

Introduction

Landscape photography, photography dealing with large open spaces, is perhaps one of the oldest genres of photography in existence. While it can yield beautiful results, landscape photography requires strong technical skills that may be frustrating to acquire. This guide aims to bridge the gap between aspiring photographers and the exciting art of landscape photography.

Who is this guide for?

This guide is designed for someone who has taken an introductory photography course, or has the equivalent skills. In particular, you should have:

- A basic understanding of composition
- A working understanding of manual camera operation (exposure, focus, ect.)
- Basic knowledge of photography terminology. See the [glossary](#) if needed
- Basic photo editing skills

What does this guide not cover?

This guide will only cover technical problems that may occur up to taking a landscape photo. Discussions on topics such as composition, travel planning, and photo editing are outside the scope of this guide.

Required equipment

This guide is designed to be followed with a DSLR/Mirrorless camera, but can be used with any camera that has manual control.

Additional equipment that may be useful:

- Tripod
- Additional lenses
- Lens filters

Finding a Landscape

The most important piece of any landscape photo is, of course, the landscape. While an exhaustive guide to exotic locations is outside of the scope of this guide, a photo-friendly landscape tends to have the following properties:

- Interesting lighting, such as reflections or fog
- An identifiable foreground, subject, and background
- A good variety of colors

It's best to, at least while learning, try to head out on a sunny, non-windy day to ease the difficulty of the photography.

Choosing a Lens

Once you have found a landscape you wish to photograph, your first step will be to choose a lens to use. Each type of camera lens provides a unique view of the same landscape, influencing the way you will approach the rest of the photo. As such, the 'correct' lens for landscape photography will depend on what you aim to photograph. The following table provides a brief overview of conventional lens choice:

Note:

This table is just a suggestion, not a requirement. You can take a perfectly good landscape with any lens, it may just be more difficult than if you used the suggestions below.

Landscape Type	Lens focal range	Lens Classification
Far mountains	100+mm	Telephoto
Forest or mid-range terrain	24-70mm	Zoom/Standard
Large, close object	10-20mm	Wide angle
Astrophotography (stars)	<18mm	Ultra-wide angle

Taking the photo

With your landscape chosen, the next step will be to compose your photo. This is once again out of scope for the guide. Once you have your photo composed, there are some technical considerations to keep in mind before taking the final shot.

- **Dealing with focus**
- **Dealing with Exposure**
- **Dealing with Motion**
- **Working *with* Motion**

Dealing with focus

When taking a landscape photo, focus is very important. If it is off, then one of your fore, mid, or background will be blurry. This is often very visible in the final print, but may be less so on the camera's lcd. Because of this, you must take extra care to ensure correct focus in the field.

The following is a general method for obtaining focus:

1. **Identify your fore, mid, and background.** You will be using these to check your focus later. There is no strict definition of what constitutes fore, mid, and background, so just choose some objects that are relatively closer and farther from the subject of your image.
2. **Focus on a point in your mid-ground.** This should be relatively centered in the photo for best results.
3. **Check if your fore and background are in focus.** This is best done with a test photo. If both are in focus, then you are done. You can tell if an area is out of focus by comparing the relative levels of blur between the area and the focus area chosen for step 2.
4. **Raise your aperture by a stop.** This will widen your field of focus. After performing this step, your exposure will have changed, and will need to be accounted for.
5. **Repeat 3 and 4 until either in focus, or you cannot raise the aperture further.** If you have hit your aperture limit, consider using a shorter lens to raise the depth of field.

Dealing With Exposure

Because landscapes often feature elevation and natural lighting, having both a backlit subject and a subject in shadow is common. This can pose a challenge when determining a neutral exposure, as some areas of the image may be too bright or dark when other areas are correctly exposed. Thankfully, there are a few techniques that can help overcome this issue.

Shooting in raw

Note: not all camera's have the ability to use the raw format. If you are unsure of if your camera supports a raw format, please check the cameras manual, or consult the manufactures website for info.

'Shooting in raw' refers to changing from using a compressed image format, such as JPEG or PNG, to one that preserves more of the cameras information. This is useful for our scenario, as it allows you to brighten or darken areas of the image using software such as Adobe Lightroom that may otherwise have been lost in a jpeg.

To use raw photos, open your camera's central options menu and search for a 'Quality' submenu. This is often denoted by a large F (for *Fine* jpeg), or the icon of an SD card. Once you have located this menu, select an option denoted by raw, or raw + JPEG. This will configure your camera to use the raw format from now on.

raw photos give a sort of 'passive' benefit. So long as they are being used and processed in software, you will simply be able to brighten and darken the image more than before without any other effort.

HDR

High Dynamic Range (HDR) is a technique that allows for obtaining a greater dynamic range in an image than is natively supported in the camera. It works by selectively merging areas from a sequence of separately exposed images to produce an image that contains properly exposed areas from each.

HDR itself is a software technique, so we will focus on obtaining the sequence of images themselves for now.

Note: regardless of the method used, you will need to minimize shake when taking this sequence of photos. Because of this, it is best to use a tripod, although a sufficiently high shutter speed (high enough to cancel out the drift of your hand) will also work.

Bracketing

The easiest way to take this sequence of photos is using a function called bracketing, which is available in most cameras. Bracketing does exactly what you need to do - take a sequence of photos with varying exposure.

Bracketing functions differently on different camera models, so you will need to consult your camera's manual to enable its use.

When enabled, simply set a neutral exposure when setting up your photo. Next, simply activate the bracketing and shoot until the sequence is complete. From here, you can feed this sequence into an HDR processor when editing later.

Manual Offsetting

If you cannot use bracketing for whatever reason, then you will need to change exposure manually.

A simple method to do this is as follows:

1. **Find a neutral exposure for the image.**

2. **Take a photo at this neutral exposure.** It's a good idea to [check your focus](#) here, if you haven't done so already.
3. **Move the shutter speed up by a stop, and take a photo.** This should be darker than the original photo.
4. **Move the shutter speed down a stop from the neutral image, and take a photo.** This should be a bit brighter than the original photo.
5. **(Optional) Repeat the process with increasing stop distances to get more data.** This can allow for greater flexibility when editing, if desired.

Dealing With Motion

Landscape photography has to grapple with just as much motion as, say, a sporting photo. While perhaps unintuitive, this is because landscapes themselves are often under the effects of the environment, notably the wind. This means if not properly handled, shaking leaves, moving waves, or even shifting clouds can add unwanted motion blur to your image.

Unfortunately, there is often no way to eliminate these issues, as something like leaves simply move too much to account for. However, while this is the case generally, there still exists some guidelines to lessen the blow.

Reducing Blur Using Exposure

As a general rule, it is best to keep your shutter speed and aperture high to reduce both motion blur and focus blur. In a particularly windy environment however, it may be necessary to raise the shutter speed even further than normal. To do this, you have two options:

1. Raise the ISO and shutter speed by equal values.
2. Lower the aperture and raise the shutter speed by equal values.

Neither of these two options are ideal, as they will reduce the overall quality of the image by introducing noise and blur respectively. However, in a windy environment, you may deem the trade-off worth it to reduce motion blur.

Don't Use HDR In Moving Environments

While it may be tempting to use [HDR](#) in all environments, the technique can be quite devastating in a moving environment. This is because during the image stacking process, HDR effectively merges the images. While this does allow for excellent dynamic range, this process *also merges blur*. In a windy environment, this would mean amplifying the motion blur by however many images are in

the HDR sequence, massively increasing its effect. Because of this issue, it is best to avoid using HDR in moving environments.

Work With the Motion!

Sometimes it's best, particularly when getting frustrated, to try to use motion blur in creative ways. While there's obviously no science to this, take a look at [it's section of the guide](#) for inspiration. Who knows, you may even get a better photo than you were imagining.

Working With Motion

The most breathtaking landscape photos are often those that utilise motion blur in dramatic ways. A classic example is a blurred waterfall, or smoothed ocean waves. Achieving this effect is reasonably easy, but does take some care to avoid making the whole image a blurry mess.

Using a low shutter speed is of course the key to getting blur in your image. While this is simple enough, here are a few tips to make it more consistent.

Tip 1: Use a Tripod

Achieving the level of blur seen in these famous photos often necessitates the use of shutter speeds well in excess of 1s. Because of this, the use of a tripod is exceptionally helpful. At these low speeds, handholding is simply not an option, as the hand shake will be visible in the image. While you can try to simply place the camera on an object, this will likely lead to cumbersome angles and a mess if water is involved.

Note: If you do not currently own a tripod, don't worry about going out and getting a fancy one. For the vast majority of people, cheap tripods are perfectly adequate. These can easily found at thrift shops or garage sales for under \$10.

Tip 2: Use a Neutral Density (ND) Filter

When raising your shutter speed to very high values, you may notice your image getting very overexposed. While you can counteract this at small values by constraining your aperture, this will likely not be enough to achieve a reasonable exposure. To solve this issue, you can use an ND filter, which is a screw on filter that simply darkens your image uniformly (a bit like unpolarized

sunglasses). This will allow for lowering shutter speeds to extreme values while maintaining a neutral exposure.

Note: When using a filter, make sure to note the size of your lenses filter thread. This is often printed on the tip of the lens with a Ø symbol. Only filters of this exact size will be usable with this lens.

Tip 3: Image Stacking Blurs!

If for whatever reason the above two tips aren't feasible, there is an alternate technique that allows for the use of *any* shutter speed, while still getting blur.

As mentioned in the [motion reduction section](#), merging a sequence of images also merges those images blur. This means that if you have enough images, you can emulate a longer shutter speed by merging a sequence of photos with a smaller one! This has a few main benefits:

- This can be used handheld, no tripod needed
- This can be done without filters, as you can simply use a neutral exposure
- The merging process can also be an HDR sequence, allowing for the use of both techniques at once, while also lowering noise in the process

The primary downside of this technique is simply the extra time and space it takes to edit these sequences of images, which can be quite substantial as you take longer exposures.

While there are a variety of ways to achieve this technique, the easiest is just to use HDR processors with a sequence of normal images. This will leave your process as follows:

1. **Ready your photo as described in the prior sections, optionally using bracketing for HDR**
2. **Set your camera to a continues drive mode**

3. **Take as many photos as is reasonable for storage.** The exact amount of photos in the sequence doesn't matter, but of course the more photos you have, the more blur you can apply. If using a high shutter speed, you should try to take more if possible. A good target for extreme blur is 20 images.
4. **Feed your sequence into an HDR processor.** Most software will simply merge your images even if you are not bracketing, achieving the desired blur effect.

FAQ

Cameras are expensive. Can I just use my phone?

With camera phones getting increasingly better year by year, it's hard to deny that phone photography isn't possible. There are a few things to keep in mind before attempting to use a phone for something like landscape photography. First of all, many phones lack manual control, at least out of the box. Second, phone cameras are inherently non-interchangeable, and often purely a wide angle lens. Finally, the small sensor in phone cameras means that long exposures or low light photos are very difficult to pull off.

This isn't to say you cannot use a phone for landscape photography, it's just going to be much more difficult, and often going to lower creative freedoms. Of course, the best camera is the one you have on you, so never feel bad about using your phone, so long as you're up for the challenge.

Most of this guide can still apply to phones, although you may need to look up workarounds to the lack of specific features.

Landscapes are so cool, but I live in the middle of american suburbia! How can I find somewhere interesting?

I've found two ways to get around this issue. First, don't underestimate how nice even just a local park can look under interesting weather. I've gotten some of my best photos just walking around in fog. Second, check if there's a state park or recreation area within a reasonable driving distance. I've found that most people have at least one of these within an hours drive. While it may not be particularly spectacular, these parks will give a great practice opportunity for when you do get to go on a more extravagant trip.

Wont it be hard to take landscapes without a variety of lenses?

While lens choice is very nice, landscape photography can be done with pretty much anything, so long as you work your composition around what equipment you have. For example, the kit zoom that comes with most cameras is versatile enough to handle all but distant and very close subjects. If you find yourself focusing on one of those niches, then it may be worth investing in a lens specialized for that niche. Until then though, don't stress about lens choice, just focus on taking photos.

Glossary of Definitions

- **Aperture** – A circular shutter that controls the amount of light let into the lens. A component of exposure, and the primary controller of depth of field.
- **DSLR** – A type of camera with an interchangeable lens, which uses optical reflections to provide an image to the viewfinder.
- **Exposure** – The level of light the camera received while taking a picture.
 - **Over-exposed** – An image that has received too much light.
 - **Under-exposed** – An image that has received too little light.
 - **Neutral Exposure** - An image that has received a balanced level of light, not over or under exposed.
- **F-stop** – The units of aperture, in log scale. Smaller numbers indicate a wider opening, more light, and a shallower depth of field.
- **ISO** – The measure of gain applied to the sensor, in standardized units. The larger the ISO, the more exposed the image will be, and the more noise will be present.
- **Mirror-less** – A type of camera that has an interchangeable lens, but uses an electronic viewfinder.
- **Shutter** – The mechanism used by the camera to control when the sensor receives light. A component of exposure, and the primary controller of motion blur.
- **Shutter-speed** – The units of measure for shutter, in fractions of a second. The longer the shutter speed, the more light is let in to the camera, and the more motion blur the image will have.
- **Viewfinder** – The small window found on some cameras that allows for viewing the image seen by the camera. Can be electronic or optical.