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MCEN 4151  
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Team Photo #3

The third team photo for this class turned out to be a cloud picture for me; originally I was trying to capture the movement of fog right after a helicopter seed twirled through it – and I didn't have the equipment needed to capture that. So I came across this really cool cloud and thought it was worthy of being my last photo to turn in. This picture was taken right outside of boulder and this zoomed in image is just a small part of a really huge cloud!



**Figure 1: Post-Photoshop Photo**

I took this photo from McCaslin Boulevard (39.972° N 105.164° W). The picture was taken at 7:23 pm on April 19<sup>th</sup> 2012, and I was facing southeast.

I think this cloud would be classified as cumulus. This type of cloud is an unstable cloud (and this could be confirmed with the CAPE value below in Figure 2). I also believe that the height of this cloud also correlates with how low cumulus clouds start. Cumulus clouds can be as low as 5,000 feet off the ground and my cloud was at about 11,000 feet.

The Skew-T chart can be found in the following figure, and I believe the cloud that I saw was around 5000 meters high above sea level. The heavy black right line (temperature) and the heavy black left line (dew point) get close together around this height – which is the most anticipated spot for a cloud to form. The CAPE value also confirms that the clouds are in an unstable atmosphere (CAPE >0 means unstable atmosphere).

### 72469 DNR Denver

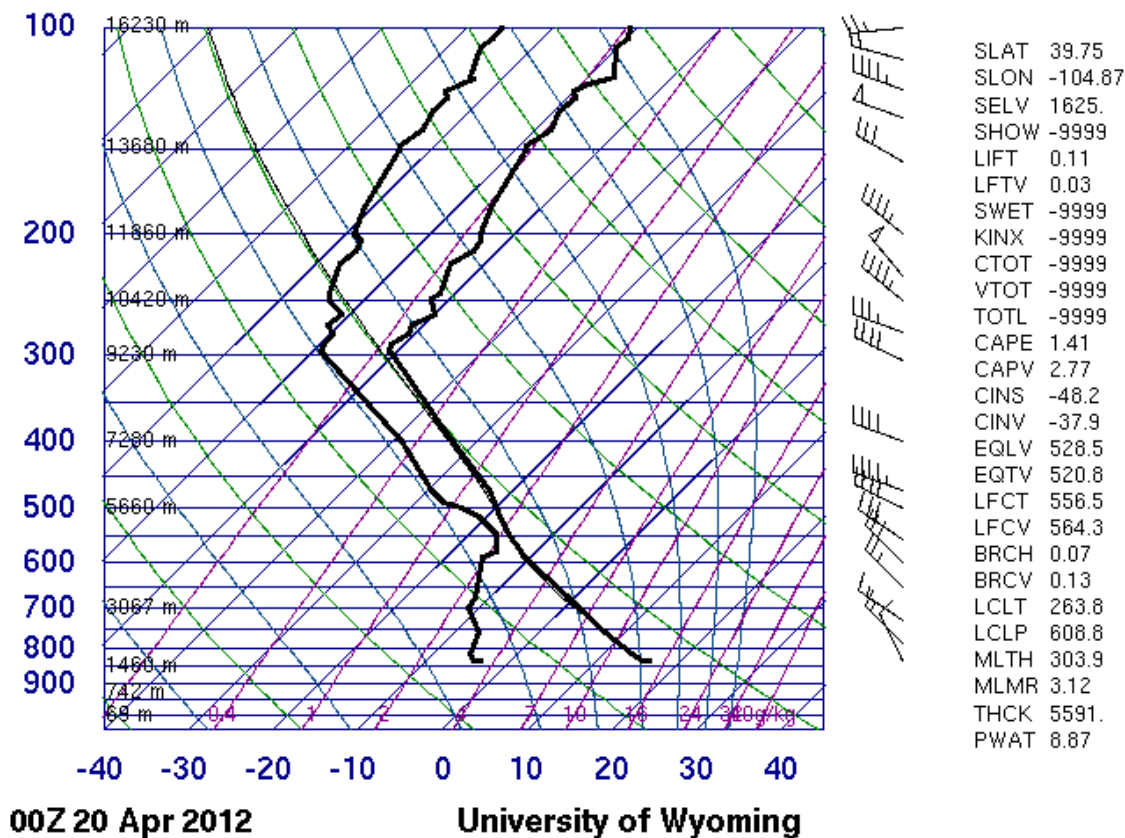


Figure 2: Skew-T [1]

The weather at 7pm was about 55°F and there were 15mph winds coming from the west. You can see in Figure 3 that there was no rain/snow in the previous days or in the following day. There had been lots of clouds in the preceding days and had been mild (highs of around 70°F).

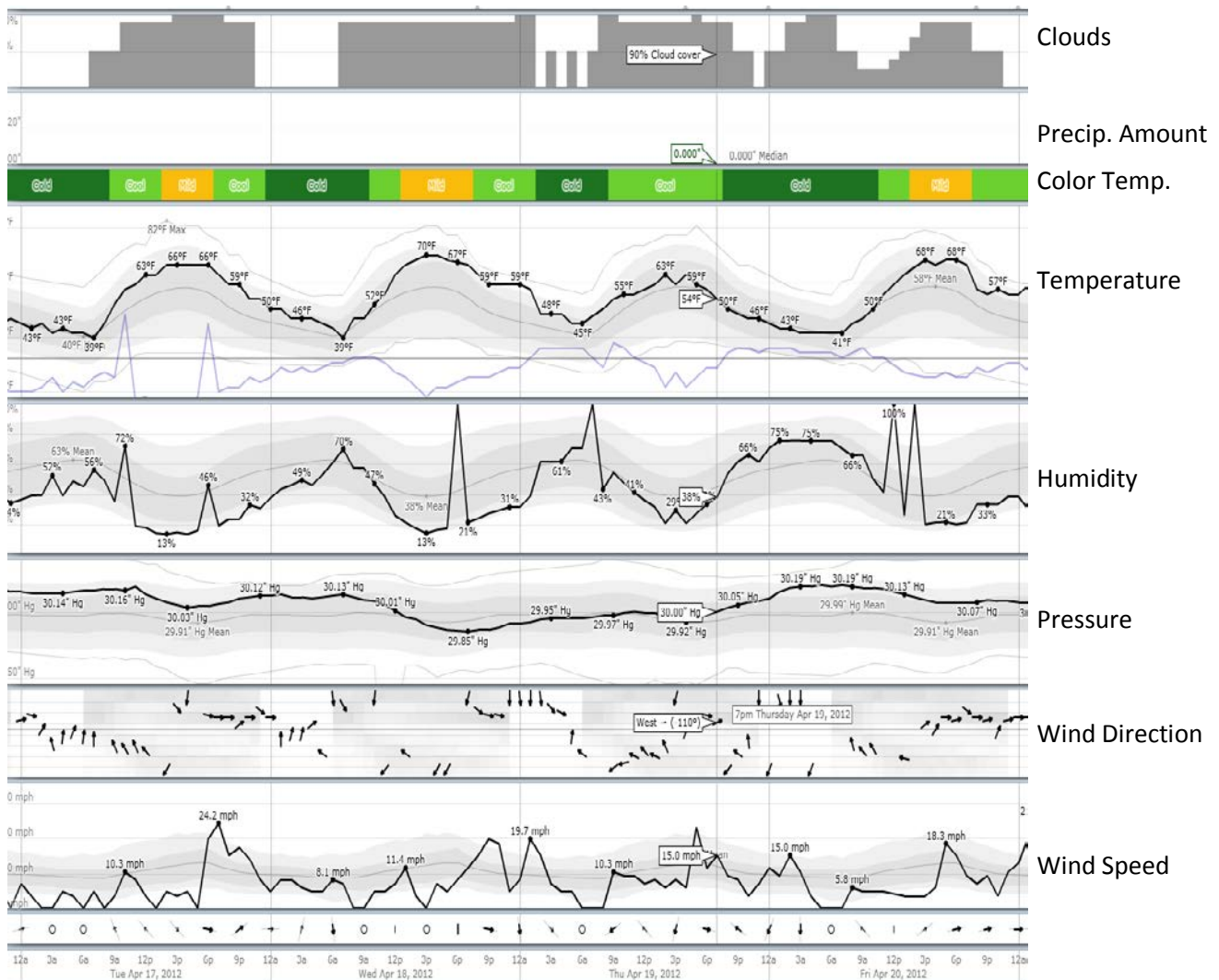


Figure 3: Weather Data [2]

In Photoshop I cropped my image quite a bit and did an auto-contrast option. I really wanted to show off the crazy lines in the cloud – not at all smooth and they have a really neat look to them. Plus I didn't want my final picture to have a tree or lamppost in it!



Figure 4: Pre-Photoshop Photo

This photo was taken with my iPhone 4S camera with the following specifications:

Table 1: Camera Settings & Specifications

Lens focal length	4.28 mm
Aperture	f/2.4
Shutter Speed	1/347 sec
ISO	64

Table 2: Number of Pixels

	Height	Width
Pre Photoshop	768*	1024*
Post Photoshop	149	394

\*The number of pixels reported are from Photoshop and are different than specified from my iPhone.

I really love this cloud – it is super neat! But I would have liked to have used my friend's camera to photograph it. If I were to try and take this picture again I would have taken it from a height that was able to

capture the cloud with an unobstructed view from tall objects. I would have also liked to have been much closer to the cloud – or at least close enough to have had a better zoom to really focus in on the part of the cloud that I really wanted to show off!

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[1] “Weather”. University of Wyoming – College of Engineering – Department of Atmospheric Science. Website. Accessed May 4<sup>th</sup>, 2012. <<http://weather.uwyo.edu/upperair/sounding.html>>

[2] WeatherSpark.com. Website. Accessed May 4<sup>th</sup>, 2012.  
<<http://weatherspark.com/#!graphs;a=USA/CO/Boulder>>