CLOUDS PROJECT TWO

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Time-lapses are one of the most interesting forms of capturing cloud images. A time-lapse consists of multiple photos taken over a period of time. Popular television programs, such as Planet Earth, employ this photographic technique to show a flower opening overtime. A simple photograph cannot capture the movement as the petals open, and a video is insufficient because the movie would have to be extremely long in order to encapsulate a flower blossoming. Now a time-lapse can take a photograph 5 times a day for a month and when complied together, it creates a rapid succession of motion pictures that condenses time to portray a flower opening in a matter of seconds. This technique can also be employed using clouds, for example weather channels use it to obtain an abbreviated depiction of the clouds during a specific period of time, which can be extremely useful for examining weather patterns and how clouds form.

The location for my time-lapse is a rural neighborhood called Four Mile Creek in North Boulder. It was taken on April 14, 2009 around 9:30am. It was taken at an angle 15 degrees above the horizon facing North Northeast. The majority of the sky during the time-lapse appears to have the well-known Colorado blue sky with clouds rapidly forming as they are pushed from over the Rocky Mountains (behind the camera) toward the plans where they dissipate. The clouds move rather quickly and appear to be middle to high altitude clouds, white with no precipitation, which can be defined as Cirrostratus clouds. The Skew-T plot reveals similar data.

The Skew-T plot for April 14, 2009 shows mid-altitude clouds (about 5280ft) with a few changes in slope between the smooth adiabatic curve and the local temperature curve. This signifies that although for the most part stability is maintained, there are a few locations (change in slope between the adiabatic curve and the local temperature curve) where unstable conditions occur, most likely creating clouds. Note the plot contains a dew point gap that is smaller causing

a possibility of either unstable cloud conditions or precipitation, which mimics the weather for the afternoon, which happened to be overcast with some afternoon showers.

This time-lapse was accomplished using an ESO Cannon 50D digital SLR camera with a telephoto 18-200mm lens. Using a tripod, I took a photograph every 5 seconds. The duration for the time-lapse at this particular location was 30 minutes. The image quality from the camera produces magnificent 15.1-megapixel images and when combined, the time-lapse seems almost flawless. Due to constant changes in the natural lighting conditions, I kept the aperture closed down to f16 and a shutter speed of 1/60; however, the ISO varied between 200 and 640. The distance from object to the lens is approximately a mile and a half (the clouds no the foreground tree which was only about 30 feet away) and the size of the field of view is about 1 mile. There was no Photoshop processing, although the use of Final Cut Pro Studio 2 and Motion, helped to add transitions and titles. To compile the images and create the effect of passing of time, image sequencing in Quick Time and cross-dissolve transitions in digital post-production using Final Cut Pro Studio 2 were employed.

I remotely hooked up my camera this time to a MacBook Pro laptop and used image sequencing remote control software to control the camera from the computer. This allowed for the camera trigger to click the shutter acquisition button every 5 seconds (12 shutter accusations per minute) for 30 minutes. Therefore, (1 time-lapse) * (30 minutes/ time-lapse) * (12 shutter accusations/minute) = 360 accusations or 360 photographs. This was much improved from my last attempt without any automatic device; however, I hope that my next time-lapse sequences will be done with a remote to better achieve the perfection for which I strive.