CLOUD IMAGE 2

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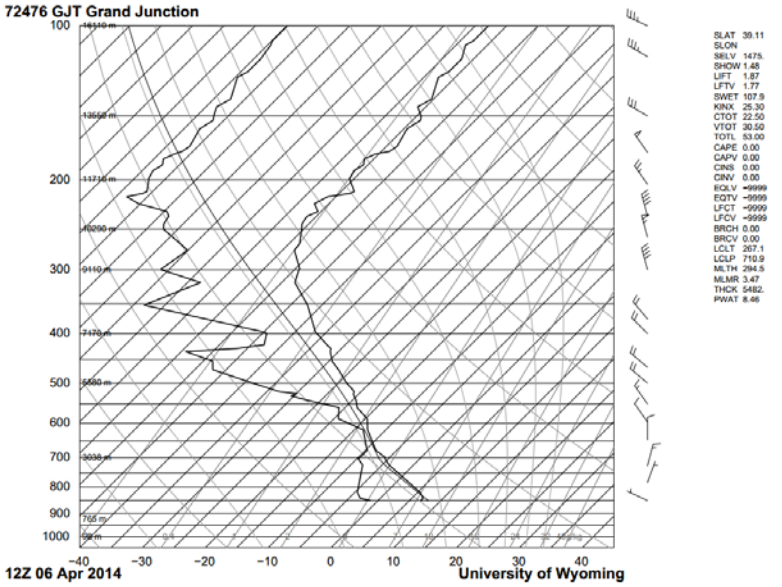
The goal of this image is to show what occurs on a blue bird day after precipitation in the mountains. The peak in the center of the image is Mount Princeton with a peak at an altitude of 14,197' and on the left of the image lays Mount Antero at 14,275' tall. Upon the 7 hour drive home to Boulder, CO from Durango, CO we stopped many times along the trip to do pushups while taking pictures of the clouds. In Buena Vista, CO we stopped at a cemetery on the top of a hill to take pictures of the fallen water rising back to the sky.

This image was captured on April 6th 2014 at about 6 pm. The photograph was taken with a western facing approach as to have the light coming up from behind the water vapor and ice crystals that were floating in the air. The camera is tilled roughly 5 degrees from horizontal and there were 6 different photographs used to stitch the panorama together. The panorama was decided on because it was the best way to display the massive affect the wind and the sun have on the clouds and water cycle in general.

There were a variety of clouds in the sky when this photo was taken. The two main cloud types in the sky are cause by orographic affects. Orographic affects mainly up lift are caused by the massive land mass "the mountain" that is heating up and there are winds and different types of pressure driving the flow of air up the mountain into the sky. The clouds in the picture are stratus, stratocumulus and cumulus and they are driven by orographic affects as discussed earlier. Deciding what types of clouds are in the image was very difficult because there are many different clouds and the altitude of these clouds range from 15,000' – 19,000'. This was decided by observing the Skew T and noting a few different things. The most interesting thing was the dew point. The line the marks the dew point is the dark black line on the left of the Skew T that is very jagged. The jaggedness is a hint at the fact that clouds form at these places of dramatic change in the vapor temperature and/or vapor pressure. With this in mind it can be seen that the moisture on the mountains could get into the clouds in two different manners. First, as hinted before the ice is sublimating off the mountains and condensing into the clouds making orographic cumulus. The other method of cloud formation is from the wind. The wind transports the ice from the fresh snow fall



into the atmosphere and it forms the extremely wispy clouds. These were the clouds particularly difficult to classify. None the less they were formed from the orographic winds that occur at the end of the day in the mountains making them orographic clouds.

The lighting in the image is extremely bright sunlight. There was some difficulty in capturing the image and there was a need for adjusting the camera settings manually. First, describing the camera and lens is necessary because the type of lens dictates the other settings. The camera was a Canon Rebel T3i and the lens was a Canon EF-S 18-55mm f/3.5-5.6 IS STM. The aperture settings for this shot was f/20 as to give the photo a large depth of field while blocking a lot of the light from the cameras sensor. The shutter speed was set at 1/250 seconds which let just enough light into the sensor but not too much as to over expose the scene. Lastly, the ISO was set to 100, this was because the light was so bright that the settings had to keep the light out of the picture.

The size of the final image came out to 17276 x 2932 pixels. The only image modification was to stitch the other images together in Photoshop. Every other aspect of this image was unmodified allowing the true grit of the image emerge. The image captures the sublimation of the snow into the atmosphere while also displaying the scope of the orographic effects on the clouds. The image would look really nice in a well-lit hallway so one can see the massive scope of these clouds and orographic effects.

Works Cited

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