This is the second cloud picture assignment in flow visualization. There are an extremely wide variety of clouds in Colorado. A number of pictures were taken over a few week period. The final image selected has a few different cloud formations with a dark mountain seen at the bottom of the image.

The image was taken pointed almost due west from the eighth floor in the Engineering Center at CU Boulder. Since the mountains are so close in Boulder and the picture was taken at a height of 80 feet off the ground, or so, the camera was not tilted very much to capture this image. This image was taken about 9am on April 2nd.

There are a few different types of clouds in the image that was taken. The most noticeable clouds, right above the mountains, are called stratus clouds. These are a little different since they are long strands. In the far background there are alto-stratus clouds that look like a big sheet. There is also a contrail that has mostly dissipated in the picture. The parts of the sky not filled with clouds, was a great looking blue and the mountains at the bottom. From the Skew-T Plot in figure 1, it shows that on the day the picture was taken the atmosphere was surprisingly stable but was pretty windy as elevation increased, causing the longer strands of cloud formations. The clouds in the image are ranging from about 8,000 to 15,000 feet.
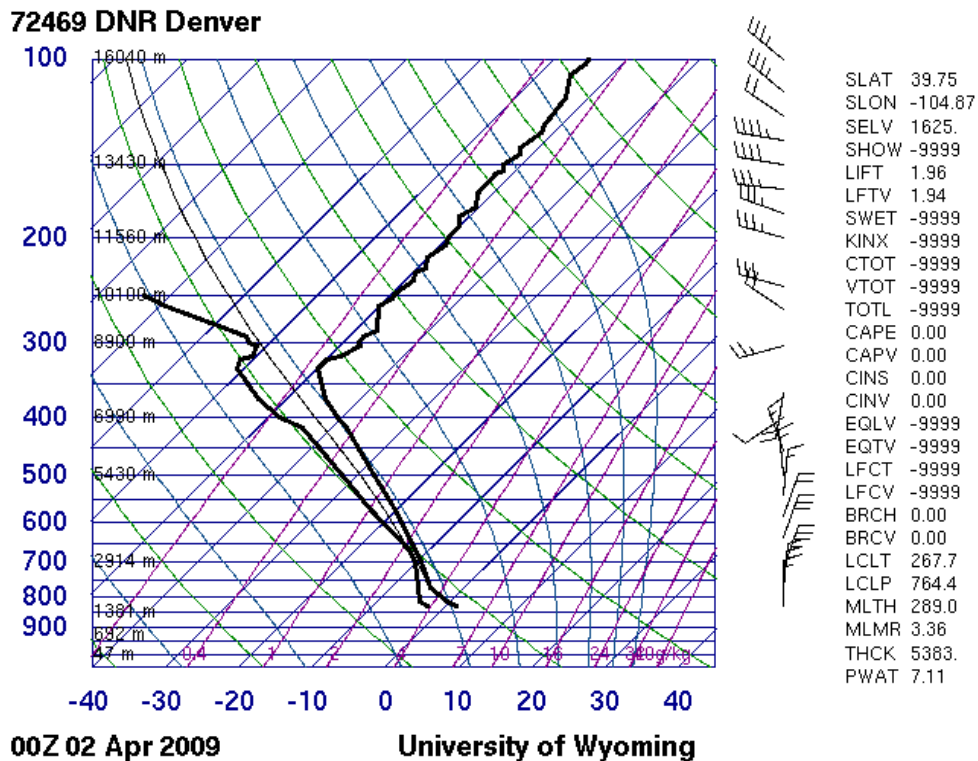

Figure 1

All of the settings and specs for the camera used to take the image can be found in figure 2. No flash was used. It is rather hard to estimate the actual size of the field of view and the distance from the object to lens. The lowest level cloud in the picture is probably close to 8,000 feet. This would make the field of view about 2 miles across. The colors were slightly altered using the curves function in Photoshop and the original image was cropped.

Camera Data 1	
Make:	OLYMPUS IMAGING CORP.
Model:	E-410
Date Time:	4/2/2009 – 9:03:43 AM
Shutter Speed:	1/500 sec
Exposure Program:	Manual
F-Stop:	f/5.6
Aperture Value:	f/5.6
Max Aperture Value:	f/3.4
ISO Speed Ratings:	100
Focal Length:	30 mm
Lens:	14.0-42.0 mm f/3.5-5.6
Flash:	Did not fire
	No strobe return detection (0)
	Compulsory flash firing (1)
	Flash function present
	No red-eye reduction
Metering Mode:	Center weighted average

Camera Data 2			
Pixel Dimension X:	3648	Y:	2736
Orientation:	Normal		
Resolution X:	240	Y:	240
Resolution Unit:	Inch		

Figure 2

The mountains help out with the formation of clouds when compared to places without mountains. I think the image really shows how beautiful colorado is. I really liked the mountains at the bottom being covered with snow and then the clean lines in the clouds in the back. I wish more of the clouds than just the lowest ones where in focus. I need to get better at the appeture and ISO settings for focus and light.

Sources
"Upper Air Sounding Details" http://weather.unisys.com/upper_air/skew/details.html
"Skew-T Plot" http://weather.uwyo.edu/upperair/sounding.html