



Clouds 2 Report

University of Colorado at Boulder

Flow Visualization

MCEN 4151

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Image Purpose

This image was taken for the second clouds assignment in the Flow Visualization course at the University of Colorado at Boulder. It was taken in Boulder, CO at about 10 minutes after sunrise. This photo was chosen for submission because of the interesting silhouettes in the foreground as well as the beautiful early morning colors in the clouds.

Cloud Type

This image likely shows altocumulus clouds. This is because they are segmented, opaque and the cloudlets were measured to be three fingers in diameter (which identifies it as altocumulus based on the guidelines given in class). The atmosphere on the 9th of April was stable, with a CAPE of zero, as shown in the atmospheric sounding for 5 AM below. The weather was consistent in the days preceding and following April 9th as well.

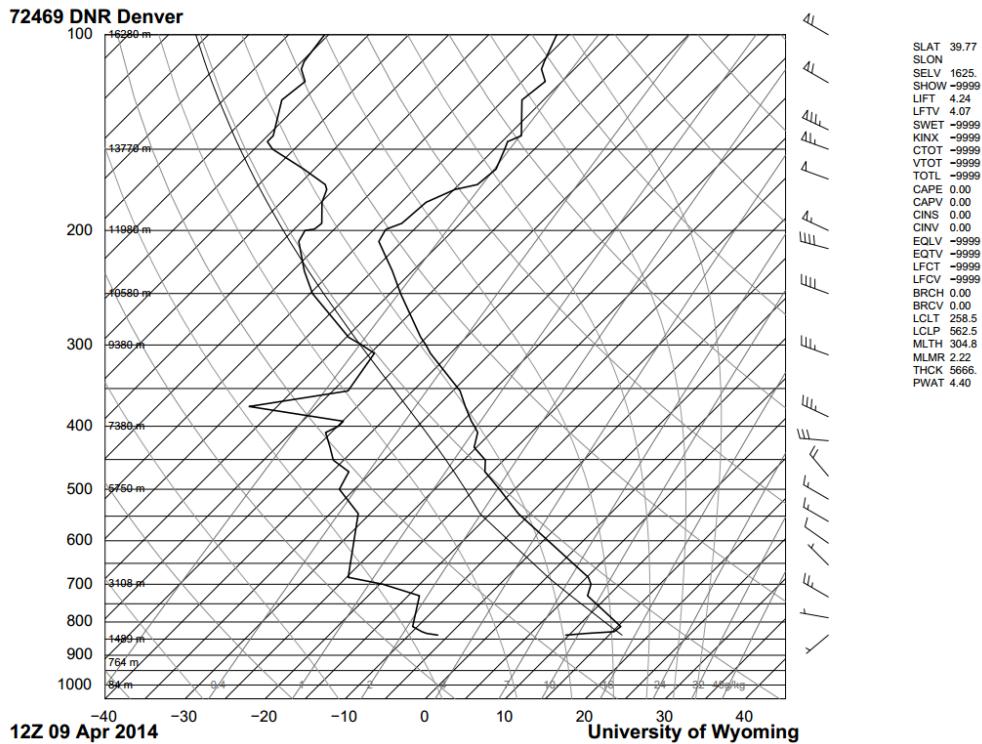


Figure 1: Skew-T diagram (“Atmospheric Soundings”)

Photographic Technique

This photo was taken with an Olympus E-PM2 micro four-thirds camera with a 14-42mm zoom kit lens. The camera was in manual mode with a focal length of 17.0 mm and shutter speed of 1/125 seconds. The original image is shown below and is 3456x4608 pixels in size.

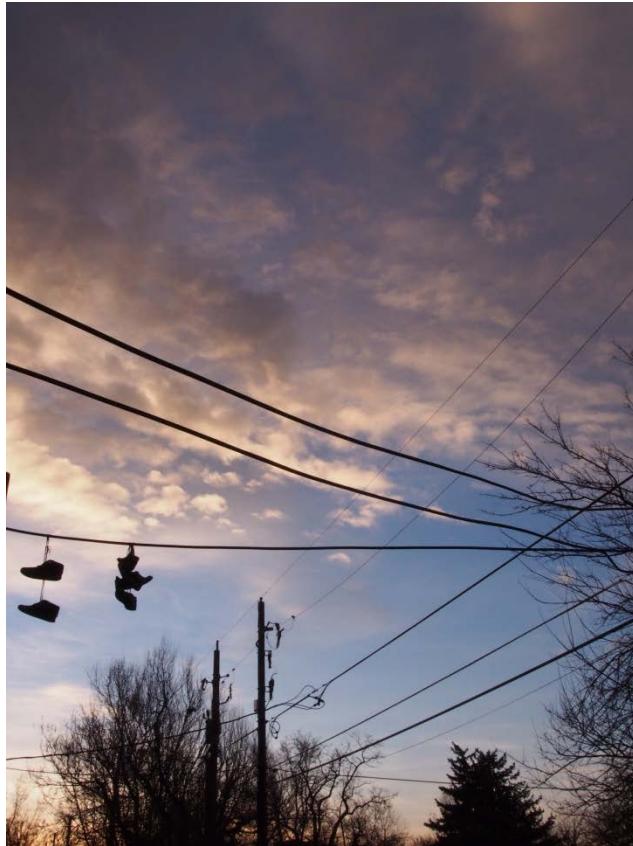


Figure 2: Original Image

The image was edited very little in Gimp 2.8 using curves, unsharp mask, and the cropping tool. The cropping tool was used on the left and bottom of the image to reduce the number of distracting elements. Curves and unsharp mask were used to highlight the silhouettes in the foreground by darkening the black color and better defining the edges.

Reflection

This image fulfilled the artistic intent of highlighting the interesting silhouettes as well as the scientific intent of showcasing the altocumulus clouds. This image could have been improved by choosing a morning with more interesting cloud shapes. Also, there may be too many elements in the foreground, which could be solved by changing the perspective that the photo was taken from or editing out parts of the telephone pole in post-processing.

Works Cited

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[<http://weather.uwyo.edu/upperair/sounding.html>](http://weather.uwyo.edu/upperair/sounding.html).
- "Cloud Types." Page. N.p., n.d. Web. 03 Mar. 2014.
[<http://mapmaker.meteor.wisc.edu/~jbrunner/ackerman/sm-clouds/cloudbkgrnd.html>](http://mapmaker.meteor.wisc.edu/~jbrunner/ackerman/sm-clouds/cloudbkgrnd.html).
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