

Clouds 2

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The intent of this assignment was to capture a cloud image that was photographed well and also aesthetically pleasing. Clouds can reveal a tremendous amount of information on atmospheric flow behaviors. This image was captured at 7:50 on the evening of April 7, 2009. The cloud image was taken from the parking lot of the ITLL lab located at the southwest corner of the engineering center at the University of Colorado at Boulder. The temperature was about 50 degrees Fahrenheit with a very low relative humidity.

This cloud formation is an excellent representation of vertically propagating mountain wave which result in a stack altostratus clouds. Altostratus clouds are typically middle-altitude clouds and are found between 6,500 feet and 20,000 feet. From the Skew-T plot for this particular day you are able to see that the clouds are at a high elevation in an unstable condition.

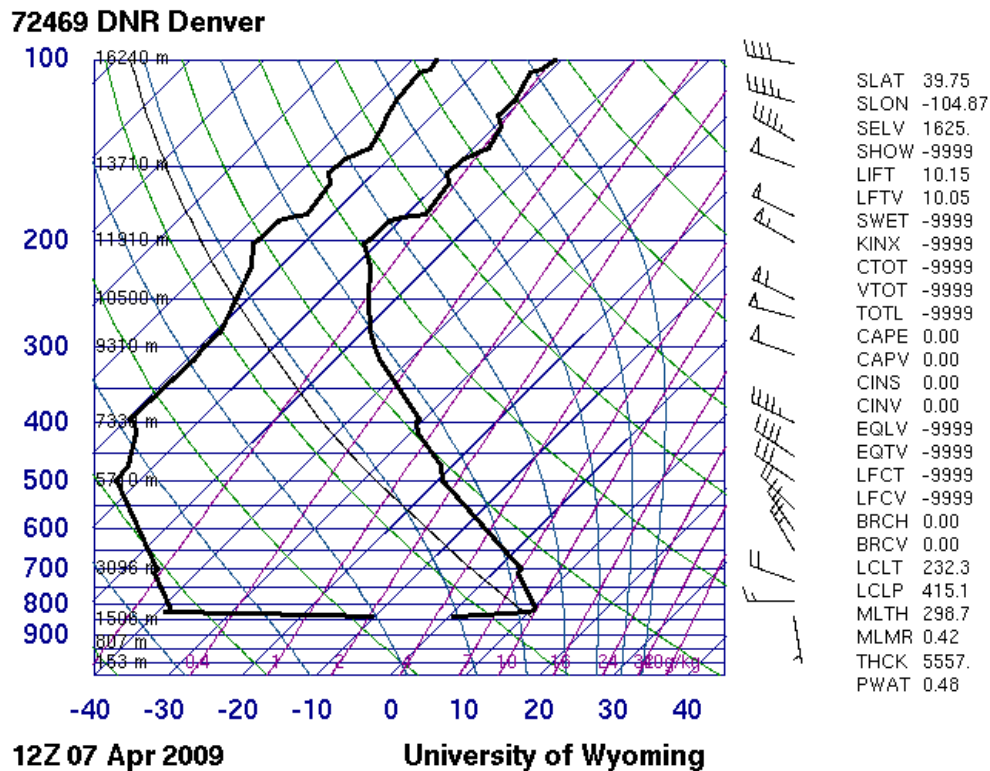


Figure 1: Skew-T Plot

The photograph properties include:

Camera type: Canon PowerShot SD630

Shutter Speed: 1/125 sec

F-Stop: f/2.8

Max Aperture Value: f/2.8

Focal Length: 5.8 mm

Flash: Did not fire

The cloud formation was taken at an approximate angle of 30 degrees from the horizon. The field of view for this image was approximated to be 3000 meters by 2000 meters. The original image dimensions were 2816 pixels x 2112 pixels. The height of the cloud formation was estimated to be 30,000 feet to 45,000 feet. A Reynolds number on the order of 10^7 was calculated. This number corresponds to the turbulent flow observed.

The final image was altered using Adobe Photoshop CS3. I applied an s-shaped curve to the photograph. This enhanced the strong yellow-orange color of the clouds while creating a great contrast between the sky and the foreground. I also used the clone stamp tool to turn the foreground completely black. The image was not cropped.

This image was very special to me because of the location of the photograph. It is not often that after a long day in the engineering center you walk out to such a beautiful sight. In fact, it is usually dark out. This image is a representation of just how beautiful the city of Boulder is and how lucky I am to go to school here.