Clouds Image Two

Flow Visualization

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This image was taken for the second cloud assignment. The intent of the image was to capture the beauty and essence of clouds in the most natural of forms. The specific image to be addressed was used to capture relatively low level clouds, showing the stratocumulus and how the beauty can be enhanced at dusk as the lighting begins to change.

On Sunday March 28, around 6:45 in the evening the image was taken looking west southwest while driving northwest through Louisiana. The camera was held at a 10-15 degree angle from horizontal and through a car window. The camera was angled to help prevent any glare from the car window allowing for the clouds and image overall to appear as clearly as possible.

The clouds in the image are stratocumulus clouds, which tend to be in large groupings at fairly low altitudes. There are various classifications to further identify the clouds, the clouds imaged would most nearly resemble stratocumulus perlucidus; this is a layer of clouds with random gaps between them which higher clouds or sky can be seen through [2]. The skew-T plot below provides further insight into the weather and clouds imaged.

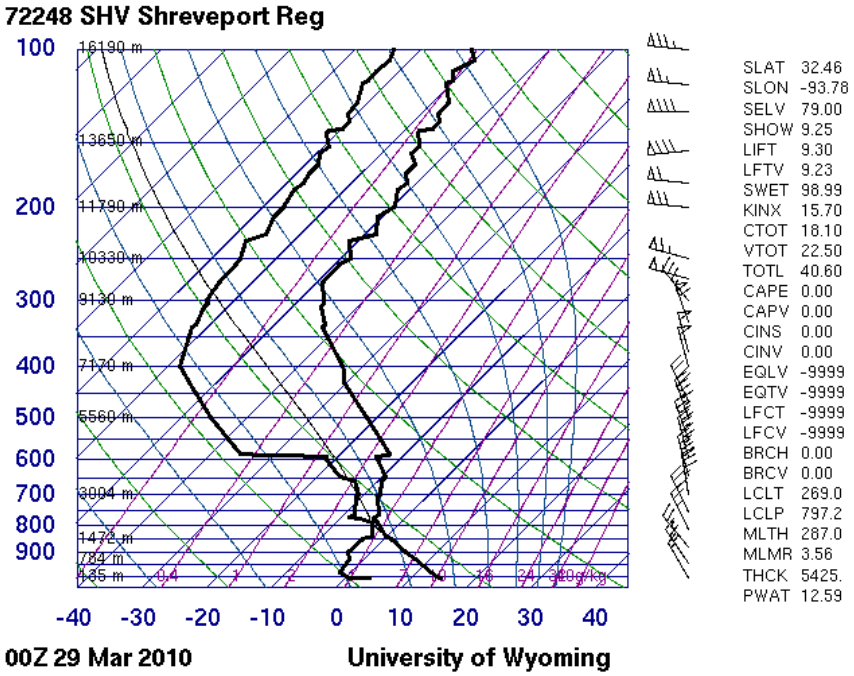

Figure 1: skew-T plot 6pm Mar. 28 '10 [1]

The plot shows that the atmosphere was stable at the time the clouds were photographed. The parcel line (thin black line) is not as steep as the temperature line (thick black line on left) and therefore the parcel will sink maintaining a stable atmosphere. This is also supported by the cape which can be read off the right side of the plot as 0.00 which implies that the atmosphere is stable. Though stable there were heavy winds which again can be supported from the skew-T by analyzing the flags just to the right of the plot which show several tails indicating higher winds. Stratocumulus clouds tend to be low level ranging from about 1,500-3,000m and as seen in the skew-T the clouds in the image were around 1,800m. Not only does this skew-T support the clouds that were imaged but the skew-T plots from the previous and following day were also studied to gather further information about the weather around that time. The other skew-T plots support the cloud type identified as well as support the fact that there would be high winds; on March 27 at 6pm the skew-T showed an unstable atmosphere which is true since there were rain

showers. Stratocumulus clouds tend to proceed or follow a storm and the skew-T plots would support this along with the weather that was seen [1] [2].

The photographs field of view is somewhat difficult to estimate but can be gauged at around roughly 1-2 miles and the distance from the lens to the clouds can be estimated at around a 0.5-1 mile apart. The image was captured using a Nikon D50 with normal orientation. The original picture was 2256 x 1496 pixels. The flash was off with an exposure time of 0.006s (1/160). The aperture was f/6.3 and a focal length of 34.0mm. The picture was edited using Picasa 3 where the contrast was increased and the image edited down to 1905 x 1401 pixels which allowed for the clouds to become the focus and the colors to become rich and vibrant.

The image reveals stratocumulus clouds over the plains of Louisiana looking west at sunset. I personally like the dark foreground in the image which I believe contrasts nicely with the golden sky. I also like how the clouds are slightly opening up so additional light and higher clouds can be seen just slightly through the layer of stratus clouds. I believe that the stratocumulus clouds are captured well in the image, the physics of the clouds can be seen although the wind is not visible which would be a significant indicator of these types of clouds. My intent for the image was fulfilled; I wished to capture an image of cloud cover or low level blanket like clouds which happened nicely with the image seen. To further develop the image a possible time-lapse series could be used; with the wind blowing so strongly the clouds move fairly quickly and so a time-lapse would be interesting to see and study on how and where the clouds move.

References

[1] "Atmospheric Soundings." *Wyoming Weather Web*. Web. 19 Mar. 2010. <http://weather.uwyo.edu/upperair/sounding.html>.

[2] "Stratocumulus clouds -." *Wikipedia, the free encyclopedia*. Web. 19 Mar. 2010. <http://en.wikipedia.org/wiki/Stratocumulus_cloud>.

[3] "» The Cloudspotterâs Guide." *The Cloud Appreciation Society*. Web. 19 Apr. 2010. <http://cloudappreciationsociety.org/cloudspotters-guide/>.