

Mountain Wave Cloud over Monarch Pass

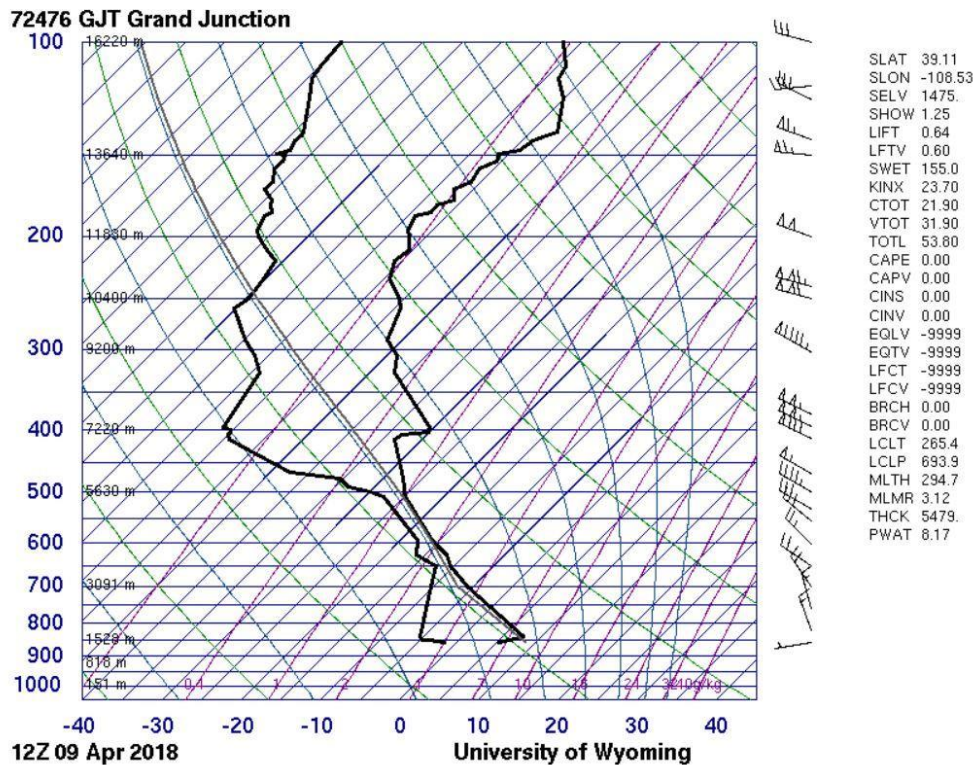


The purpose for taking this image was my clouds second assignment in MCEN 5151 Flow Visualization. For this image I really wanted to try and capture the beautiful scenery around me at the top of the mountain. I knew that being on top of a mountain would make the clouds likely to be lenticular/ mountain wave clouds. While capturing images I quickly realized that it was harder than it looked to get the smooth puffiness of the clouds I wanted. This was due to the high winds and the clouds moving fast across the sky. In the end I finally got the picture above and I am quite happy with the way it turned out.

This image was taken on top of Monarch Mountain at the top of the run called “Shag Nasty”. The clouds themselves span across several peaks from anywhere to a few hundred yards away to several miles out. This all takes place on Monarch Pass, CO. This image was taken on Thursday, March 29th at approximately 11:15 in the afternoon. The camera was held at an angle of around 15° from the horizontal. I believe I was facing 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 Grand Junction, 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, nor had one just passed. The newest snow on the mountain had been there for around 4-6 days before the date of this image. It was also however very windy during the time this image was taken, there gusts of up to 45mph at the peak and it was very cold; around 305 F. If I had to guess the elevation of the cloud I would say that it was very low relative to the peak tops, maybe around 500 hundred feet or so 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 snowboarding. The field of view in this image is approximately 300 ft. wide by 450 ft. tall. The clouds ranged from 500 ft. to several miles away and the lens was set at 4.28mm with an ISO of 101, a shutter speed of 1/31193s 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 contrast to bring out the same cloud definition I experienced when looking at the clouds.

What I like most about this image is its contrast. I am a big fan of the soft and natural shapes of the horizontal clouds and the pointy vertical pine trees that scatter the flow of the mountain shapes. 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.