

# The Calm After the Storm

## Cloud Assignment 1



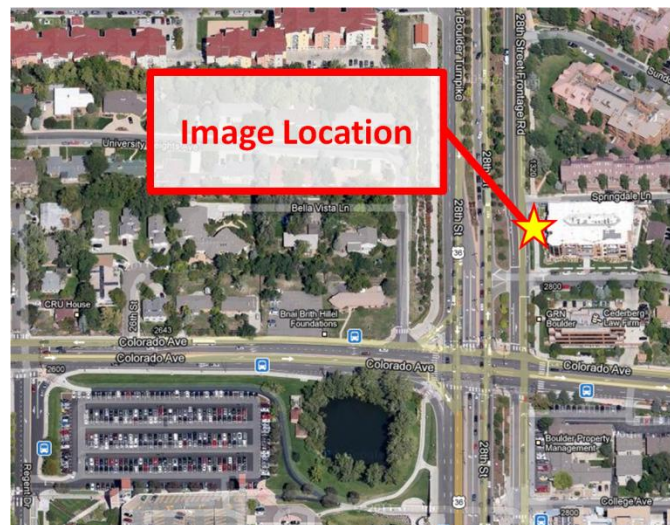
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MCEN 4151  
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## Purpose

This image was taken for the CU Boulder Mechanical Engineering course MCEN 4151 Flow Visualization "Cloud 1" assignment. The intent of this assignment was to capture the everyday flow phenomenon, clouds, in a way that outlined their fluid dynamic characteristics. Within my image I wanted to capture the altocumulus clouds after a light snow storm contrasted by the flatirons, the fresh snow, and University of Colorado at Boulder campus.

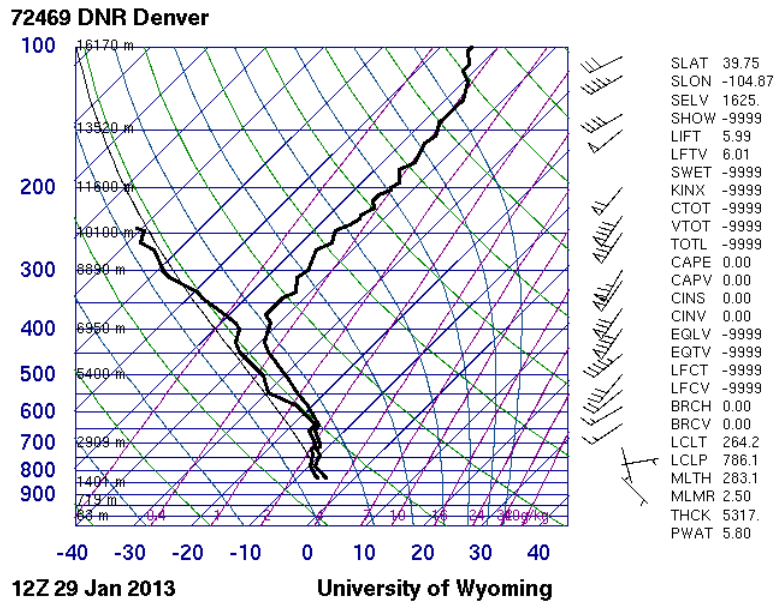
## Circumstance

This image was captured the morning of January 29<sup>th</sup>, 2013 at 9:12 AM in Boulder Colorado. It was taken on the 28<sup>th</sup> street frontage road just north of Colorado Ave(Shown Below). The picture was taken in the southwest direction towards the east side of CU's main campus and the Flatirons. The elevation of the original image was shot at just a few degrees above horizontal.



## Cloud Phenomenon

As mentioned before, this image captures the tapering off altocumulus clouds after a light snow storm. On the time the image one could look to the east and see the storm system moving out of the area in the eastern direction. There was little to no wind and it was around 25°F [3]. From that info and observing that the clouds were dispersing one can see that the atmosphere is stable. This observation is reinforced by the Skew-T data (below) from the nearest available city, Denver[1]. This Skew-T for 12Z 29 Jan 2013 is for about three hours before the picture was taken(January 29<sup>th</sup>, 2013 at 9:12 AM). It depicts a CAPE of 0, which shows stable atmospheric conditions.



## Photographic Technique

This Image was focused on Boulder's Flatirons a few miles away from where I was standing and was shot through a wide angle 24mm lens. To "allow a greater dynamic range between the lightest and darkest areas"[2] and to boost the colors of the image the "HDR Art" mode was used. This mode on my high speed Casio EX-ZR100 quickly snaps multiple images at different exposures and combines only the correctly exposed parts of each image in to one image. The resulting image from this process creates a 3648 x 2736 pixel Jpeg. The exposure information provided in the final image by the camera were f/3, 1/1000sec, and 100 ISO. The exposure info is not very helpful though because it doesn't indicate the exposure for all of the images it combined from the HDR processing.

As can be seen below in the comparison between the original and final image, there wasn't much post processing done. All that was done to the image during post processing was a crop down to 3648 x 2214 and a bit of contrast was added.



## Reflection

One of the best aspects I feel my image reveals is the interface of humans and nature. The natural clouds of the sky above with the obvious human impact below split by the mountains, I feel really shows their disconnect from one another. I also feel the foreground frames the cold and snowy weather conditions, which might have been lost without them. I feel the focus of the clouds really came out well capturing their texture and contrast on the clear sky behind them. That said I feel I really did fulfill my intent to capture the weather after a storm. If I were to improve my image I would probably have taken it in a more natural location where the foreground was less distracting to try and bring the viewer's eye to the clouds more. To develop this idea further I could try and do a panorama to capture the departing storm clouds in the east.

[1]"Atmospheric Soundings." Atmospheric Soundings. N.p., n.d. Web. 06 Mar. 2013.

[2] "High Dynamic Range Imaging." Wikipedia. Wikimedia Foundation, 03 June 2013. Web. 06 Mar. 2013.

[3]"WeatherSpark Beta." Beautiful Weather Graphs and Maps. N.p., n.d. Web. 06 Mar. 2013.