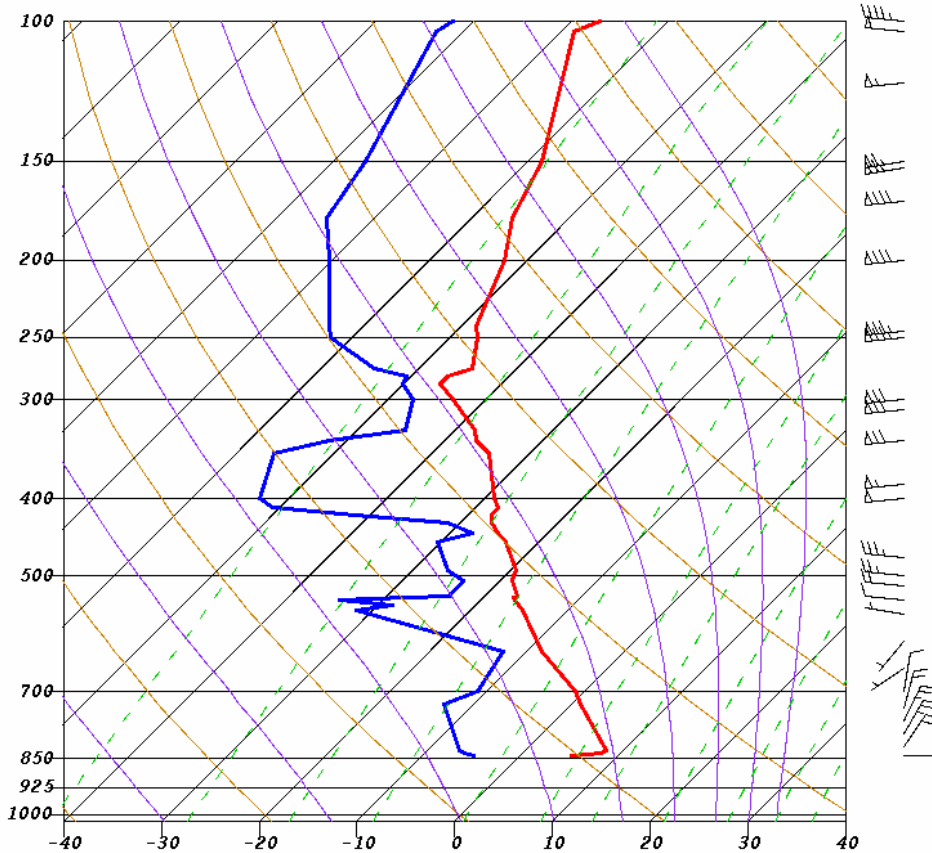


Clouds 2

The purpose of this image was to capture a decent photograph of cloud dynamics. This picture was taken on top of the lot 436 parking garage on CU campus on 11/02/2007 at about 5:30pm. My intent was to capture a beautiful and scientific image. This is a panorama of 4 separate shots.

I believe the main formation in the picture can be classified as a lenticular cloud. The lensing effect of lenticular formations can best be seen on the right side of the panorama. The clouds on the left are experiencing faster, possibly shear flow, causing the formation to look hazy and stretched out. The dark spot in the middle of the formation might possibly be due to one side of the cloud being on the upward slope of the flow over the mountain while the other side of the cloud is due to the flow coming back down over the mountain again. I believe a front of some kind was moving through causing turbulence and thus creating a lenticular cloud. This can be seen graphically in the Skew-T plot where the bold left line (dew point) comes closer to the bold right line (actual temp).

071102/1200 72469 DNR SHOW: -9999 LIFT: 6 SHET: -9999 VTOT: -9999 TOTL: -9999
CAPE: 0 EQLV: -9999 SELV: 1625 CINS: 0 LFCV: -9999
LCLT: 266 LCLP: 722



Looking at the skew-T plot, there are some instabilities in the lower atmosphere with a strong westerly wind. The upper atmosphere looks more stable and could possibly be the reason the only visible clouds are in the foreground. Near the ground the wind is blowing rather erratically but at relatively slower speeds. The skew-T plot might not do justice to this cloud formation because it formed directly above the flatirons mountains. The formation is most likely due to warmer air being pushed up over the mountains by a westerly wind, causing the air to form the cloud seen in the picture.

The picture is a series of 4 pictures taken without a tripod. The pictures were taken consecutively in very close timing of each other. This series of pictures were all taken with the same camera settings. They were then taken into Photoshop CS3 and were put together using the auto-align and auto-blend tools. The technical specs of the set of photographs are as follows:

Size of field of view: Approx: 1-2 miles wide

Distance to object from lens: Average of about 2 miles to clouds

Lens focal length: 18.0mm per picture

Type of camera: Canon Digital Rebel XT, 3456 x 2304 pixels per picture;
compiled picture is 6032 x 876 pixels

Exposure specs: f/8 aperture

1/100 sec. shutter speed

100 ISO

UV filter.

My picture shows the phenomena of a lenticular cloud formation in which moist air flows over a mountain range and forms undulating waves which sometimes create clouds on their crests. I was impressed by the ability of Photoshop CS3 to combine 4 pictures not taken with a tripod and have them automatically be seamed together. I enjoy the way the cloud changes shape from left to right. The mountain also adds a nice touch, kind of giving you a sense of how the earth's topography effects cloud formation. I feel the photographs have very good color depth. I wish the photograph could have had more vertical space, but after cropping out any distractions such as buildings and power lines, there was only a little space left to show the mountain tops. Going on my experience from my last panorama, I lowered my ISO and lowered my shutter speed; I feel this gave my pictures an overall smoother, less grainy finished product.