

Purpose and Intent

The image shown was taken after a day of rock climbing on the car drive back down the mountain. The view from near the peak allows a wide range of clouds to be captured. The clouds pictured include cumulus and altostratus clouds in various stages of development.



Figure 1: Cloud Image near Shelf Road



Figure 2: Photo shopped Cloud Image

Camera Specifications

The shot was taken with a Canon PowerShot A1300. Exposure was 1/640 sec, with an aperture of f/8.0. The focal length was 6.2mm and the iso was at 160. The image was taken on March 10th around 7pm. Photoshop was used to give the image a sepia effect and highlight the clouds more so than the trees in the photograph. The sepia adds a different touch to the image and gives the clouds a little more pop.

The weather for the day is summarized below at 43 degrees Fahrenheit with winds in the eastern direction at a hundred and fifty degrees.

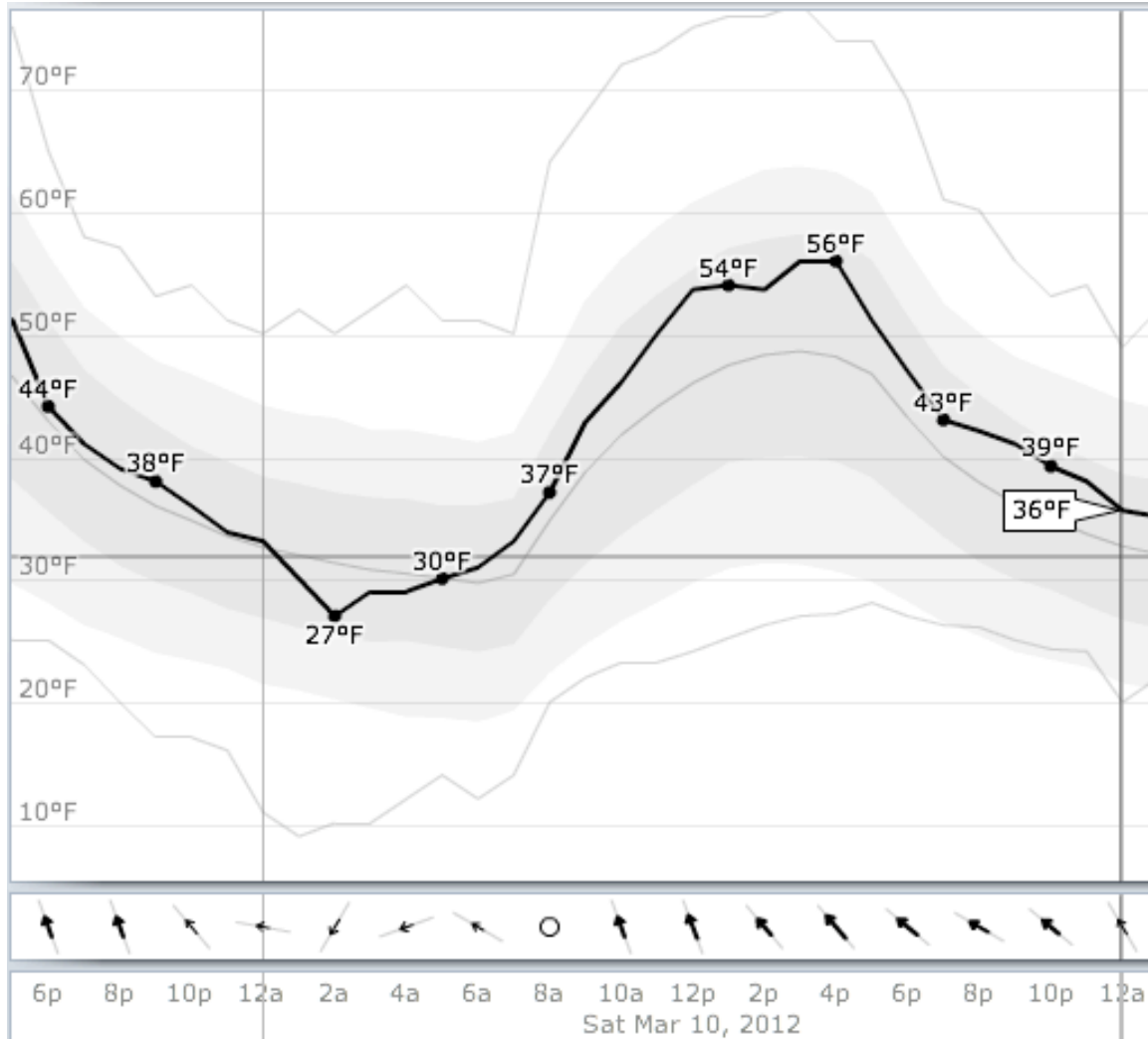
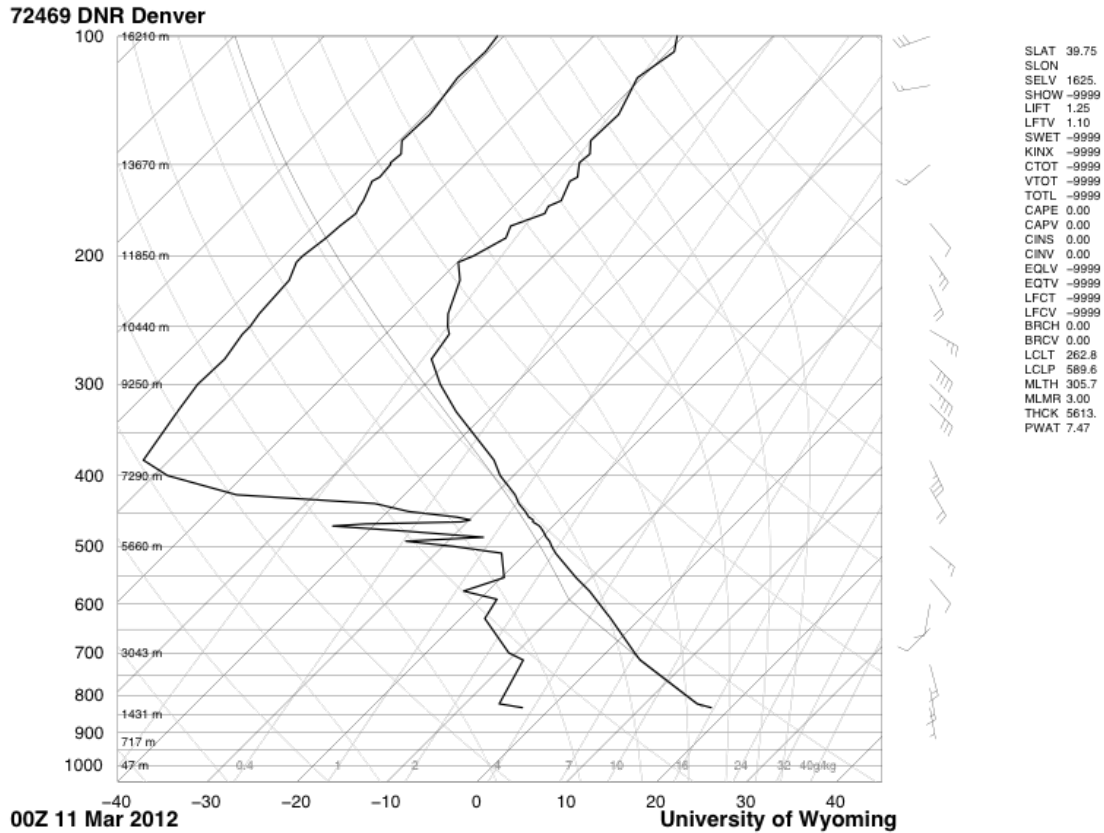


Figure 3: Summary of Weather Patterns

The Skew-T plot below summarizes the weather elements at every layer in the atmosphere and is part of the data that goes into producing synoptic weather models. The Skew-T plot for this particular day shows a stable atmosphere with a

CAPE of 0. At 7290m, it's noticeable that the dewpoint curve moves away from the temperature curve with fluctuations at lower temperatures.



Summary of Cloud Formation

The picture shows cumulus and altostratus clouds. Cumulus clouds also show up lower in the in the atmosphere around 2,000 – 3,000 ft. These cumulus clouds mostly form due to thermal convection currents, when the sun heats the land creating this dynamic effect. The picture highlights cumulus clouds at different stages – the cumulus cloud in the forefront upper right corner is fluffy and not as dense as others pictured in the back. Higher in the sky, altostratus clouds are pictured. Altostratus clouds in the picture are near 6,500 meters. These clouds form when warm air drifts into a cooler region. This can be demonstrated by looking at the skew-T and how parcels at higher elevations cool down. When the dewpoint and temperature lines move close together, this indicates a collection of clouds were together that day. This can be seen with the altostratus clouds for that day at approximately 6500 meters on the Skew-T.

References

1 http://www.atmos.millersville.edu/~lead/SkewT_HowTo.html

2. <http://weather.uwyo.edu/upperair/sounding.html>

3. http://weatherspark.com/#!graphs;a=USA/80860/CO/Victor/Shelf_Rd

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Gedzelman, Stanley David. "Beautifying Altostratus." *Weatherwise* 64.5 (2011): 32-41. Print.