

Long Exposure Case Study #7

CLOUD MOTION

by Kent DuFault

In these case studies, I have discussed several different extended exposure techniques and genres. One that has been extremely popular in recent years is long exposure during daylight

hours. This technique requires the use of neutral density filters, a good sturdy tripod, and some form of a remote shutter release. A popular subject for this genre is moving clouds.





To capture good cloud movement, here are some factors that you must consider.

- How fast the clouds are moving?
- How much contrast is there between the clouds and the sky?
- What direction are the clouds moving relative to your chosen camera position?
- What is the angle of the cloud movement relative to the camera?
- Shutter speed time



Clouds that are moving directly toward the camera position, or straight away from the camera position will require the following-

- They must be moving faster than clouds passing by perpendicular to the camera position, or...

- The photograph will need more prolonged exposure to capture a dramatic effect versus clouds that are traveling perpendicular to the camera position.



Cloud movement that is moving perpendicular to the camera point of view or even at a diagonal to the camera point of view can optionally be captured with a much faster shutter speed than cloud movement that is traveling in the same position as the camera point of view.

Depending upon the speed of the cloud movement, it can be captured in as fast a shutter speed as $\frac{1}{2}$ to 1 second.



For this image here, we can tell a couple of things by studying the photograph.

- There wasn't much wind that day. All of the trees are still except for one on the upper right.
- The long exposure here wasn't too long, probably less than a second; otherwise, there would be more tree movement.
- The clouds were moving at a perpendicular position to the camera, and they were moving fast. There was more high-altitude wind than on the ground.

What else can you tell about this image? A polarizing filter was used. The color of the sky and

the increased contrast of sky and clouds is a clear indication of a polarizing filter.

Key Point: A polarizing filter only works if the light source is behind the camera or to either side of the camera. The filter polarizes the light rays. The light direction needs to be at an angle to the subject for this to happen. A polarizing filter does no good for a sunset picture if the Sun or the direction of sunlight is within the frame. How many stops of light does a polarizing filter remove? It typically removes about 2 to 3 stops of light. So, it can be used to reduce the light intensity for a long exposure- even if the light source is in front of the camera.



This image is an excellent example of how the angle of cloud movement relative to the camera position can affect the outcome of your picture.

Notice how the clouds at the top of the photograph show a great deal of movement, but the clouds closer to the horizon show no change.

Also, notice the boats on the horizon. They are relatively sharp and focused. This fact tells us that

the exposure wasn't very long, or movement on the water would have made them blurry.

The water itself is relatively sharp except right at the surf line.

This long exposure wasn't very long at all. The motion in the clouds and the water was created first by the angle relative to the camera. Secondly, the photographer boosted the effect in post-production.



Photograph by Kent Galt

Study the clouds in this image here. It is another excellent example of how the angle has affected the captured movement. It's essential to understand this. Otherwise, you will frustrate yourself, attempting to capture cloud movement and getting little or nothing in your captured photo.

Remember the speed of cloud movement, the direction of cloud movement relative to the camera position, angle of cloud movement relative to the camera position, contrast between clouds and the sky, and finally shutter speed length.



What time of day was this photograph taken?
That's right. It was post-sunset.

Was it a very long exposure or a faster long exposure? The visible stars show minimal movement. This exposure time was likely a 30 second or less.

Why do the clouds have such a nice contrast against the blue sky? They were enhanced in post-production.

Key Point: Virtually all long exposure photographs can be improved with some post-production editing. The key is to try and keep it real, but with some pizzazz.

Your Challenge

Go out on three separate photoshoots with the intent of featuring moving clouds. For photoshoot one, have the clouds moving across the frame. For photoshoot two, have the clouds moving at a diagonal across the frame. For photoshoot three, have the clouds moving either directly at or away from the position. In each, vary your shutter speed length from $\frac{1}{2}$ of a second all the way to 30 seconds. Use the camera raw format for maximum potential in post-production. Even if you don't have the proper neutral density filters to extend an exposure out to 30 seconds, shoot it anyway, and then just for fun try to pull it back in post-production.

Evaluation

Do you now have a thorough understanding how the cloud movement can affect your outcome? Did some of your exposures surprise you? Were you able to pull back a 30-second overexposed picture back to something interesting?