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March 1, 2006

MCEN 4228

The purpose of this image is to show clouds as well as explore different atmospheric conditions. It was attempted to display two distinct cloud formations in the same image and also have a visually appealing image.

This image contains two separate cloud types: Cumulus and Altostratus. The cumulus cloud is in the bottom portion of the image, while the altostratus is on the top half. Clouds are formed when air with water vapor in it is cooled so that the vapor condenses. The cumulus cloud in the picture is considered a “low cloud” and is located below 6000 feet. This cloud type is composed of rapidly rising air currents that give the clouds a bubbling and towering aspect. It is characterized by their mounds, domes, and towers that often resemble a cauliflower.<sup>1</sup> The altostratus cloud in the picture is considered a “middle cloud” and is located between 6000 and 20000 feet. This cloud type is characterized as a grayish cloud sheet with a uniform appearance that has parts thin enough to reveal the sun.<sup>2</sup> By examining a “Skew-T” plot (plot that shows the current temperature profile) of the atmosphere, one can determine the stability of the atmosphere. For February 28, 2006 the SkewT plot for the Denver area is as follows. (See **Figure 1**) The temperature line (white line on right) is steeper than the adiabatic cooling rate (yellow line) therefore the atmosphere is stable.

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<sup>1</sup> Houze, Robert A. Cloud Dynamics:Introduction of Clouds. San Diego: Academic P. 8.

<sup>2</sup> Houze, Robert A. Cloud Dynamics:Introduction of Clouds. San Diego: Academic P. 13-15.

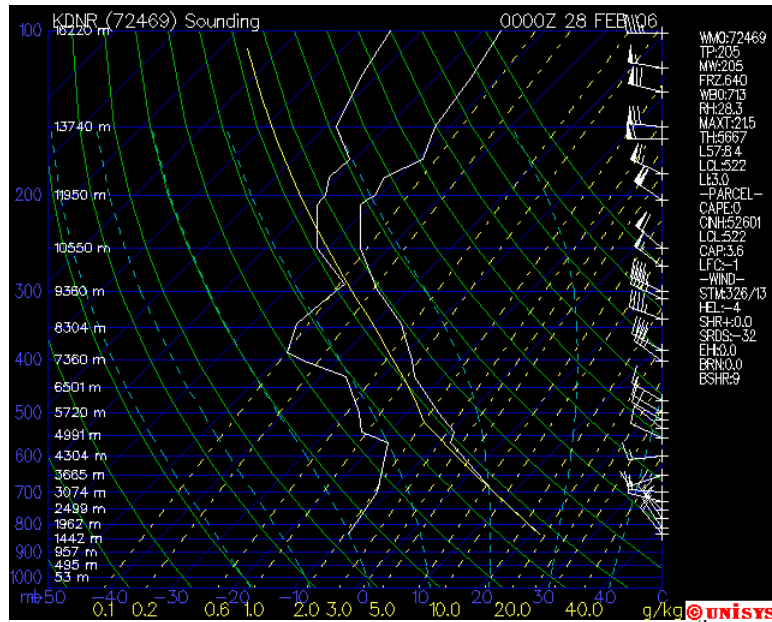
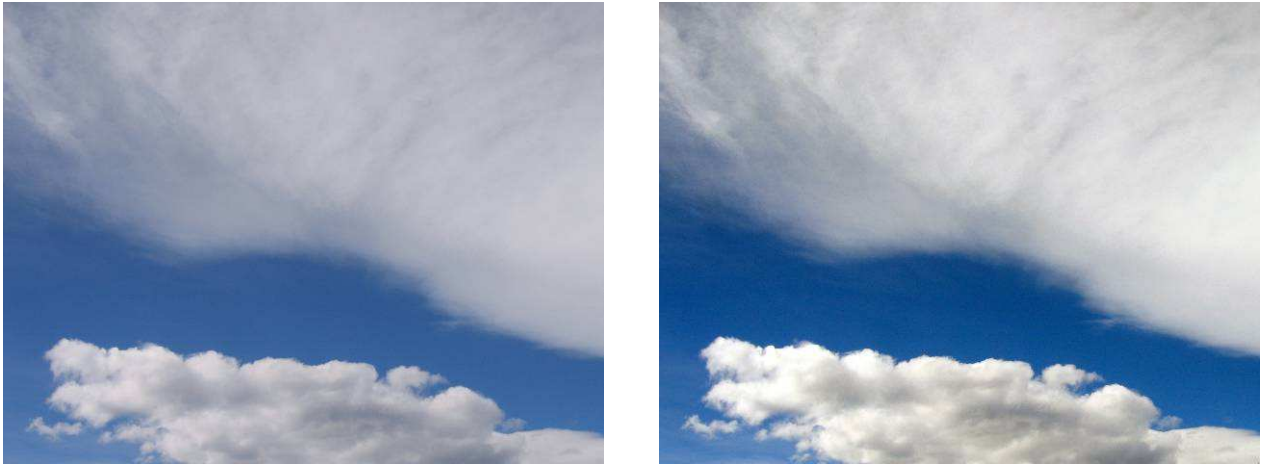


Figure 1: SkewT Plot for Denver Area<sup>3</sup>

This photograph was taken on a 5 Mega pixel Digital Canon Power Shot S500. The field of view is estimated to be approximately 3 miles wide by 2 miles tall. The clouds were most likely approximately 2 miles (horizontally) from the camera. The focal length of the lens on the camera was 7 mm and the lens aperture was F/7.1. The shutter speed was 1/636 seconds. Using Adobe Photoshop 7.0, the image was manipulated first by cropping extraneous material. Also, the image was then controlled with an auto-color adjustment (changes the color and contrast of image by neutralizing histogram) and a sharpen filter (improves clarity). (see **Figure 2** below to examine before and after.) The final image was 1768 x 1364 pixels.

<sup>3</sup> Vietor, Dan. "Current Skew T Plot for Denver CO (DNR-72469)." [UNISYS Weather](http://weather.unisys.com/upper_air/skew/skew_KDNR.html). 28 Feb. 2006 <[http://weather.unisys.com/upper\\_air/skew/skew\\_KDNR.html](http://weather.unisys.com/upper_air/skew/skew_KDNR.html)>.



**Figure 2. Adobe Photoshop Manipulations (“before”-left, “after”-right)**

This image reveals two distinct cloud formations (cumulus and altostratus) as well as has visual appear. For future cloud photography, it would be helpful if a different set cloud types were incorporated, that can help explain differences in appearance, formation, and altitude of the clouds being examined.