

Clouds 2 Project

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Flow Visualization
Professor Hertzberg and Professor Sweetman

In this project, photographs of clouds were obtained so as to understand the physics behind them. For my image, I decided to choose one that differed from my last cloud photograph of cumulus humilis clouds. As a result I chose to go for lenticular clouds at sunrise. I find sunset and sunrise to be amazingly beautiful due to the bright red colors. I originally was planning to get some great cloud pictures while I was at arches national park in Utah, however, none of the images were all that spectacular due to the minimal amount of clouds while I was there.

The picture was taken on a Pentax MZ-50 SLR film camera using Kodak 400 film. A mini tripod was used to steady the camera. The photograph was taken on Friday, April 14, 2006, from the top of the Engineering lot 436 facing eastward. The picture was taken during the later stages of sunrise at approximately 6:00am. The clouds that are seen here are a lenticular altocumulus undulates, which can occasionally mean that there will be precipitation if the wind goes from NE to S, however the wind was going steadily eastward. The skew-T plot for the day, taken at 00:00 on the 14th can be seen below. It illustrates that the atmosphere was stable, with no chance of precipitation.

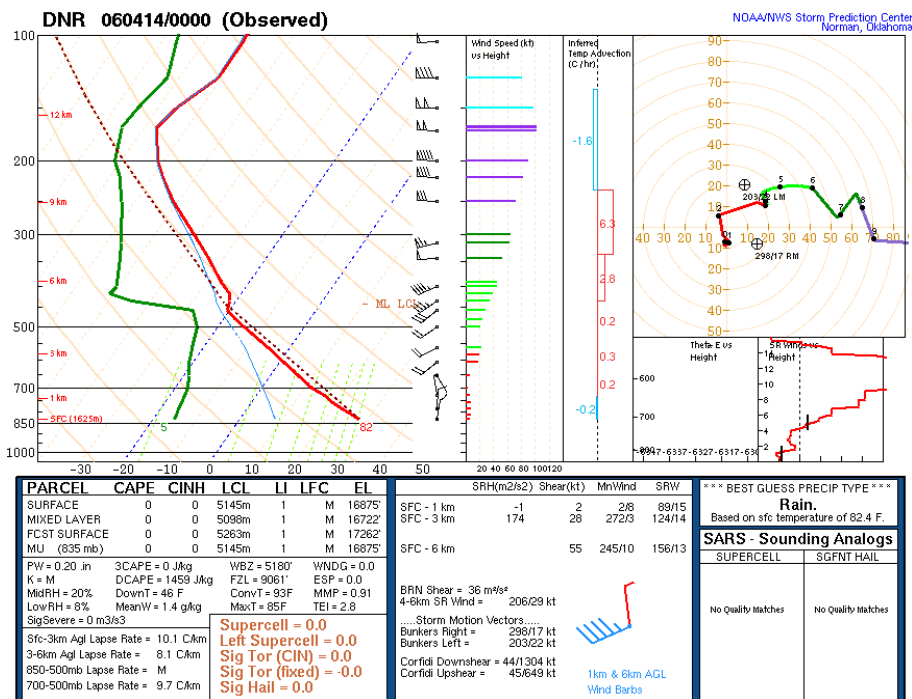


Figure 1: Skew-T plot from April 14th, 2006 at 00:00¹

The picture was taken on a SLR film camera using a wide angle lens, set to a zoom of 50mm, a shutter speed of 1/100 s, and the focus set to infinite. The film was processed at a Wal-Mart photo lab, and a 8x10 reprint of the desired photo was made, which was then scanned into Photoshop 6.0. The picture was only slightly modified by cropping it, and adjusting the levels, and then a dust and speckle filter was used.

This photo was very desirable as it displayed some great colors due to the sunrise. The red color is due to the sunlight passing through much more air, thus dispersing all the blue light, and causing the red light to be reflected off the atmosphere, and the clouds. Some improvements I would like to see in the image would be to have it not be so grainy, as well as see the distinct difference between the clouds and the sky.

¹ Hart, John, and Rich Thompson, comps. "SPC Sounding Analysis Page." 14 Apr. 2006. NOAA. <http://www.spc.noaa.gov/exper/soundings/06041400_OBS/>.



Original Image



Final Image