

Hana Kieger  
 Assignment: Clouds Two  
 Course: ATLS 4151-001  
 Cloud Type: Altostratus  
 Cloud Date/Time: November 16th, 7:16 a.m.  
 Cloud Location: Table Mesa Park and Ride – Boulder, CO

This photo was taken for an assignment for a flow visualization course (visualizing fluid physics). The assignment was to take a photo of clouds. I took this image to capture the beautiful cloud formation from one of the higher points in Boulder.

The image was taken from the top of a parking garage in South Boulder, Colorado. The camera was facing south west, and was at a 90 degree angle with the horizontal. The image was taken on November 16th at 7:16 a.m.

The image displays altostratus clouds in a stable atmosphere. The CAPE from the Skew-T chart is 0.00 which is indicative of a stable atmosphere. According to <http://skywatch.colorado.edu/>, the clouds on November 16th were around 6-8000 meters, which agrees with the clouds being altostratus (in addition to their physical appearance). There was no precipitation in the days leading up to November 16th, however, later in the day on the 16th it did begin to rain. There were not high winds leading up to the time that this photo was taken, but the wind did pick up later in the day (Boulder Muni). Altostratus clouds usually take up the entire sky, and precede a storm with lots of precipitation (Altostratus).

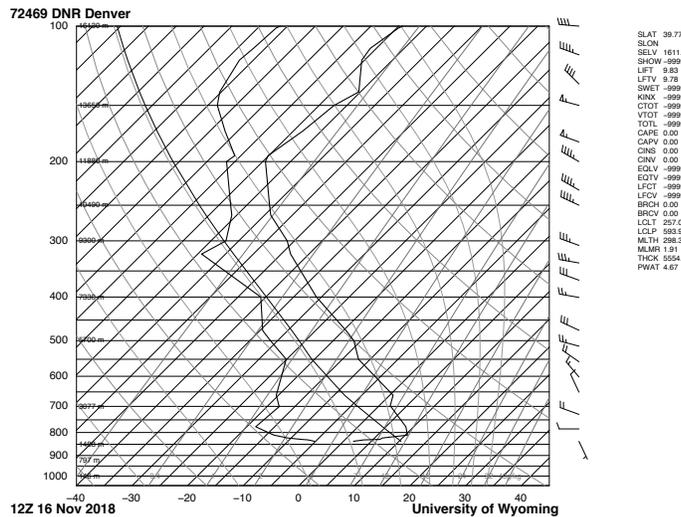


Figure One: Skew-T Chart

The field of view of this image is quite large, probably at least a mile wide. The mountains are roughly 10 miles away from the park and ride and therefore my camera. I was using an iPhone 7 Plus to take the image. The original dimensions were  $4032 \times 3024$  and the final dimensions were  $900 \times 1200$ . The focal length was 3.99, the f number was 1.8, the exposure time was  $1/471$ . For post-processing editing, I cropped the image slightly, and made it black and white to enhance the contrast of the clouds and enrich the details.

I am pleased with this image. I like that you are able to see both the clouds and the mountains, so you have a context of where the image was taken and why the clouds are forming the way they are. If I were to make any changes, I would consider trying different ways of cropping to put more focus on the clouds.

## Sources

“Altostratus.” *Ice-Albedo Feedback: How Melting Ice Causes More Ice to Melt - Windows to the Universe*, [www.windows2universe.org/earth/Atmosphere/clouds/altostratus.html](http://www.windows2universe.org/earth/Atmosphere/clouds/altostratus.html).

“Boulder Muni, Boulder, CO, CO History.” *Weather Underground*, [https://www.wunderground.com/history/weekly/KBDU/date/2018-11-16?req\\_city=Boulder&req\\_state=CO&req\\_statename=Colorado&reqdb.zip=80301&reqdb.magic=1&reqdb.wmo=99999](https://www.wunderground.com/history/weekly/KBDU/date/2018-11-16?req_city=Boulder&req_state=CO&req_statename=Colorado&reqdb.zip=80301&reqdb.magic=1&reqdb.wmo=99999)