Brent Bauer, Clouds First Report
MCEN 4151 Flow Visualization
3/17/18

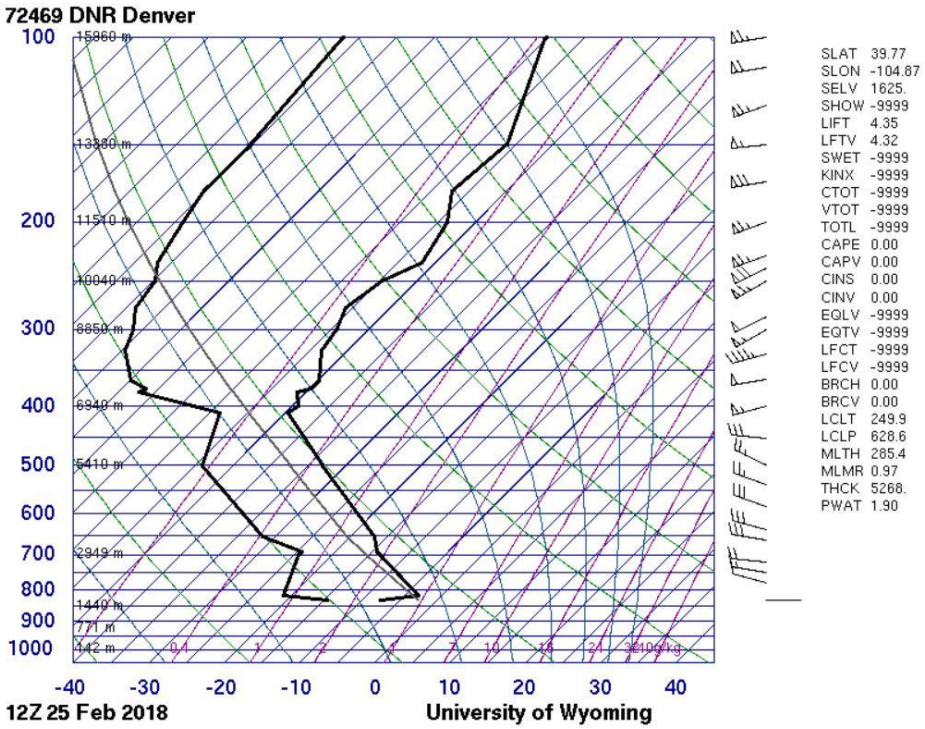
Mountain Wave Cloud over Kittredge

The purpose for taking this image was my clouds first assignment in MCEN 5151 Flow Visualization. For this image I really wanted to try and capture the warm colors of a Colorado sunset with uniquely shaped clouds. I knew that being close to a mountain range would produce a lot of lenticular/ mountain wave clouds and this was perfect for what I was trying to do. While capturing images I quickly realized that it was harder than it looked to get the bright colors I wanted just because they didn't last long due to the sun setting quickly. In the end I finally got the picture above and I am quite happy with the way it turned out.

This image was taken in between the schools dining hall (C4C) and the bridge leading to the Kittredge housing area. The cloud itself is hanging above Kittredge specifically over Kitt Central and the Fleming Law building. This all takes place within Boulder, CO. This image was taken on Sunday, February 25th at approximately 5:15 at night. The camera was held at an angle of around 15° from the horizontal. I was facing South-West when taking this image.

The cloud in this image is a lenticular/ mountain wave cloud. These clouds can only form when the atmosphere is stable. From the atmospheric information below (observed from Denver, CO on the same day) we can see that the cape was 0.00 which correlates to a steady atmosphere.

This, along with the look and height of the cloud further confirms that it was in fact a lenticular cloud that was captured. There were no fronts coming in, however one had just left which is apparent from the snow on the rooftops at the bottom of the image. The snow had been there for around 2-3 days before the date of this image. It was also calm during the time this image was taken, there was almost no wind at all and it was very cold; around 30˚F. If I had to guess the elevation of the cloud I would say that it was very low, maybe only a few hundred feet in the air.



This is the Skew-T plot showing the atmospheric conditions around the time of the image

This image was taken with my phone camera, as I did not have my camera on me when walking to and from dinner. The flied of view in this image is approximately 300 ft. wide by 150 ft. tall. The cloud was maybe 500-600 ft. away and the lens was set at 4.28mm with an ISO of 79, a shutter speed of 1/190s and f/ of 1.7. The camera itself was a 12MP digital camera from the HTC U11 cell phone. The original image was 4302 x 3024 pixels and so was the final since no cropping was done on the image. The only editing done on this image was a slight increase of the brightness and vibrancy to bring out the same glowing colors I experienced when looking at the cloud.

What I like most about this image is its contrast. I am a big fan of the soft and natural shapes of the cloud and the juxtaposition that the sharp geometric rooftop shapes in the bottom. I think that it creates a nice balance within the image itself. My one wish was that I had my actual camera with me so that I could capture more shades within the cloud and have it come out less blurry. Overall I would say that my intent of this image was fulfilled.