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Cloud Report 1
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This is the first cloud image for the semester. I intended to take a photography of cloud formation, even at a small level. During the process I photographed several small clouds but was only able to find formation by chance. The clouds were small in respect to normal rain clouds and appeared and were gone within a minute and a half.

I took this image near my house in Gunbarrel, at a park. It was taken in a East-Northeasterly direction with the camera at an approximate 60-70 degrees above the horizon. It was taken at 10:00 am on February 24th.

The clouds that appear in the image are of the beginning of the formation of a cumulous cloud. Since they only existed for less than 2 minutes, they were unable to create the puffy larger cumulous cloud. At this stage they are often referred to as a billow cloud with localized turbulence. The rest of the sky was clear on the warm winter morning. Looking at the skew-T plot for 4 hours earlier, one can see that there was a low level inversion typical with a winter morning. Additionally the air was mostly neutrally stable with a small area of instability around 4300m. Furthermore, the altitude that would most suit a cloud formation is at 4300m where the dew point and skew-T approach each other. However, since this was a low level cloud, it must have taken place near the top of the surface inversion at approximately 1000-1400 ft above ground level. This would be an area of turbulence that would help in the seeding and formation of a cumulous cloud. As I watched the clouds they were swirling and quickly changing in shape. There were very little winds aloft since the cloud was stationary in the sky. As the ground surface heated up, the air moved vertically warming as it moved upward. When it reached the top of the inversion it met up with cooler air moving downward. This interaction would most likely cause the swirling and turbulence I observed and the necessary action to form a cloud. Then as quickly as it was formed, it disappeared as the moving warm air most likely found a way to tear it apart.

The cropped field of view is around 500-600 feet long and 350-450 ft in height with the original photo easily doubling that size. The distance to the object is around 1500 ft since it was 1000-1400 feet AGL and I was shooting at an angle upward at it. The picture was taken with a digital camera Nikon Coolpix S210, with the original photo coming in with 3200 x 2400 pixels and the cropped image has a size of 2317 x 1585. The focal length of the lens was 18.90 mm and the ISO was set at 64. For the image the aperture was set at 8.5 with a shutter speed of 1/355. I only cropped the image and experimented with changing the contrast but decided on keeping the cropped image as is.

The image reveals the wispy and turbulent aspect to the formation of a cumulous cloud. I enjoy that there are multiple clouds in the picture since they all seem to show a different shape and movement to the picture. In the largest cloud I like that there are

holes in it and these were particularly fun to watch during its life span since they showed a great deal of swirling motion. I wish that there were more depth of field and more height to the clouds since that would be a little more appealing to the eye. Lastly, it might be nice to have some ground reference to the cloud to see height and judge size easier. This might be worth investigating further.