

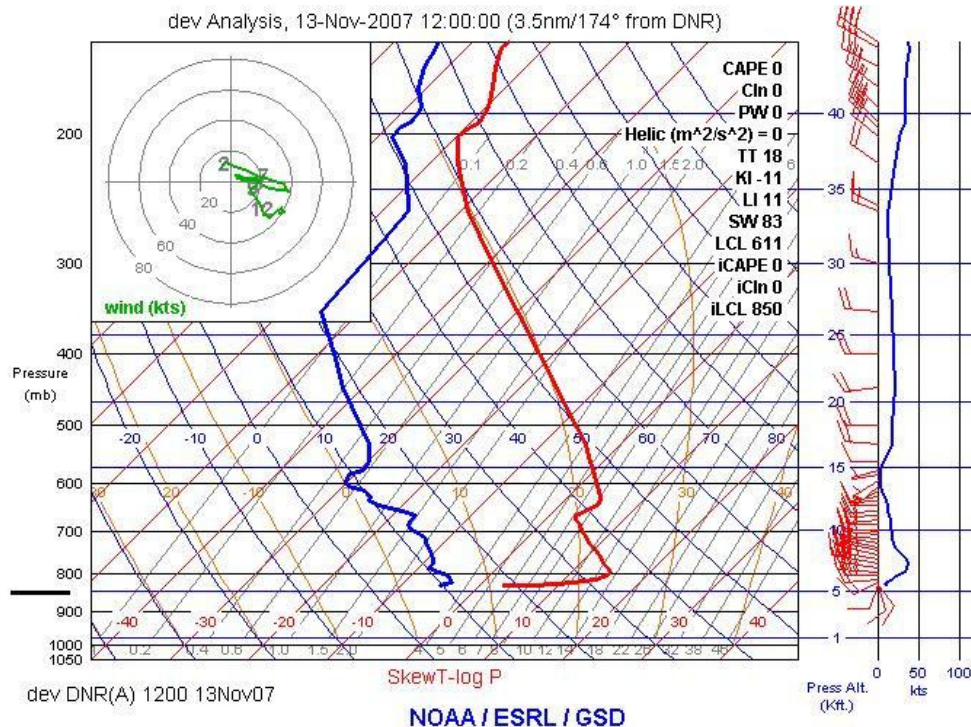
Cloud Assignment #2



Jake Dembeck
Photo taken 11/13/07

My goal for this assignment was to take a photo that included a couple of different types of cloud formations in it. While it was relatively easy to find different cloud formations in the sky at the same time, it was difficult to find them in close enough proximity to get them all in one image. I took many different photos at different times of the day, but the photos around sunset or sunrise had the most impact. In my final image the types of clouds that are present are cumulus fractus in the foreground, and cirrus in the background near the horizon.

This image was taken from the balcony of an apartment in Broomfield Colorado at approximately 4:30 in the afternoon. The two main types of clouds shown in this photo are cumulus fractus and cirrus. Cumulus fractus clouds are formed when cumulus clouds are broken apart by strong winds. If seen through time laps you can actually see the clouds breaking apart and disappearing. Cirrus clouds are high altitude clouds that look wispy. These clouds are common with good weather and winds from the West or North West. For more in-depth analysis I will use the SkewT plot shown below.



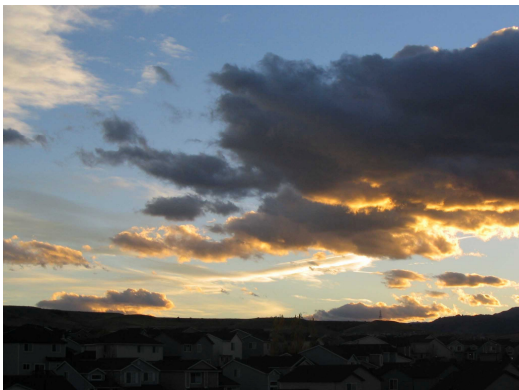
SkewT plot obtained from the NOAA website

SkewT plots give information pertaining to the atmosphere that can then give insight into where clouds might be located. According to the plot above there is a stable atmosphere from ground level to about 7000ft, from 12,000ft to 14,000 feet, and again

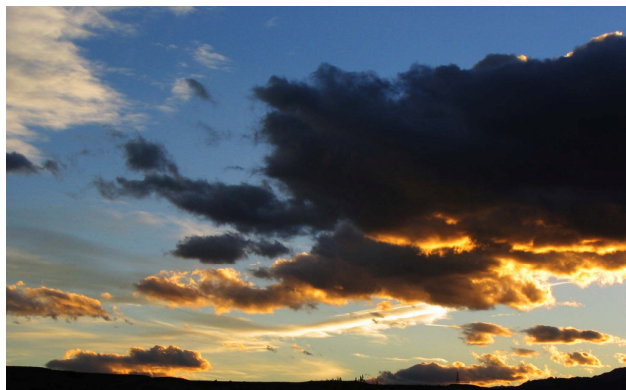
around 37,000 ft. The only part of the atmosphere that is very unstable is the area from 26,000ft to 33,000ft. the rest of the atmosphere is neutrally stable, where the adiabatic and local temperature lines have approximately the same slope. This data coincides with my cloud classification, where cumulus fractus clouds are low level clouds usually less than 8500 ft, and cirrus clouds are high altitude clouds between 20,000 and 40,000ft. The SkewT plot also displays the wind speed at different altitudes. It shows that there are winds between 20 and 40 knots in the atmosphere below 8000ft. This coincides with the conditions cumulus fractus clouds usually exist. I can conclude that the clouds in my picture probably fall in the lowest altitude and highest altitude stable sections of the atmosphere.

To take this picture I did not use any type of visualization technique. What is shown is a naturally forming cloud, with natural lighting. The picture was purposefully taken around sunset so as to add contrast and colors. I did not use any type of artificial lighting or camera flash. Add this would not have increased the pictures quality, and if anything may have made the picture worse.

This photo was taken on November 13, 2007. To take the picture I used a digital Canon PowerShot A70. The picture has a pixel size of 2048 wide X 1536 high. For this photo the lens focal length was set at 11mm. I took the picture with an aperture of F/5.6, and a shutter speed of 1/160 sec. The ISO setting was set to automatic meaning the camera chose the setting based on the current conditions. This setting was not recorded to the image file. To enhance this photo I used Photoshop to crop this image, keeping the focus on the clouds and not the foreground. I also used the curves function to change the contrast, making the image slightly darker. The original and final images are shown below.



Original Image



Final Image

My final image is an excellent example of the natural beauty that exists in nature. The setting sun creates a very unique feel to these clouds. My favorite aspect of this image is this lighting created by the sun. The lighting of the bottom of the clouds, and the coloring make for a striking photo. The aspect of this image I dislike is the quality of the image. I took this photo with my digital camera that is a few years old and doesn't have the quality of the newer cameras. This picture shows great examples of cirrus and cumulus fractus clouds, and the right conditions were present to create them as shown by the SkewT plot. I accomplished my goal of capturing multiple types of clouds in a photogenic way with this image, and captured a better image than I thought I would have been able to. The only improvements I see that could be made would be small corrections in the image using Photoshop. To pursue this idea forward, I could create time lapse movies using conditions similar to these to show how the cumulus fractus clouds break up, and how the cirrus clouds move during the sunset.