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ARTS 5097

For our second project, we were asked to observe the phenomena and occurrence of cloud formations. We were asked to observe the sky at different times and over many days to visually document this atmospheric phenomenon. After photographing these formations, we were asked to identify the type of cloud to get a general idea of how the cloud formation was created. My intent for this project was to photograph an interesting cloud formation. I wanted to create a beautiful image as well as focusing on the scientific reasons for its formation.

This photograph was taken from about a 45-degree angle from the ground over the rooftops of some buildings on campus. It was taken in the morning around 10:30 last summer using only the sky for illumination. The temperature was in the mid to high 60's.

The field of view was about 5 miles. I used a digital Nikon D 70 with a 35 mm lens. My aperture was set at f: 10 with a shutter speed of 1/1000 of a second at an ISO of 250. The pixel dimension of the original photograph is 3008 x 2000 pixels at a resolution of 300 dpi. While checking the levels of the photograph, I color corrected to find the dark and light colors and snapped the neutral midtones to enhance the highlights, lowlights and midtones of the photograph.

Using a cloud chart, I classified this cloud formation to be cumulus fractus clouds. Cumulus clouds are puffy and white, with flat bottoms. They are low in the sky and generally mean fair weather[1]. Fair weather cumulus clouds exhibit a slight vertical

[1] A. Meyerhorn, 2003. Wonders in Weather: Cumulus Clouds. http://www.cityofportsmouth.com/school/dondero/msm/weather/index.html

growth, with the cloud tops designating the limit of the rising air. Buoyant bubbles of air, rising upward from the earth's surface, fuel cumulus clouds. As these air bubbles rise, the water vapor cools and condenses forming cloud droplets. The evaporation along the cloud edges cools the surrounding air making it heavier, which produces a sinking motion outside the cloud. This downward motion inhibits the further convection and growth of additional thermals from below, which is why fair weather cumulus typically have expanses of clear sky between them. Without a continued supply of rising air the cloud begins to erode and will eventually disappear[2].

I am generally impressed by this image. I think it captures the cloud phenomena well. I am, however, unhappy with the top of the right cloud, which seems a little hot. If I were to redo this image, I would compensate for this lighting flaw by decreasing my shutter speed. Since the rest of the photo seems to be exposed properly, I would not have to decrease the shutter speed by much, probably a stop of a stop and a half. I believe I did fulfill my intent with this image. I produced an image that is interesting and beautiful and it describes the scientific phenomena well. In developing this idea further, besides compensating for the blown out area of the right cloud, I would like to integrate a scene underneath the sky, to make the arrangement more clearing regard to the ground.

[2] The Weeather World 2010 project, 2005. University of Illinois at Urbana-Champaign Department of Atmosperic Sciences.
Http://ww2010.atmos.uiuc.edu/(Gh)/guides/mtr/cld/cldtyp/vrt/frcu.rxml