

Clouds 2



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Flow Visualization – MCEN 4151

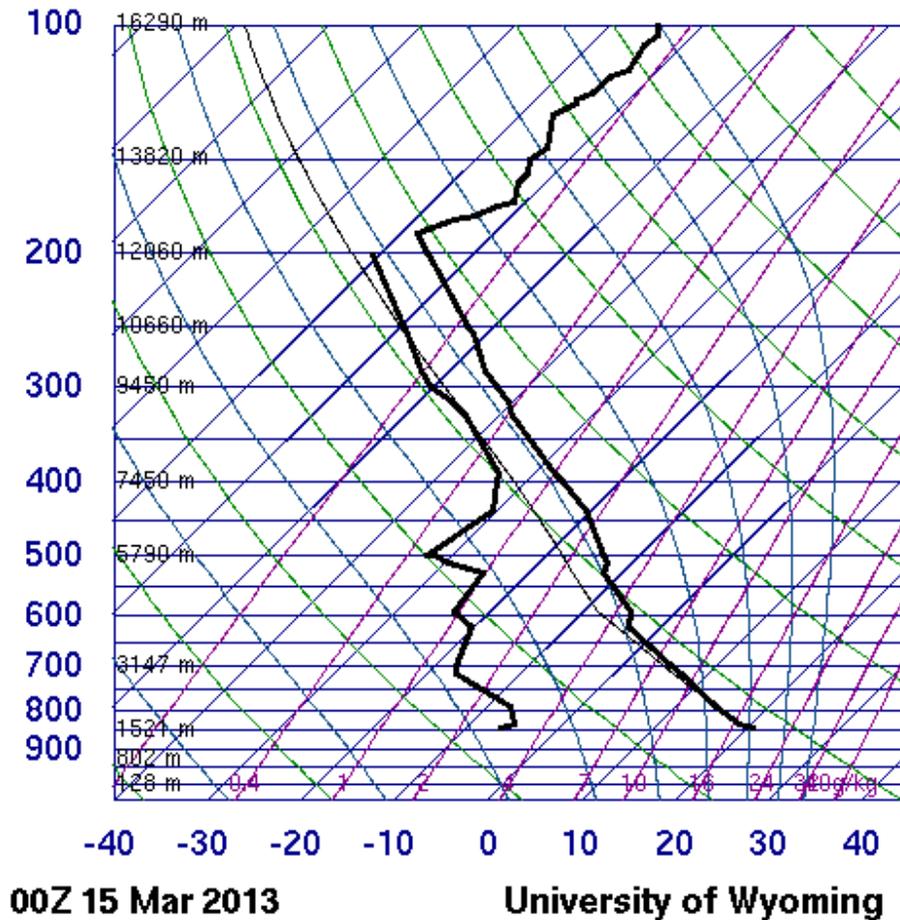
April 16, 2013

This image was taken for the second Cloud assignment for Flow Visualization, MCEN 4151. The assignment was to capture an image of a cloud formation. The intent of this image was to capture clouds at sunset using an interesting foreground object to enhance the image.

The image was taken from the University Heights neighborhood in Boulder, CO facing west overlooking Folsom field. The camera was angled upward at approximately thirty degrees from the horizontal. The image was taken on March 14, 2013 at 6:34 PM.

The cloud in the image is a mountain wave cloud. This determination was made based on the appearance of the cloud and the other clouds in the sky at the time. The cloud height of approximately 12,000 ft and stable atmosphere indicate that it is an altostratus cloud. The rest of the sky had similar clouds in it and there was no appreciable weather that day. At the time of the image there was very little wind, 0 to 5 mph.

72469 DNR Denver



SLAT	39.75
SLON	-104.87
SELV	1625.
SHOW	-9999
LIFT	4.23
LFTV	4.03
SWET	-9999
KINX	-9999
CTOT	-9999
VTOT	-9999
TOTL	-9999
CAPE	0.00
CAPV	0.00
CINS	0.00
CINV	0.00
EQLV	-9999
EQTV	-9999
LFCT	-9999
LFCV	-9999
BRCH	0.00
BRCV	0.00
LCLT	262.3
LCLP	573.2
MLTH	307.5
MLMR	2.95
THCK	5662.
PWAT	6.55

Figure 1: Skew-T plot of Denver weather for 6 PM March 14, 2013²

As the skew-T plot², Figure 1, demonstrates the atmosphere was stable at 6 pm on the 14th of April. The CAPE value of 0.00 tells us this. The skew-T plot indicates that clouds should be expected

between 7450 and 12060 meters because the temperature and dew point lines are relatively close together. As the skew-T plot indicates and as was reflected in the sky on the 14th there were few to no clouds in the lower atmosphere.

The cloud is roughly 1 mile away from the camera and the photo was taken with a Canon EOS Digital Rebel XS with no external lighting. The F-stop was f/9, the exposure time was 1/125 seconds with a focal length of 30 millimeters and the ISO value is 200. The original and edited images were 3888 by 2592 and 3888 by 2517 pixels respectively. The original image seen below was Photoshoped by rotating the image to make stadium level with the bottom of the image and the curves were adjusted to darken the stadium and enhance the color in the clouds.



Figure 2: Original Image

The shape and texture of the clouds is enhanced by the under lighting of the sunset. I like how the sun appears to radiate out from the stadium and how the sunset reveals the details in the clouds that wouldn't otherwise be visible. I also like how the sharp lines of the stadium juxtapose the texture and randomness of the clouds. I believe this image fulfills my intent to capture a cloud formation at sunset with a foreground image that enhances the image. In the future I would like to capture more images of clouds at sunset and examine the various effects the lighting has on the appearance of various types of clouds.

References

1. "WeatherSpark Beta." *Beautiful Weather Graphs and Maps*. N.p., n.d. Web. 15 Apr. 2013.
2. "Atmospheric Soundings." *Atmospheric Soundings*. University of Wyoming, n.d. Web. 15 Apr. 2013.