Cloud Image Report

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CU Flow Vis
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Project Description

This photo was taken to satisfy the second Cloud Image assignment. The intent of the image was to capture the cumulus cloud formation that collected around central/eastern Boulder. Approximately 50 images were taken from various

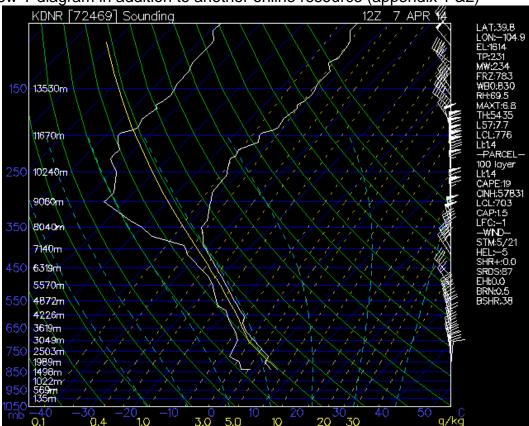
angles, focal lengths, and apertures. The best photo was selected to undergo post-processing.

Photo Location and Details

The photo was on taken at approximately the intersection of 30th and Colorado. It was taken on 4/7/2014 at 4:18pm. The camera was hand held and was roughly 65°.

Cloud Description

The cloud formation was a cumulus. This was identified through the help of the Skew-T diagram in addition to another online resource (appendix 1 &2)



The CAPE # of 19 indicates a moderately instable atmosphere. In the above Skew-T diagram, the plot angle changes sharply at 7140 meters. This was the approximate height of the clouds I observed and photographed on that day. There was a moderate wind of approx. 10mph. No precipitation was observed that day, and the sun was shining. Overall, there was a blue sky with minimal clouds.

Camera and Photographic Technique

The photos were taken during the day so there was sufficient light to use a fast shutter speed, which allowed the camera to be handheld. I would estimate the field of view to be ~2miles. I would estimate the distance to the center of the cloud to be 2-3 miles.

The lens used is a 50mm Panasonic f/4-f/32. The photo was shot at f/5.6, ISO 200, and shutter speed of 800. The camera is a Panasonic G5. It is a micro 4/3, aka a mirror-less DSLR. The original image is 4608 x 3456 pixels. The edited image is 4608 x 3456 pixels.

In photoshop, to boost contrast, the blue and cyan values were increased via he selective color tool.

Before:



Personal Opinion

I like the outcome of the final image. It doesn't show fluid movement terribly well, but I enjoy the contrast of the white clouds against darker mountains.

Appendix:

- 1. http://kiwi.atmos.colostate.edu/group/todd/Extras files/Skew-T-Manual.pdf
- 2. http://nenes.eas.gatech.edu/Cloud/Clouds.pdf

Self -Assessment

Assignment:

Date:

Scale: +, ! = excellent $\sqrt{\ }$ = meets expectations; good. \sim = Ok, could be better. X = needs work. NA = not applicable

Art	Your assessment	Comments
Intent was realized	V	
Effective	V	
Impact	V	
Interesting	V	
Beautiful	V	
Dramatic	V	
Feel/texture	V	
No distracting elements	V	
Framing/cropping enhances	V	
image		

Flow	Your assessment	Comments
Clearly illustrates phenomena	~	
Flow is understandable		
Physics revealed		
Details visible	~	
Flow is reproducible	√	It's difficult to reproduce
		nature
Flow is controlled	$\sqrt{}$	
Creative flow or technique	V	
Publishable quality	V	

Photographic/video technique	Your assessment	Comments
Exposure: highlights detailed		
Exposure: shadows detailed		
Full contrast range	V	
Focus	√	Image is in focus
Depth of field	V	Very little DOF with infinite focus
Time resolved	√	
Spatially resolved	√	
Photoshop/ post-processing		
enhances intent		
Photoshop/ post-processing does		
not decrease important		
information		

Report		Your	Comments
		assessment	
Collaborators acknow	edged		No collaborators

Describes intent	Artistic		
	Scientific		
Describes fluid phenomena			
Estimates	Reynolds number etc.		
appropriate scales	•		
Calculation of time	How far did flow move		
resolution etc.	during exposure?		
References:	Web level		
	Refereed journal level		
Clearly written			
Information is organize	•		
Good spelling and gra	mmar		
Professional language			
Provides information	Fluid data, flow rates		
needed for	geometry		
reproducing flow	timing		
Provides information	Method		
needed for	dilution		
reproducing vis	injection speed		
technique	settings		
lighting type	(strobe/tungsten,		
	watts, number)		
	light position,		
	distance		
Provides information	Camera type and		
for reproducing image	model	,	
	Camera-subject		
	distance	,	
	Field of view	V	
	Focal length	V	
	aperture	V	
	shutter speed		
	Frame rate, playback		
	rate		
	ISO setting	V	
	# pixels (width X ht)	$\sqrt{}$	
	Photoshop and post-	$\sqrt{}$	
	processing		
	techniques		
	"before" Photoshop		
	image		