# Dapto Camera Club Magazine. Viewfinder, February 2021

Please wear a MASK when you leave your home.



EASY Resizing Photoshop Trick! [Hidden Crop Feature]

In this 90-second Photoshop Tip, I'm going to show you how to easily crop and resize an image. We will use a little-known feature within the Crop Tool called "Front Image" to take the dimensions and resolution of one image and apply it to another.

□ Watch Here: <u>https://www.youtube.com/watch?v=9TXCIL\_yJfl</u>

## How To Blur Backgrounds In Photoshop Complete Step-By-Step Guide

In this tutorial, you will learn how to easily create the shallow depth of field effect (out of focus background) without an expensive lens.

This easy step-by-step guide will teach you about selections, Layer Masks, Smart Objects, and the Blur Gallery to create a highly realistic blurry background effect.

Kieth Smith

I hope that you find this tutorial helpful!

□ Watch Here: <u>https://www.youtube.com/watch?v=mPp7h5ddQ3E</u>

#### Links of Interest:

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Viewfinder cover photo taken by.

# **Contrast and Temperature in Color Photography**

by Autumn Lockwood

Although black and white photography has been the standard for beginning film photography students for a long time, at some point every photographer should learn the basics of color photography. Learning color photography requires a firm understanding of the basic elements of photography, which can be broken



down into the following easy to understand elements.

#### "Baseball" captured by <u>Hector Rodriguez</u> It Starts with Contrast

In black and white photography, contrast refers to the difference between the lightest and darkest elements of a photograph. In essence, you can think of contrast as "how white is white?" With black and white photography, there are really only three tones: low contrast, medium, and high contrast but with color photography it gets a little more complicated. Color photography has color contrast compared to the tonal contrast of black and white. Color contrast is determined by the way each of the colors interact with the colors surrounding it. While the contrast can still be adjusted to push the bright to dark ratio, the

colors in a photograph appear different depending on what's around them. For instance, think of a baseball sitting in bright green grass—that image has high color contrast because the bright white of the baseball stands out against the cool green of the grass.

#### **Color Temperature**

Any time you're taking pictures in color, you have to pay attention to the temperature of the colors. Different lights result in different color temperatures, in the same way that the sun looks different at various times of day. Although there are lots of technical measurements of color temperature, the simplest way to think of it is in terms of tint.

Tint and color temperature are actually referred to as "white balance" in photography. Film and sensors are developed with a certain kind of light in mind, and any time photos are shot in different lighting circumstances it affects whether or not white looks truly "white." For example, if you take a picture underneath a fluorescent light, it always has a green tint to it because that's the color temperature of those lights.



#### "Playing with white balance" captured by <u>Tom Check</u> Using Temperature

Any time you shoot, you want to understand which tint or color temperature is best for your picture. Reddish, warm tints such, as those provided by a sunset are flattering to most human skin tones, while cooler, bluish tints are best for neutral product photography.



You can adjust your white balance several different ways; you can do it with your camera, filters, or photo editing software. Similar to aperture and shutter speed, if you're not shooting in RAW, it's usually a good idea to take a photograph several times with different white balance settings to give yourself the most flexibility after the shoot is over.

"Color: San Francisco Sunrise in Blue" captured by <u>Eugene Kim</u> Learning how to master colors is a skill that takes lots of practice. Designers often take several courses on color as part of their education, and there is no shortage of competing opinions on how color can be used best to achieve certain goals. If you're just starting off learning to use color, then your first goal is to accurately capture the image the way you see it. Once you can do this reliably with color photography, you can start working to manipulate these colors to add to the narrative of your photographs. And as usual, find what works works best for you and have fun doing it.

# How to Photograph the Moon for Stunning Results

The beauty of moon photography is that it is pretty easy to get a good shot. Of course, that's if you're not looking to capture extreme close-ups.

With standard equipment, you can capture moon shots from your house, garden, or even the city centre. The easiest way to take pictures of the Moon is to include it in a nocturnal landscape or cityscape. While you will not get to see great details in the moon itself, it will improve your image in several ways by:

- adding a point of interest in the sky;
- helping to balance the composition;
- setting a mood for the scene;
- adding light to the landscape.

You can also photograph natural landscapes using light from a full moon.

The real treat is to get up close and personal.

To get a shot of the moon like the one below, you'll need a telephoto lens. An option with a focal length



between 100 to 300mm is enough to get the moon look as big as this.

The moon in its first quarter. It is yellow because of its low altitude.

#### How to Focus on the Moon to Get Sharp Images

If you want to get sharp moon photos, your focus needs to be precise. Unfortunately, chances are the autofocus will have difficulty when it's so dark. So, switch to manual focus.

Do not trust the infinite mark on your lens or the hard stop of the focusing ring because it's not reliable. Although it comes standard on all lenses, its position is often inaccurate.

In reality, the infinity zone sits somewhere between your lens's infinity mark and the maximum focal length mark.

So instead of using the infinity mark, use all the advanced functions your camera has to help you focus on the moon. Features such as Live View, Magnification, and Focus Peaking will all help.

With the camera on a tripod, frame an area on the moon with contrasted craters. Now, try to get their ridges as sharp as you can by focusing back and forth until you find the sweet spot. Achieving good focus can take time.

If you can, use a white marker to mark true infinite on your lens. Doing so will speed up your future photographic sessions.

## How to Compose Your Moon Shots

Even if you get the technical aspects of photographing the moon, your images won't be as impactful if your composition is off.

But thankfully, your camera has a few tools to help you achieve the perfect composition.

The first feature you can use is the horizon or spirit level. It isn't a composition tool per se, but it helps you ensure your camera isn't crooked when taking pictures. This feature is especially important when capturing night landscapes. But in most cases, it's not necessary for moon close-ups.

Now for the composition part, you'll need to turn on your grid. Using the Rule of Thirds, place the moon

and other crucial elements anywhere the lines intersect. Doing so ensures your image looks balanced and pleasing to the eyes.

Every camera has a spirit level and a grid. But activating them may vary depending on the manufacturer and the model you have. Consult your manual to turn on these features on your device.

### How to Read The Sky

Standing between you and the moon is the Earth's atmosphere. Clouds, haze, air turbulence, pollution, dust, and humidity – all of these will degrade your image.

Try to take pictures of the moon when it is high in the sky. This way, less of the atmosphere will be inbetween. Clear winter nights are your best bet for excellent visibility.

But be careful. If you're photographing the moon from a city during the winter, avoid taking photos when the moon is low. The escaping heat from the roofs will create turbulence that will further degrade your view.

For the same reason, if you want to photograph the moon from inside your house, shoot through the window. If you open it, the thermal gradient between the air inside and that outside will create turbulence.

For best results, it also helps to go to a location with minimal light pollution. That way, you get the sharpest images of the moon. Of course, considering you also meet all the other conditions we mentioned above.

## How to Include Landscape in your Moon Photos

Taking pictures of both the landscape and the moon can be tricky. Especially since each one requires specific exposure settings. For the most part, moon pictures need a fast shutter speed while longer exposures are essential or nightscapes (a.k.a. night landscapes).

So it's not surprising that there are plenty of ways to take pictures of scenes with the moon in the same shot. And each method produces a distinct effect.

The simplest way is to photograph both the moon and the nightscape is by using long exposure. The slow shutter speed lets in enough light to properly expose the landscape.

In this case, the moon will be overexposed, which would otherwise be bad news. But sometimes, it creates a beautiful hazy effect that adds mood to your pictures. This method works even better if clouds are blocking the moonbeam.

But what if you want to expose both the landscape and the moon in one shot? Then you can try boosting your ISO. These days, some cameras let you work between 3000 to 6000 ISO or more without introducing distracting image noise. With such high sensitivity, you can take pictures of anything with relatively fast shutter speed.

The only downside is that even with minimal image noise, high ISO could still drastically reduce the image quality. So use this method with caution and only apply it only if you find it necessary.

The best way to expose for the landscape and the moon separately. In other words, take two photos with different exposure times and combine them in Photoshop. Mask in the moon into your nightscape, and you got yourself the perfect image.

## How to Take Moon Photos with your Smartphone

You must be wondering, why can't I take a picture of the moon with my iPhone? Well, your smartphone's built-in lens doesn't have enough magnification to capture moon pictures.

But that doesn't necessarily mean you can't take photos of the moon. All you need are a few accessories to create impressive results.

#### **Essential Equipment**

The first essential tool is a telescope, which would act as your telephoto lens. Although any telescope would work, it would be best to pick an option that produces excellent detail and has minimal distortion. The best telescope should have at least 25x magnification. It also needs to have an aperture of 70mm or more. Take note that the aperture value on these devices is different from cameras that use f-stops as the standard.

Next, you'll need a phone telescope adapter which you attach your mobile device to the eyepiece of the scope. Buy one that is universal so you can easily connect it to any telescope you have.

The last piece of equipment you'll need is a phone app. Consider uploading either ProCam or Camera + 2 to let you change your camera settings manually. These programs are essential, especially since you need to use fast shutter speed to capture moon images.

The Process

Before photographing the moon, you'll need to attach your adapter and your phone to the telescope first. The adapter is essentially a mount that holds your device in place. When installing, make sure you align the eyepiece and the lens. Otherwise, you may end up with vignettes that obstruct the moon. Now turn on your camera app and change your settings the way you would on a regular camera. To achieve focus, tap the screen and wait for the lens to adjust. Take some test shots to make sure the expo-

sure is correct. Once you're satisfied with your settings, compose your shot and take a picture!

Feel free to edit your moon images using Lightroom, VSCO, or similar mobile editing platforms.

## How to Use Cropping For Moon Closeups

The size of the moon in your photo mainly depends on the focal length of the telephoto you use. The longer it is, the better close-ups you get.

The downside is that most of us don't have an expensive 800mm lens. And that means that super close-ups of the moon are going to be challenging to achieve.

But one trick you can try to create a super close-up is by cropping. Doing so gets rid of the unnecessary parts and enlarges the size of the moon in your photo.

Just be careful not to crop too much, or you'll end up with a low-quality image. To make sure your image has enough resolution, zoom in, and check the size of the pixels.

If the moon looks blurry and you can see the grain, then that means you cropped too much. So readjust everything until you see the details return.

You can do this technique using pictures from any camera. But if your device has a crop sensor, then consider cropping minimally. Why? Because the photos a crop sensor produces are small and lack the resolution that full-frame sensors have.

But even if you have a full-frame sensor, cropping too much can still affect the image quality. So use your judgment wisely when using this technique.

## How to Photograph the Moon During Different Phases

Every month or so, the moon goes through a series of lunar phases. These go from New Moon (not visible in the sky) to Waning Moon. The moon changes by age (in days) and illumination.

During the year, the moon is visible at different times of the day. For more information, look at a lunar calendar. Or check the weather forecasts to know when it rises, sets, and its phase.

Each lunar phase affects the moon's shape and the number of visible details.

New Moon

If you shoot near the New Moon, very little of the lunar surface is visible. The moon will appear as a thin arch in the sky.

I like this phase because you can get moody moon photos. You can also easily see that the lunar surface in the shadow is visible, although faint. This effect is due to the reflected light from Earth's atmosphere called the Earthshine.

#### Waxing and Waning Moon

In these phases, the light on the moon is mostly coming from the side. Between the New and Full Moon, the illumination increases during the Waxing period.

Between the Full and New Moon, the illumination decreases during the Waning phase.



Near the line separating the dark and bright

areas of the moon (terminator), you have the maximum contrast. This area is also the most detailed region of the lunar surface.

Use the terminator region to help you achieve a good focus on shooting the moon.



#### The Full Moon

During the full moon, the light is frontal. No shadows are present on the surface to enhance its morphology. The contrast across the Moon is rather flat, but overall it is still an impressive sight.

A Super Moon is a Full Moon when it's at its closest distance to Earth in its elliptical orbit. A Super Moon looks 14% larger in the night sky and 7% brighter than a normal one.

At the farthest distance from Earth, we have a rather unimpressive Micro Moon.





# 4 Tips for Shooting Drop Dead Gorgeous Waterfalls

#### A Post By: Eric Leslie

Waterfalls are a very popular subject for landscape photographers. The draw to their natural beauty is clear, but sometimes coming home with the best shots is harder than you might think. As the curator for the Google+ Photography theme, #WaterfallWednesday I get asked how to take better pictures of waterfalls every week. So let me share some tips with you.



1. Your gear is good enough

The first thing most people suggest you need in order to shoot waterfalls is a complete quiver of neutral density (ND) filters to get a long exposure. Forget that! Let's start with a camera that can shoot on manual and a tripod. That's all you need. The biggest problem with slapping a dark ND filter on your lens is still the sun. When it's bright overhead, you have bright "hot spots" and dark shadows that don't look great. The light is harsh and flat. The best thing to do is show up at sunrise and sunset. Waterfalls are often in deep canyons, so as long as the sun is behind the mountains with the whole waterfall in the shade, you can achieve a long exposure with nice even light. In fact, you can plan ahead to maximize this. If you think about it, if the waterfall you're wanting to shoot is facing east, sunrise would not be the best time of day because it will catch the light right on the falls. So an east facing waterfall will be best shot in the late afternoon.



#### 2. Read the waterfall

How long does the exposure actually need to be? I think the answer varies like people's taste in fast food. Personally I categorize waterfalls into two different categories. There are the falls that rage with so much water they take your breath away. The others are dainty and delicate. So keeping in mind I don't want the waterfall to be a detail-less blob of white water, you need to set the exposure appropriately.



This waterfall was very full and the light was low. At 1.6 seconds, I let this exposure go too long leaving the water without details.

On Manual, I usually start with the slowest ISO my camera can go, 100. Then I set my aperture small enough to maximize focus, usually around f/8 to f/10. Then I see what kinds of shutter speeds that nets. For the big falls, I try to keep my exposure under a second. Anything between <sup>1</sup>/<sub>4</sub> to a full second will show the water's motion and still retain all the detail in that movement.

Small stringy waterfalls just love putting on a show with longer exposures. These shots look great when you can go as long as possible. Don't be afraid of the small aperture police who say you will lose sharpness. Photography is always about compromises and in this case, the slightest loss in sharpness only visible when viewed at 200% is greatly outweighed by capturing the water's movement. Don't be afraid to use f/22 if you need it. I try to shoot for exposures 1-4 seconds long at these kinds of waterfalls.



#### 3. Save the Trees

Have you ever tried to shoot a waterfall with a long exposure and noticed that the leaves on the trees and plants move with just the slightest breeze? You've probably seen people take a bracket of a landscape to compress the dynamic range of light into a single image. We can do the same thing here, only we're compressing time. After you've bagged your shot of the waterfall, look around the edges of the photograph and you see if the plants are soft and fuzzy. If they are, you have to play this mental gymnastics to switch into a sports mindset of shooting to freeze motion. You need something in the 1/100 or faster range. You can open up the aperture, but make sure you don't loose your maximum focus. If that's not enough light, you need to start boosting your ISO until you can achieve that shutter speed.

Back home, you take the two exposures and blend them back together using layer masks in Photoshop. I'll save that topic for another blog post.



I blended two shots together to keep the leaves sharp because they were moving in the breeze.

4. Head out when it's cloudy

One way you can buy yourself some more camera time is to hike on overcast rainy days. You get all the benefits of shooting when the sun is low, with the freedom to shoot all day. I also find you get much better color when it's overcast so things like mossy rocks or autumn leaves really pop.

One pitfall you need to avoid on cloudy days is including the sky. Depending on the waterfall, if you can get up high to shoot down on the falls, eliminating the sky from the shot, you will avoid getting a boring grey sky over your waterfall.



On this overcast day, I choose to get in close and focus on the details to exclude the sky from the shot. Like anything in photography, it takes practice and experimentation. Get out there and put some of these tips to practice.

## An Introduction to External Flash Units

A Post By: Darren Rowse

In this post Tom Pickett (from <u>www.tpickettphotography.com</u>) responds to some of the questions we've had lately



<u>btography.com</u>) responds to some of the questions we've had lately here at DPS on using **External Flash Units**. His post was so long and detailed that I thought I'd break it down into two posts. Stay tuned for a follow up one tomorrow.

It never ceases to amaze me. The camera manufacturers have a remarkable staff of engineers and those engineers, based on input or suggestions from actual users throughout the world continue to develop some amazing gear.

The equipment continues to help us produce outstanding images and it makes our jobs easier, makes us better or both.

One of the areas of remarkable and accelerated achievement is in external hot-shoe mounted flash units. Yet, as a professional photographer for 23 years, I can still admit to using at times a MANUAL electronic strobe. More on that later.

One of the most requested subjects at DPS is about "hot-shoe" flash units. After reading the questions, I can see that there is quite an array of inquiries on how to use these units correctly to achieve the desired results. One query even asked about high speed sync on flash units. This is rarely asked about and I was surprised there was interest in that area since I am personally a user of high-speed sync quite often in my work.

This article will focus on the dedicated flash units by the primary manufacturers such as Canon. Most of the latest units are given the acronym E-TTL which means "Evaluative-Through-The-Lens" operation. There are several other ways to use these newest flashes including manual operation where *you* decide how much flash it should put out. Even 3rd party companies such as Sigma and Metz make E-TTL flash units that are specific to Canon, Nikon and other name brands.

Before we start, I apologize to those of you that do not have a DSLR as this article is written with those people in mind. Those of you who have any one of the many fine point-and-shoot digital cameras will be covered in the future on how best to use your built in flash units.

#### A Common Misconception about Flash Output

The first thing that needs to be addressed is the very common misconception flash output is determined by the how bright the flash gets when you fire a unit. That is not correct. Flash output is determined by the amount of time or duration the flash unit emits light from the strobe unit. So what determines the duration of the flash? That is a complicated algorithm but in simple terms, it is the combination of your aperture, shutter speed and amount of light needed as determined by your camera.

If it is being used outdoors as a fill light, the duration is measured in milliseconds. If it is being used in very dark conditions, the duration will still be in milliseconds but much longer than fill light. So, let us make sure you understand this... the amount of brightness a flash unit puts out stays constant. What determines you getting the correct exposure is the *duration* of that flash.

#### A Word of Caution About Using Flash Units

Now is a good time as well to mention to use caution at all times using flash units. Do not ever place the unit close to you or any person look directly at the business end of the unit and fire the flash. The light is very intense and will wreak havoc on your eyesight for a while. Point it away from you when testing it at all times. Also, the voltage inside a charged speedlight is extremely high and dangerous. Do not curiously open a unit to see how it works.

#### How External Flash Units Work

The latest offerings of flash units that mount on your hot-shoe are ingenious devices. They are as automatic as one would ever think could be developed. In fact, if you are accustomed to point and shoot cameras, using one of these flashes on your hot-shoe is as easy as pushing shutter release. What happens is an amazing technological achievement. When you have the unit turned on to take a photo and press the shutter release, the flash puts out a *pre-flash* to the subject you are focused on and sends that information back to the camera. The camera processes the pre-flash data then fires again to take the picture. Mind you, the subjects are totally unaware that there were two flashes firing in their eyes, a pre-flash and then the main flash. All this happens in what is measured not in milliseconds, but in microseconds!

In the pre-flash, the flash unit and camera are working together to determine the ambient light, measured by the sensor in the camera. The sensor compares the ambient light values with the light reflected by the subject. Canon's E-TTL II even measures the distance to the main subject and that also becomes part of the evaluation taking place. The pre-flash determines how much flash duration will be needed, sends that information to the camera and you are the recipient of a perfectly exposed **subject and background.** I have purposely typed the last three words boldly since we will talk about that later.

#### Camera Settings and Different Kinds of Flash Photos

Now let us examine the setting on the camera and how that determines what kind of flash photo you will receive. Every modern DSLR has the following settings on the camera: there is "P", then "TV", "AV" and "M" on every camera that I am aware of. Yes, then there are the totally auto modes on the same control....those icons that mean portrait, landscape, close-up, sports and night portrait. For now, I really want everyone to focus on pretending those do not exist so that we can study the use of the P, TV, AV and M modes. These are the modes that once you learn how to use them, you will rarely go back to the "auto modes".

The "P" mode is in reality a semi auto mode, that is the P is the first in the line of programmed modes, but in practical use, the camera still continues to do auto exposure. That is what Canon calls Program AE. There is a huge difference in the P mode as compared to the "fully automatic" mode indicated by a rectangle usually colored green on the camera. In P mode, you will be allowed to change shutter speeds. In the fully automatic mode, you cannot change anything.

Try it. Set your camera to P mode, and then point it at a subject in some nice daylight. Notice that perhaps your camera will select, on its own, a shutter speed of 1/125 with an aperture of F11. Then using the wheel selector of top of the camera, you can actually change the shutter speed to 1/250, 1/500 etc but at the same time as you change to faster shutter speeds your camera will open the lens up accordingly to allow the same amount of light to enter.

Moreover, you will notice that if the camera chooses 1/125 shutter speed and F8 as the aperture and you decide to increase shutter speed using that wheel selector and change it to 1/250 you will notice that the camera automatically changes the aperture to F4. That tells you immediately, once you think about it, that 1/125 @ F8 is really the same *exposure* as 1/250 @F4! The trade off is that F4 will give you a much more narrow depth-of-field compared to F8. On the other hand 1/250 shutter speed might make the difference between a blurred shot and a clean shot since the lower the shutter speed the more difficult it is to hand-hold a camera.

Now let's go back to flash and how the "P" setting affects the images you take. The following will assume that you are using the center focus point on your camera. Most DSLR's have many focus points. Set yours to use only the center focus point for now.

Remember above how the flash sends out a pre-flash? In the "P" mode, the camera and flash assume you want ONLY to expose the subject and nothing else around it including the background. (Remember the bold writing five paragraphs above). This is very important because let us take a situation where you are in the wedding reception hall, the lights are turned down, you take a photo of the bride and groom dancing and you are in "P" mode. You will get a great photo of the bride and groom but the background will be dark. Not that this is bad understand but what if you really wanted to light the background as well because about ten feet in back the bride and groom is the brides Mom and Dad? They will not be seen.

At this point, you can "fix" this problem two ways. One is to go back to the icons mentioned above. Go to the icon that means "night portrait". Take the photo again and suddenly the background is exposed. But there is a price to pay for that. The shutter speed is drastically reduced by the camera in that position. In fact, it may be so slow that the subjects will be blurred if they move. Shutter speeds may go as low as 1/10 second or perhaps 1/20 second... much to slow without having your subject remain very still while you focus and take the shot. But you will light the background!

#### Another Way - Shooting in Manual (M) Mode

There is a better way. Every pro knows this. I want you to learn this. You simply put your camera on "M" for manual. Now, with the camera on "M", you can set the shutter speed and lens opening (aperture) to wherever you desire. The desired and most widely used pro settings are a shutter speed of 1/60 and an aperture of F5.6. I use that one. You might also try 1/60 and aperture of F8. Suddenly, a whole new world of flash photography opens up to you. First, you will not be concerned if someone moves and secondly you will light the background.

This is because in any programmed mode such as TV, AV or M, the camera takes good direction from you and assumes you want the background lighted as well. This is built in by the bright engineers at the factory we talked about.

But please do only try this in the manual mode. Once I enter the reception hall, I automatically set up my camera to "M", 1/60 @ F5.6 and fire away all night. If I do want a shot with the background dark simply move the dial back to "P" mode and fire away. Nothing else needs to be adjusted.

# How to back up photos from your computer



It is easy to think that photos on your computer or on a memory stick are safe, but there is always a chance of a fire, a robbery, you could lose it or it could just break. It is important to keep a back up of everything on your computer that would make you feel sick if you lost, whether that's important documents or photos. There are two main ways to do this:

1. A portable hard drive, preferably kept in a different

location

A cloud back up system

1. Using a portable hard drive

Using a portable hard drive to back up your files is one of the simplest options. Keep a copy of everything important on the separate drive and your files are safe if your computer fails or is lost or stolen. Keeping the hard drive in a different location also means that it will be safer during a robbery or fire. The risk of this method is that you have to remember to back up your files yourself whenever you have something new your wouldn't want to lose.

There is also of course the possibility that your hard drive itself will fail or get lost or stolen. For the best ways to back up either a PC or a MAC, have a read of this wikiHow Article. <u>https://www.wikihow.com/Back-up-a-Computer</u>

#### 2. A cloud back up system

Backing up your photos 'in the cloud' means you are using an online service to keep your photos backed up on their servers. You can set a schedule so that backing up is automatic, meaning once it's set up you can relax, knowing that the folders you have chosen will be backed up on the schedule you set until you say otherwise.

This can sometimes be a little trickier to set up at first but if you put the time in now you'll have much simpler backups for as long as you need them.

For a good article on the best Cloud Back Up Systems, try this one from PC Magazine <u>http://</u><u>uk.pcmag.com/backup-products-1/8648/guide/the-best-online-backup-services-of-2018</u>

# How do I back up my photos?

All my work photos are transferred onto my computer straight after each Newborn Photo Shoot. They are then copied onto a portable hard drive, which then automatically backs them up to Crash plan, a cloud back up service that I use.

This way I have the original file, a copy on a separate hard drive and a version in the cloud.

I'm also extra careful with my phone photos. Every photo and video I take is backed up to both Google Photos *and* Dropbox.

I hope this has helped you see just how important backing up your photos is and that it doesn't have to be as complicated as you think.

It's so easy to think that your phone will never get stolen or your computer will never just give up the ghost, but it just might - and wouldn't you rather be safe in the knowledge that you photos and videos are safe if it does?

Do your future self a favour and take 10 minutes today to back up your photos and save a whole lot of regret when you lose all those memories in the future.

# Focus Stacking Tutorial for Landscape Photography

By Spencer Cox 48 Comments

A lot of landscape photographers are interested in focus stacking — combining multiple images of the same scene, each focused at different distances, into a single photo. This is a useful tool to have at your disposal, since it lets you take pictures in more situations than you otherwise could. For example, if elements of your photo are very close to your camera, focus stacking may be the only way to get a sharp shot. Although I don't use this technique for every photo, it's something that I keep in mind when I'm taking pictures in challenging conditions. This article gives an overview of focus stacking for landscape photography, including step-by-step instructions on how to focus stack photos in Photoshop. All of these tips are also relevant for other types of photography, not just landscapes.

#### 1) What Is Focus Stacking?

Focus stacking is an interesting development of digital photography, and, more specifically, digital post-processing.

Focus stacking lets you take several photos of a landscape, focused at different points, and combine them together into the sharpest possible image. For example, you may take three photos at a particular scene: one focused on the foreground, another on the middle-ground, and a third on the background. Then, you can take the best parts of each photo and combine them into a fully-focused image.



(The latest

installment in "Spencer can't draw, but a diagram here would be useful.") You can focus stack with any lens and camera, but you need to have the right post-processing software to combine the photos together. I use Photoshop, since that's what I already own, but there are better programs out there if you do a lot of focus stacking — Helicon Focus and Zerene Stacker being the two main products. However, if you only do occasional focus stacking, Photoshop's tools should be fine.

#### 2) Why Focus Stack?

There are two main reasons why you might want to focus stack a landscape photo.

First, you could be photographing a landscape that has *too much depth*. In other words, some parts of the scene are too close to your camera, and they're out-of-focus if you shoot just a single photo. This can happen if your foreground is very close to your camera — there's just no way to capture a focused foreground and background in one shot (even at small apertures like f/16).

You'll also run into sharpness problems when you use telephoto lenses for landscape photography. Because they have such a thin depth of field, telephoto lenses will cause some blurriness in all but the most distant landscapes. Again, even an aperture of f/16 may not give you enough depth of field.

For me, that's the most common time that I use focus stacking — when there's no other way to get enough depth of field. In fact, I shoot most of my focus stacks *at* f/16, since it means that I don't have to take as many photos (more on that later).

However, there's also a second reason why some photographers focus stack, and it's equally valid. Because all lenses have a sweet spot, there *will be* an aperture that gives you the sharpest possible photo. For a lot of lenses, this sweet spot will be somewhere from f/4 to f/8. Unfortunately, those apertures don't always give you enough depth of field, so you have to compromise.

Or not — that's the other reason to use focus stacking. If you want the absolute highest image quality of a given landscape, you can use your lens's sharpest aperture and stack together as many shots as you need. The downside, of course, is that you need to take several photos per scene to capture all the depth of field. In the end, you should only focus stack if you require more detail than the camera can capture in a single photo. You might create huge prints, do a lot of cropping, or work with landscapes that have an unusually large depth of field. Regardless, focus stacking helps you get the last little bit of image quality that you can.

#### 3) When Can You Use Focus Stacking?

Of course, nothing is a free ride. On one hand, compared to a single photo, focus stacking takes up more time and memory card space. Plus, not all landscapes even work for focus stacking.

For example, think about a wave rolling into shore. It's not a problem to take a single photo, but focus stacking is essentially impossible — the wave will move too much from frame to frame. This is true in many landscapes with fast-moving subjects. The more quickly a scene changes, the harder it is to focus stack.

If the landscape isn't moving too much, though, you can focus stack most of the time. Of course, this is only true if you're willing to go through the effort of capturing multiple photos at once. The more often that you focus stack, the longer you need to spend working on every shot you take — both in the field and in post-processing. If you use focus stacking 100% of the time, you'll run out of space on your memory card much faster than usual.

That said, if you have to use focus stacking, it's a great tool. Don't avoid it just because it takes time; in the end, it's worth the effort for certain scenes. So, how do you focus stack? That's covered in the next section.

#### 4) How to Focus Stack Landscape Photos

Focus stacking isn't hard, but it definitely requires more effort than when you take single photos. To start, you need to employ best practices in the field. What does this mean? Quite simply, you have to take photos in a way that your stacking software can recognize easily.

First, you should use a tripod. Although it's possible to shoot handheld focus stacks, it will increase the likelihood of difficulties in post-processing.

Second, make sure that you don't change the focus *too much* from shot to shot. For example, if you only take two photos — one focused on the foreground, and one on the background — the middle of your photo could be blurry! Even if your post-processing software still blends the shots together, the final image won't look very good.

When you're in the field, it's best to focus on the exact spot in the *prior image* where sharpness first starts to decrease. You might need to zoom in on live-view in order to do this properly. By doing this, you avoid an unnatural-looking final result.

Now that you've taken your photos, it's time to start blending them! Here, I'll demonstrate how to focus stack in Photoshop, since that's the software you're most likely to have. (If you have Zerene Stacker or Helicon Focus, you'll have a bit more control over the process.)

Before you open the photos in Photoshop, you need to make sure that they are ready to merge.

Specifically, ensure that the brightness of all your photos is the same — otherwise, they won't merge properly. Normally, this won't be a problem, but you might notice a brightness difference if the light was changing quickly from shot to shot.

The photo below (along with six other photos focused at different distances) is part of the focus stack that this article covers. I took these images at f/5.6, which makes it easier to see the thin depth of field:



NIKON D800E +

70-200mm f/4 @ 92mm, ISO 100, 1/8, f/5.6 Here's the focus stacked result (unedited — final version at the bottom of the article), where everything is incredibly sharp:



This is the unedited

version of the final focus stack. You can see how much sharper it is than the prior photo — click on the two images if you want to compare them larger.

#### 5) Focus Stacking Checklist

Now that you've taken your photos, it's time to bring them into your post-processing software. Here's a quick checklist that can help if you use Lightroom and Photoshop:

First, open all of the images in Photoshop. You can do this by entering Lightroom, highlighting every shot, then clicking "Open as layers," as shown below:



Once your photos are in Photoshop, select all the layers, and click Edit > Auto-Align Layers. In the next window, you can leave the blend mode to "Auto":



Now, click Edit > Auto-Blend Layers, and then "Stack Images," as below:



Click Layer > Flatten Image. Save the photo by clicking Control + S (Windows) or Command +S (Mac), or just File > Save. That sends the completed version back to Lightroom:



Open Lightroom again. Now, you need to crop the photo so it looks good. Often, the edges of your image will have large sections that are extremely blurry — you need to crop those out. Here's how that looked for this particular focus stack:



Finally, once you're done cropping, just clean up the image and edit it however you want! There's no wrong way to proceed from here. You've already created a focus-stacked image.

#### 6) Conclusion

Although focus stacking isn't something you should do all the time, it's an important tool to have at your disposal.

Sometimes, you may use a telephoto lens and have difficulties getting everything in-focus. Or, you could have a landscape that stretches so far that even f/16 doesn't have enough depth of field. Finally, if you're interested in nothing but the top sharpness, you might focus stack a landscape simply to use your lens's sharpest aperture (like f/5.6 or f/8) rather than a smaller aperture which has <u>diffraction</u>.

There is no right or wrong reason to focus stack, but be aware that you can take this technique to levels that might not be worth the effort. When I first learned about this focus stacking, I tried to use it on every landscape that I shot, simply to get the sharpest photos. Unfortunately, this meant that each photo took five times longer to capture! I ended up with sharp photos, but I didn't get as much *variety* in my shots, and my

work suffered as a result. Now, I'm more likely to use f/16 than to focus stack at f/5.6. If focus stacking works well for your personal style, though, that's great — don't let me discourage you. It just isn't the case for everyone.

Hopefully, this helped provide a good platform for you to start focus stacking your own shots! If you haven't tried it before, give it a go. For certain difficult landscapes, focus stacking is an incredible tool.



Looking for a free program to stack your photos with, then why not try the below softare.

#### Sequator

In a nutshell, Sequator is a free program that is meant to stack images of the night sky for the purpose of reducing noise. Not only that, but Sequator is meant to also handle images with foregrounds, making it a tempting choice for landscape astrophotographers. The program was made by software engineer Yi-Ruei Wu from Taiwan and is available only for Windows. The website for Sequator states that the program is meant to be "simple but powerful." That all sounds like good news, right? Well, yes, it is good news, so that's probably why it sounds that way. And there really isn't any bad news to go with it, other than the fact that from what I can tell, the program has been around since at least 2015 and I just never knew about it...

#### Final Thoughts

Sequator is a pretty darn good free program. While all of its features aren't as useful as they could be, the main function—stacking landscape astro / photography images to reduce noise—is very effective. It simplifies the process when compared to Photoshop, and provides good enough results that I will be looking to integrate it into my workflow in the future. One thing to keep in mind is that I could not seem to get any basic edits I made to my RAW or DNG files to stick when being imported into Sequator. So, if you want to make any kind of edits to your files before stacking, you may have to export your RAWs or DNGs to a new file in order to get Sequator to see those edits. One of the most noticeable results of this was the Sequator output files having slightly more color noise than the images stacked via Photoshop, which is most likely because Photoshop was benefiting from the standard Color Noise reduction applied by Lightroom upon import.

For those who are interested, you can download Sequator here https://sites.google.com/site/sequatorglobal/

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