or any other type of editing software.

I believe this image shows a type of random and chaotic beauty. The cumulus fractus clouds separate and change so quickly that to capture them in a still frame is quite breathtaking. What I like most about the image is how symmetrical it is, when considering at the same time, how absolutely random it is. The fluid and cloud physics are shown well and I believe my intent was fulfilled. To further develop this idea, I think in the future I would take a series of photos in order, of the same area of sky where cumulus fractus clouds are constantly passing by and changing form.

[1] Pretor-Pinney, Gavin. *The Cloud Spotter's Guide*. Perigree, 2006.