Cloud 2 Assignment

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The purpose of this assignment was to capture an interesting photo of a cloud for the 2nd cloud assignment of the semester. After the 1st cloud assignment, I have been more aware of my surroundings and constantly looking for interesting cloud formations. The clouds look like altocumulus undulatus clouds but will be verified with the skew-T taken from the University of Wyoming skew-T.

My friends and I decided to go to Las Vegas for spring break. To try avoid any traffic or accidents, we left at midnight. I had the 2nd shift on the drive and knew the sun was going to come up during my time driving. As the sky started to come lighter, I knew this was my chance to begin scouting for cloud formations that might come up with the sunrise. Finally, something caught my eye. Gravity waves from behind were starting to creep up on us. I waited until the sun was just about to come up and then pulled over in Fillmore, Utah, to capture this photo. Using the sun as a reference, the camera was facing due east. The angle from horizontal was about 10 degrees. The approximate elevation is 5,135 ft. This photo was taken on March 21, 2014 at 7:28 AM.

The cloud image clearly shows undulatus clouds. The CAPE in the skew-T is equal to 0, indicating that the atmosphere is stable. As a result, the skew-T confirms that the clouds are indeed stratus clouds. The clouds formed right around 8000 meters or 26,247 ft. The stable atmosphere and elevation, along with the ripples, indicate that these are cirrostratus undulatus clouds. Weather spark indicated that the wind speed was only 5.8 mph going North East. The wind direction seems to run parallel along the lengths of the clouds which makes sense.

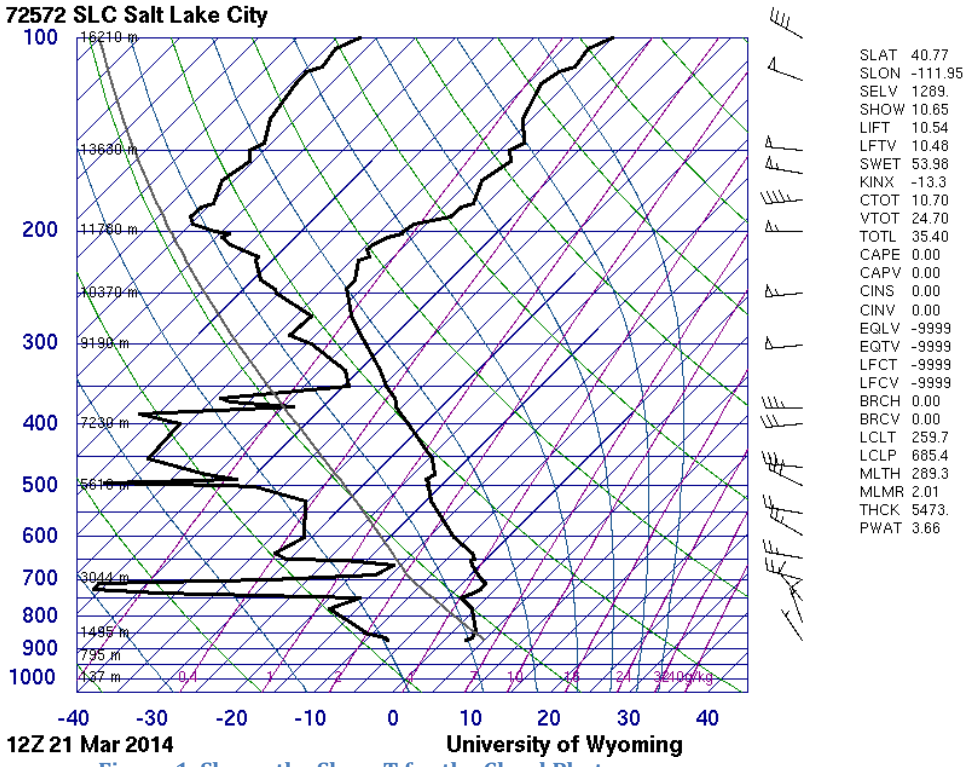

Figure 1. Shows the Skew-T for the Cloud Photo

An iPhone 5 was used to capture the cloud phenomenon. The original photo was 3263 x 2488 pixels and was cropped down to 3263 x 2108 pixels. There was minor post-processing done to the original photo. These major changes were added contrast to give the clouds more definition, and a slight saturation to bring out the colors of the sunrise.

Table 1. Exposure Specifications

Aperture	f/2.4
Shutter Speed	1/120
ISO	80
Focal Length	4 mm

Figure 2. Shows the before (left) and after (right) cloud photo

The cloud image successfully captured undulatus clouds which were then confirmed with the skew-T that they were cirrostratus undulatus clouds. The photo could have been improved by using my Nikon D60, however, I did not bring it on my trip to Vegas. Overall, I was happy that I was able to get a clear view of the sky. The physics are very well shown by the characteristic lines of undulus clouds. The mountains in the background added a cool sense of depth to the photo. I did not find much on information on cirrostratus undulatus clouds but I was actually surprised that the clouds were not altocumulus undulatus due to the thickness that they seemed to have.

Sources

"72572 SLC Salt Lake City Skew-T." *University of Wyoming: Department of Atmospheric Science*. 20 April 2014 < http://weather.uwyo.edu/cgi-bin/sounding?region=naconf&TYPE=GIF%3ASKEWT&YEAR=2014&MONTH=03&FROM=2112&TO=2112&STNM=72572>.

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Weather Spark. 20 April 2014<http://weatherspark.com/#!graphs;a=UT/Fillmore>.