Dawood Ahmad // Cloud First

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MCEN 4151-001

The goal of this assignment was to try to capture a cloud and explain its formation. This assignment gave me something interesting to do every day, that is to look for unique clouds. On a regular day, I noticed a very unique cloud formation that is rarely seen and I started to take photos. The cloud I noticed started as a flat white surface and few minutes later it developed wavy features. Fortunately, I managed to capture these features in one of the many photos I took.

The cloud was captured on September 25, 2019 at 1:49 PM .The location was Table mesa Dr, Boulder Colorado. From the SKEW-T diagram, it is seen that winds were relatively low with occasional gusts. Winds that day were coming from the west. In addition, the atmosphere was stable as the CAPE value is zero. Temperatures that day around that time were averaged around 68 degrees Fahrenheit. The elevation of this cloud was approximately around 20,000 ft.

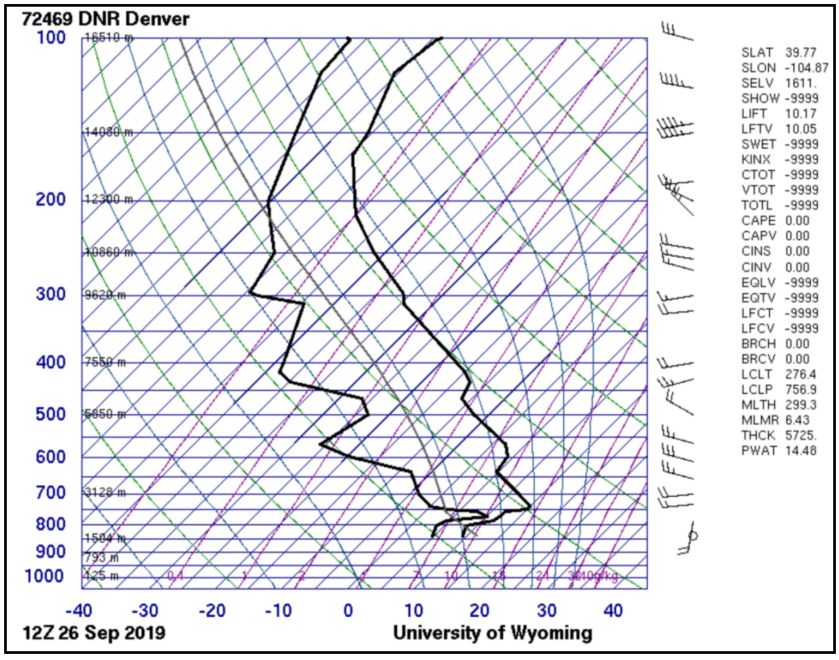

Figure 1. SKEW-T diagram during time of cloud

The cloud captured is a cirrostratus cloud with former in altitudes over 20,000ft. These clouds are made out of thin ice crystals. The clouds form in stable atmosphere, which compared

to the cape value of zero in the SKEW-T diagram verifies the cloud. The waves features on the cloud coincide with the gusts of wind that were present that day. Also, the cloud shows uniformity in the direction, And from the SKEW-T diagram, the winds are fairly uniformed in direction.

The cloud Was captured using a Samsung Galaxy S9 phone. Aperture was F2.4, Focal length 4.30mm, iso 50 and exposure time was1/3399s. The final image was not edited. Instead I thought it would be nice to show the reality of the photo as it was captured.

In conclusion, The image appeals to me because it reminds me of the ocean. The wavy features seen on the cloud are the reasons I chose this specific image rather than other versions. This assignment definitely opened my eyes to something we see daily but do not appreciate as often. I wish I could have captured a bigger formation of this cloud, but during the time of the assignment this was the only formation I was able to capture.