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Clouds 1
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Altostratus Clouds, Boulder, CO, 10/9/2020, 9:57 AM



The intent of this image was to capture the altostratus clouds above the Flatirons in Boulder, CO. The clouds formed a peaceful image in the clear blue sky on this morning. Additionally, it was intended to capture the different colors in this scene provided by the clouds, sky, mountains, and trees.

This image was taken at 9:57 AM on October 9th in Boulder, CO. There was not any precipitation around this date and had been mostly sunny. To capture this image, the camera was facing mostly West towards the mountains and was angled slightly upwards to see the clouds in the sky.

The clouds in the image are altostratus. This is based on their appearance, the weather during that time, and the altitude of the clouds. The clouds are smooth and flat, making them some sort of stratus clouds. They are high in the sky, but not high and sparse enough to be cirrostratus. They are also not low and gray enough to be stratus or nimbostratus. There was no precipitation or significant wind around this time as well and the atmosphere was stable, which applies to altostratus clouds. Altocumulus clouds typically form within altitudes of 2 km - 7 km^[1], and the Skew-T diagram below shows a pinch in this range around 6 km where the clouds formed.

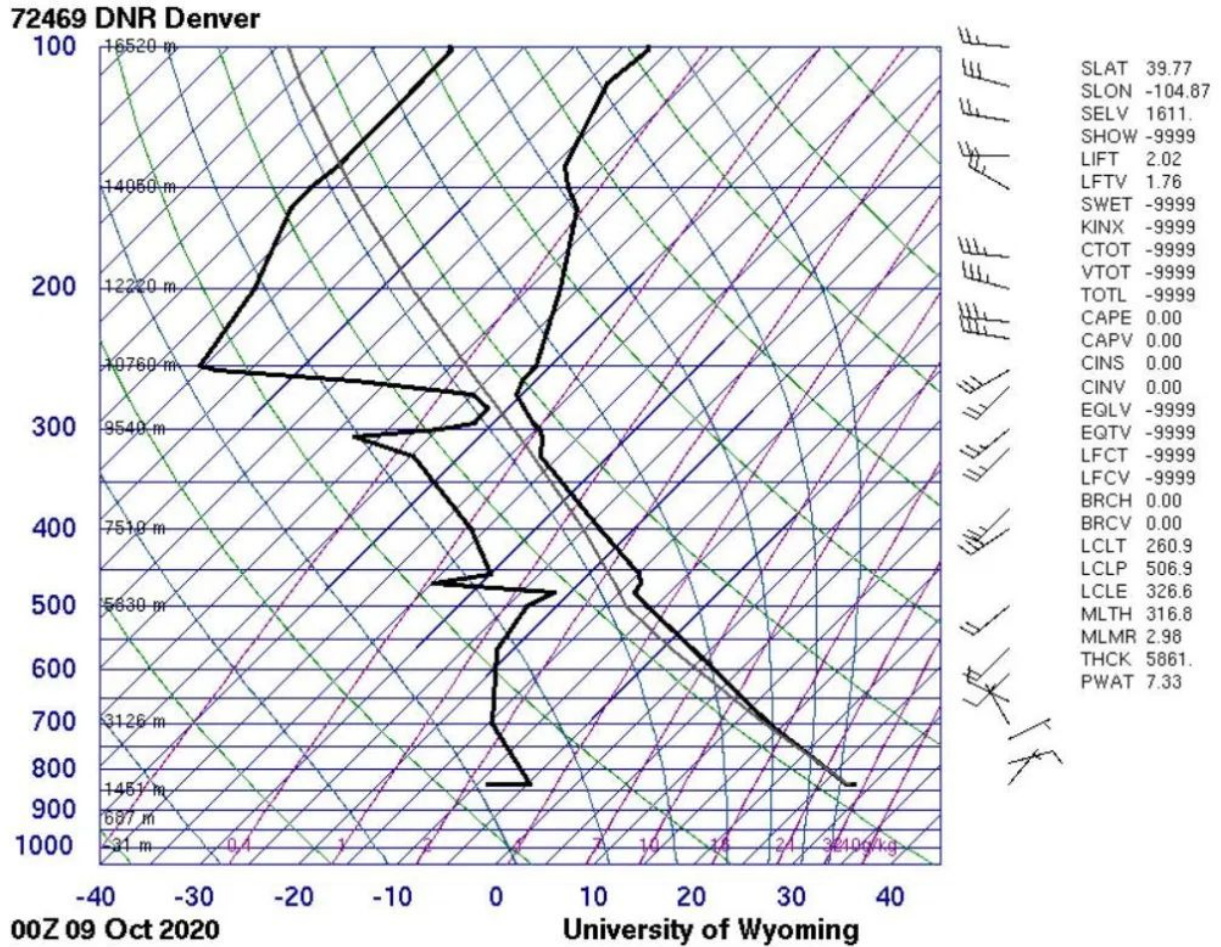


Figure 1: Skew-T diagram^[2]

The size of the field of view was very large for this image, since the object was far away in the sky. It can be estimated to be several km. The distance from the object to the lens was also very far and can be estimated to be several miles. This image was taken with Canon EOS Rebel SL1 DSLR camera. The dimensions of the original image are 5,184 x 3,456 pixels and the final image is 1300 x 623 pixels. The lens focal length for this image was 55 mm. This image had an ISO of 100, f-stop of f/8, and exposure time of 1/200 seconds. Not much editing was done for this image; it was simply cropped to focus more on the clouds. The original image is shown below.



Figure 2: Original image

This image reveals the scenic sky over the Flatirons in Boulder, CO. The different colors from the clouds, sky, mountains, and trees make the image very interesting. However, the tree in the lower right corner is too big and dominates the image too much. The intent of capturing altostratus clouds over the Flatirons was fulfilled, as well as capturing the nature around the clouds. In the future, these clouds can be imaged closer to the mountains with less trees in the foreground.

References

1. WMO. "Altostratus." *International Cloud Atlas*, cloudatlas.wmo.int/en/observation-of-clouds-from-aircraft-descriptions-altostratus.html.
2. *Atmospheric Soundings*, weather.uwyo.edu/upperair/sounding.html.