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WOODSTOCK



Essential Astrophotography Questions, Answered



There are many challenges with astrophotography, to be sure.

But it's a mistake to think that it's not something that the average photographer can master.

In fact, if you're armed with the right gear and have a strong understanding of the fundamentals of photography, astrophotography doesn't have to be any more difficult than taking a regular photo.

In the night sky photography tutorial below, we've answered a few questions about astrophotography camera settings and other common questions.

Astrophotography Camera Settings: What White Balance Should I Use?

The nice thing about digital photography is that if the white balance is off in your images of the night sky, you can always correct it in post-processing.

Even better, shooting in RAW enables you to make white balance adjustments before you open the file in Photoshop, Lightroom or whatever program you prefer to use.

However, getting the white balance just right in-camera will save you the time required to fix it later.

In many cases, the daylight white balance will get you the best results.

Though it seems counterintuitive to use the daylight white balance setting when taking photos of the night sky, it produces the best colors of the stars.



What Aperture is Best for Astrophotography?

When thinking about how to do astrophotography, a primary question people have is what aperture is the best?



Well, the answer to that question is that it depends.

That's because each situation is unique and each lens performs a little differently.

So in some situations, an aperture of f/3.2 might be the best bet while in other situations an aperture of f/8 might work better with many variations in between.

What's important to remember is this: the smaller the aperture, the lower the amount of light entering the lens.

So, if change the aperture from f/2.8 to f/5.6, you'll need to either extend the shutter speed or boost the ISO (or both) to brighten the image to account for the reduced amount of light.

But also keep in mind that while larger apertures allow more light into the lens, they also don't provide as sharp of results as shooting with an aperture closer to the lens's sweet spot.

That is, shooting at f/2.8 might be great from a light perspective, but

shooting at f/8 might get you a much sharper photo.

As with many things in photography, finding the right aperture for your astrophotography will require some practice and patience.

Should I Include Fore-

ground Interest?

As a beginner astrophotographer, you might find yourself drawn to compos-



ing images of the night sky by itself.

And while there's nothing wrong with that, you might also find that if you include foreground interest of some sort, that the photos you cre-

ate have much more visual appeal.

For example, in the image above, the Milky Way is obviously what makes this photo.

However, by taking a vertical shot and including the frozen lake in the foreground, the photo has much more interest and context, making for a far better photo.

For this tip to work, though, the foreground needs to be interesting... In the shot to the right, the foreground is both uninteresting *and* too bright. The result is a photo that isn't

Links of Interest:

Viewbug - <u>http://www.viewbug.com/</u> ePHOTOzine - <u>http://www.ephotozine.com/</u> Federation of Camera Clubs [NSW] - <u>http://www.ephotographynsw.org.au/</u> Australian Photographic Society - <u>http://www.a-p-s.org.au/</u> Gurushots - <u>https://gurushots.com/</u> Free Lessons with Serge Ramelli - <u>http://photoserge.com/free-lessons/all</u> all that appealing.

So, adding foreground interest isn't always a given. Instead, experiment a little, and if it works, great! If not, there's nothing wrong with taking a photo of the sky by itself.

How Do I Avoid Star Trails?

Photos like the one to the left show the movement of the stars in the sky are beautiful.

But sometimes you want to capture the scene like you see it - with sharp, pinpoint stars.

There are a variety of ways to go about doing this - some easy and some more complicated.

On the complicated end is to calculate the longest shutter speed you can use and still avoid capturing the movement of the stars.

This is called the 500 Rule, which states that dividing 500 by the focal length of your lens generates the longest shutter speed you can use.

So, if you're shooting with a 50mm lens, you'd have the following formula: 500/50 = 10 seconds.

It's simple math, so it isn't overly complicated.



Top 12 Photo Editing Software for Photographers

By Lilian Chifley

As a professional photographer, you probably need a photo editing software to enhance the pictures you upload on your website. A good photo editing software will not only give your website a great look but will also attract potential clients who will hire you and pay you well for your services.

Editing your photos will also help in drastically reducing the size of your files which will in turn make your WordPress fast and improve your Search Engine Optimization (SEO) rankings. Editing your photos will save you time and money both in the short and long run.

In this article, we shall discuss twelve photo editing software that are essential for you to succeed in your line of work.

Canva

Canva is among the best photo editing software in the market today. It is easy to use and very practical. Majority of professional photographers make use it every day due to its multiple photo editing features and tools. Canva is also available on your smartphone. You can edit your photos and enhance the look of your website instantly through the help of templates, cards, videos and photos which come with the photo editing software.

PhotoScape

Why is PhotoScape popular? It is a free and easy to use photo editing software. With its simple tools, you can design presets on your toolbar to make editing photos faster and easier. With PhotoScape, you can create animated GIFs and slides for your photos to look amazing. Some of the important additional features that are present on this platform are JPG converter, color picker, RAW and face finder. Resizing your photos, editing two or more photos simultaneously and splitting photos into small pieces are some of the things you can do with PhotoScape.

Gimp

Gimp is a free photo editing software used by most professionals around the world. You can easily download and install it on your computer since it is compatible with most operating systems. Some of the features and capabilities which may excite you about this photo editing software include photo retouch, photo enhancement, picture composition and a file manager. Image authority can also be easily created using this platform. Gimp allows your photos to be easily edited using all formats available in the design world. In fact, Top assignment writing services use Gimp because it is compatible with all operating systems and is easy to use.

Aviary

Aviary helps you edit your photos swiftly and in a truly magical way. Using the latest technological tools available, you can create attractive photos within a short span of time. Aviary makes you focus on the small details on your photos such as whitening teeth, eliminating skin blemishes and minor face adjustments. As they say, it is always the smallest things that hurt the most. Improving these small things makes a huge difference. And that is what Aviary is all about.

On 1 Perfect Effects

On 1 Perfect Effects is simply one perfect photo editing software which can be downloaded and used at no cost at all! It has a step by step installation process to help you out. It also works on any operating system thus making it convenient for you. With On 1 Perfect Effects, you get one hundred and seventy effects which all help you in brushing and editing your photos and masking tools. This photo editing software works perfectly with other photo related software such as Aperture, Photoshop and Light room.

Inkscape

With Inkscape, you can edit all the photos you have in your library at absolutely no cost. It has a wide range of features such as color picker, different copy and paste styles, cloning objects, calligraphy tools, different text format entries and much more. Inkscape works wonderfully with most formats. You can easily brighten and edit your photos with Inkscape. Regularly looking for the latest image formats will help you use this software better and produce great photos.

Adobe Lightroom

Lightroom is photo editing software created by Adobe to help professional photographers create magical photos. You can easily edit your pictures in detail using a variety of features available in this platform. It can sync with all your devices in close range to ensure that you can save all your work and start off where you left on another device in a different location and continue editing your photos. Its WordPress integration helps people find you easily and do business with you.

Portrait Pro

Portrait Pro is an image editor mainly focused on creating great portraits. You can easily edit finer details on the face such as wrinkles, eye shadow, skin tone, skin blemishes and even balance brightness and blush. If you want to specialize in photography lighting, this is a necessary and important tool that you need to have.

Snappa

Snappa is an online based photo editing software that can help you create wonderful photos for your blog or social media platform. You can add effects to your photos and even change dimensions as you prefer. You can drag and drop your edited photos to save time.

Pixlr Editor

With Pixlr Editor, you can edit your photos online using different operating systems including Android and iOS on your phone. With a wide variety of features, you can edit your photos just like Photoshop and add filters and effects to have great results.

DxO Optics Pro

DxO Optics Pro is a unique photo editor which can convert photos under the RAW format to JPG fast and efficiently. This product works perfectly with most operating systems. As a professional photographer, having this tool puts you a step ahead.

To conclude, As a photographer, you need to be very creative. You need to work with the best technology to produce impressive results. Clients want to work with the top photographers. And the top photographers use the best photo editors. Fortunately, these are among the best photo editing software in the market today for you. Start using one of these and see the results!

How to shoot those beautiful landscapes you see in magazines

Ever wondered how professionals take such awe-inspiring landscape shots? Maybe you've been there yourself, camera in hand, but not had your photos turn out the way you wanted. Or maybe you didn't see that the settings for landscape photography are quite different from other topics.

There are many components to it: being in the right place at the right time and post-processing, to name a couple. But this article will focus on that moment when it all comes together. Just before you press the shutter, and you need to decide what settings to use.

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16mm, f/10, 1/60th, ISO 1800

You're in the right place at the right time, now what?

First, a word about control modes (Aperture/Shutter Priority, Portrait, Sport, etc.). If you don't have the camera on manual or if your camera doesn't have a manual setting, some or all of the settings discussed below are controlled by the camera.

When using these modes, all of the things I discuss in this article will still be helpful. Because you will then know which modes and settings to use to help the camera make the right decision. While these concepts are most useful when shooting with cameras with the highest level of control, such as (D)SLRs, they will also improve your result with point-and-shoot or even phone cameras.

There are three primary settings that affect how the camera operates:

Aperture

Shutter Speed

ISO (or Film Speed)

All three of these affect the amount of light entering the camera, but also have other effects. A camera's modes simply decide how these basic settings will be controlled.

I will briefly mention what these settings physically do. I'll focus more on why you might choose to set them a particular way and what effect that can have.

In darker conditions, you will frequently need to choose in which area you can sacrifice in order to get an adequate exposure.

Aperture

The first of the three that I'm going to focus on is the camera's aperture setting.

Aperture refers to the size of the hole that allows light into the camera. It is measured as a ratio between the focal length and this size. Sometimes the fraction part is dropped and only the larger number is used, though. 1/2.8 is a relatively large aperture and allows the most light through, where 1/22 is the opposite. Aperture's second major effect is depth of field, or how far both into/away from the scene is in focus beyond the target.

Note that this scale is not linear: The difference between f/2.8 and f/4 is the same as the difference between f/16 and f/22. The middle of the aperture range for a given lens is usually near f/8.

This control of the depth of field is primarily used to maintain the viewer's attention on the subject. In portrait or macro photography, this might be a person, an insect, or a flower. In landscape photography, even though the subject is primarily distant, it can still be used in this way.

What part, if any, of the foreground should be in focus?

Note that the best landscapes usually have an interesting foreground as well as the landscape itself. How small of an aperture (large depth of field) will you need to keep what you want in focus? A middle aperture (such as f/10 or f/12) is usually enough, when focused slightly beyond the foreground, to keep everything in focus.



20mm, f/10, 1/200th, ISO 100

Make sure both foreground and background elements are in focus

Why not simply have everything in focus with a tiny aperture like f/22? One major stylistic reason is that often times you do not want everything in focus. In landscape photography there might be distracting foreground elements that aren't part of the story you want to tell. There are two technical reasons as well. First and foremost, lenses don't perform as well near their extremes in apertures. Specifically, diffraction causes a loss of sharpness when stopped down. The larger you scale up your landscape photos, the more you will notice this loss in sharpness. Although it may not be significant at smaller sizes.

A second reason to avoid stopping down is that the more narrow beam of light will cause significantly worse shadows under dust spots on your lens or sensor/film. Depending on your post-processing capabilities, this could be even worse than the first reason! (Let's be honest, nobody enjoys fixing dust spots.) *Summary: Start with F/8 - F/12, smaller aperture (bigger number) if required to keep everything in focus, avoid extremes.*

Shutter Speed

Shutter speed, as you're probably either aware or could guess, controls the amount of time the camera is measuring or sensing the light, usually by controlling when the shutter opens and closes Most cameras can control the shutter speed between 1/4000th or 1/8000th of a second as the shortest and

15 or 30 whole seconds as the longest.

In most images, shutter speed is used to completely stop any motion, both of the subject and of the camera, if you're not using a tripod. Just a little bit of motion in your photo will make it blurry, usually in an unintended and unappealing way.

To stop motion when hand-shooting, you will usually need to use a shutter speed of 1/x, where x is double the focal length you are shooting at (a common thumb rule, example: at 50mm use 1/100th of a second). You also need to consider motion of your subject. You can experiment a bit to find the necessary shutter speeds to stop different kinds of motion at various distances, but here's a bit of my experience (not exact!): Stopping the movement of a wave can make for an exciting foreground element.

Even the movement of the shutter or the mirror can vibrate the camera enough to be visible in the photo. If this becomes a problem, you can avoid this by using your camera's "exposure delay mode", if it has it. 16mm, f/5.6, 1/2000th, ISO 2000

This causes the exposure to not start until a set time after the shutter opens. Similarly, your finger touching the camera to press the shutter can also vibrate the camera, even when using a tripod. You can use either a remote shutter or a timer mode to avoid this one!

Motion is good

Finally, let's not forget that motion can be a good thing! A landscape photographer's favorite thing to photograph in motion is probably moving water such as waves, waterfalls, or streams and rivers. I've created the stringy waterfall effect using $\sim 1/10$ th of a second and shooting handheld, taking a bunch of photos to

Example Shutter Speeds

Subject

Prevent Star Trails People

Stop water at a distance

Shutter Speed

- ~ 20 seconds
- ~ 1/50th of a second
- $\sim 1/500$ th of a second

Stop water close-up or a bird's Wings ~ 1/2000th of a second

ensure I get one where my hand was steady.

Obviously using a tripod is generally preferred. 1/2 or 1/4 can make for a very interesting shot of waves - just enough to capture the motion without blurring it too much. (Note: Daytime shots at these shutter speeds might be over-exposed, which you can compensate for by using a neutral density filter)

16mm, f/14, 30 sec, ISO 50

Longer exposures can cause the "cotton candy" effect for falling water or streams and remove ripples from flat surfaces.

Summary: Prevent unwanted blur by using a fast enough shutter speed (Thumb Rule of doubling focal length if handheld). Use a tripod when necessary. Experiment with special effects at long shutter speeds! ISO / Film Speed

The ISO setting on a digital camera controls how sensitive to light the camera will be. It is the equivalent of the film speed for a traditional camera and uses the same numbers to describe it. It usually ranges from around 100 to 6400 or higher, sometimes much higher.

Before the advent of digital, a photographer had to choose how sensitive he wanted the film to be when preparing for a time/location. Luckily, with digital cameras we can control this on the fly, but this does come with a cost.

With traditional films, the size of the light-sensitive crystals on the film changed in order to provide the changes in sensitivity, and this could lead to some aesthetically pleasing film grain.

Unfortunately, digital amplification of the signals from the CCD in a digital camera creates noise that is not usually aesthetically pleasing. To prevent this, you should always prefer your camera's native ISO, which is usually the lowest one.



16mm, f/4, 15 sec, ISO 4000

Especially at night, balancing exposure and minimizing noise are both difficult and important.

Even in manual, your camera can still control ISO automatically if it is set to. As always, be careful what you let the camera control automatically, as you might not always like what you get.

One trick I use is to let the camera control ISO automatically, but minimize the downside by underexposing all of my pictures and fixing them later on the computer.

Summary: Minimize your ISO to minimize digital noise.

Other Settings for Landscape Photography

Image Quality: As a fine art photographer, I always want the largest, most detailed photographs I can create with my equipment. Shooting on anything less than a lossless RAW format will cause a loss in image quality. If you are limited by memory or processing power and you don't need the image quality, you can choose an appropriately compressed format (JPEG).

Exposure Bias: Exposure Bias tells the camera's algorithms how to control the exposure. While the camera has an ideal average brightness value "in mind", you can use this setting to tell it to purposely under or overshoot this value.

I frequently use this setting to underexpose my photos since, when shooting in RAW, data is much more recoverable from underexposed areas than overexposed areas and this also causes the camera to use a lower ISO value if ISO is being controlled automatically.

Exposure Bracketing (HDR): Bracketing allows you to have the camera shoot various levels of exposure in a sequence of photos. This is very useful when you don't have the time to retake mistakes and you want to ensure you get the right exposure.

Another use of bracketing is to combine multiple images of different exposure to increase the dynamic range of the photo, known as High Dynamic Range (HDR) photography.

White Balance: If you are shooting in RAW, as I recommend, white balance is one of the most easily fixed elements in post-processing, so I do not worry much about getting it right beforehand. I usually leave the camera on auto and fix it later. However, if you are shooting JPEGs, it can be significantly more difficult to fix in post.

To accurately guess the best setting to use, you will need to understand the color of light that each setting is designed for and match that to your scene. Another strategy involves test photos of a neutral grey card and then using the setting that gets you closest to grey in the photo.

While this gives you a technically accurate result, white balance can be a stylistic choice and technically accurate is not always best.

Putting it Together

What you've learned from this article so far will certainly help you to capture an amazing image... under the right circumstances. Nature, however, won't always provide you with enough light or the right conditions to use ideal settings.

You will need to experiment and use your expertise as a photographer to decide where to sacrifice in order to get an adequate exposure. Can you slow down your shutter speed without causing blur? Can you use a wider aperture while keeping the scene in focus? Is higher noise acceptable?

Thanks to digital photography, you can test your choices in the moment to a certain degree. Use the live preview on your camera and zoom in to look for noise, motion blur, or focus issues.

The more you experiment and practice, the more you learn and the faster you will be able to choose the right settings for any given scene, so get out there and shoot!

POLARISER, Graduated and UV Filters Should Be Top of Your List By Nick Stubbs.

You would think that the need to use camera filters would be decreasing. What with more and more people using and getting to know Photoshop a little better these days. Most decent photo editing software comes with plug-ins, effects and filters already built in. Why would you need to worry about a filter at the time of



Well, in many cases, a filter used at the right time for a particular kind of shot, simply cannot be mimicked or matched in an editing program. At least not with the same fluidity and effectiveness than what is taken "at the scene". For example, as far as I know there is no program or plug-in available that will give you the same effects as a polariser filter. Sure, you can enhance the saturation and boldness of colours using Photoshop. However, to cut out glare and reflections from glass and water, I don't think so.

You see, a polariser filter will even cut out all the reflections from the humidity in the air. This all helps to make your image seem much clearer, colourful and vibrant.

It will "lose" the reflections from a car windscreen or house window. Or even the reflections on the ocean or a lake, giving a beautiful, clear effect. A circular polarizing filter is made up of 2 pieces of round glass, each with hundreds of tiny lines etched into them. As you turn one piece of glass, the lines cross each other and the effect happens before your very eyes.

Grey Grad Camera Filters

You may sometimes be faced with a beautiful landscape scene that has darkened areas at the bottom of the image. What if it also has bright skies at the top? How does your meter compensate for these radical differences in light? More so, how could you "help" this image in Photoshop? You see, what will happen is this...

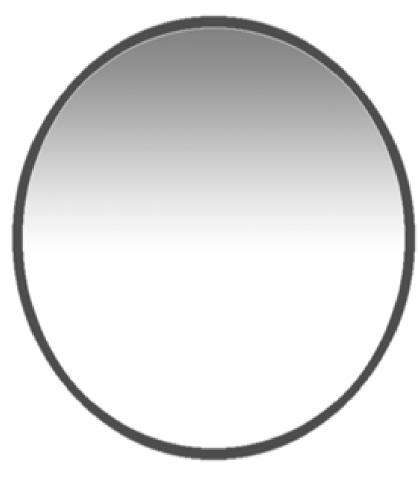
- You either expose the land correctly thereby overexposing the sky (center image below) or;
- Expose the sky correctly and underexposing the land making it too dark (Left image below).

Take option one above. It would be impossible to bring back blown out highlights in the sky when they are no longer there. Of course, you could add a new sky using Photoshop, but what a waste of time! Or option two. You could use the Shadows/highlights tool in Photoshop CC and "lighten" the underexposed areas of the land. However, this would degrade the shaded areas and cause visible "noise". Again, you could then use Neat Image or a similar program to reduce the noise, but what a hassle.

Try a filter

What about if there was a cheap filter that you could use at the time of exposure? One that would save all this hassle, leaving you more time to take more photos?

This filter has a dark top half and a clear bottom half. These graduate into each other "gradually" so that no visible lines are recorded. What this does is darken the sky to fool the cameras meter into thinking it is the



same exposure as the ground, therefore you end up with both areas being exposed correctly.

Skylight or UV Camera Filters

The only "real" uses for one of these filters is to protect your lens and reduce the effects from harmful Ultra Violet light. They can also add a nice warm tone to some of your images. Generally, people use them to cover and protect the front elements of a lens. Particularly when shooting in dusty, dirty or damp environments. It is better to ruin a filter than a \$400 -\$1,200 lens!

I have always had one of these filters in my bag and find it most useful in a few situations that I find myself in. for example, at the beach with all that sand and salty air flying about. Or shooting sports where grit and/or gravel could spring up and scratch the front elements of my lens at any time. If you do invest in one of these UV camera filters, get a good one. A poor filter will only degrade the image making having a decent lens worth protecting a bit pointless. I personally

don't go in for special effects filter all that much, although Cokin have a large and fantastic range of all types of filters for you to get "freaky" with. At the very least, I would suggest that you get the 3 camera filters mentioned above, making sure the quality is reasonable, as a start.

Recommended Filter Manufacturers

I would recommend either Breakthrough or B + W camera filters for the polarizer and Skylight/UV. The Cokin system is great for the grey grad and other special effect filters. Use the links to Amazon below, where you can get them at the best prices.

Make sure you get the correct filter thread size for your lens. If you have more than one lens with different thread sizes, either buy a filter for both lenses or just for the one that you think you will use the most. I can guarantee that by using these filters you will see a huge difference in your images and will want to take them everywhere with you.

ACDSee Free for Windows

View and print your photos quickly

ACDSee Free is a lightweight image viewer for Windows.

If you think that the stock Windows Photo Viewer is too slow, then you may want to give ACDSee Free a try. ACDSee Free is a simple photo viewer that doesn't feature a bunch of bells and whistles that slow it down.

Apps like Adobe Lightroom are great for managing and touching up huge image libraries but they are often slow and resource heavy. ACDSee Free gives you a great image viewer that responds quickly. Zoom in and out of photos with the '+' and '-' keys or quickly set it as your desktop background from the 'Tools' menu. Another cool feature of ACDSee Free is its print controls. Once you're done viewing your photographs, you can quickly access print settings to make sure it fits on the specific type of paper you're using. There are tons of print options for users to tinker with to get the best possible results.

ACDSee Free's greatest strength is also its greatest weakness. Yes, ACDSee Free is lightweight and quick but Windows Photo Viewer isn't a slouch either. Since Windows Photo View is included with Windows, there really isn't a good reason to seek out an alternative photo viewer.





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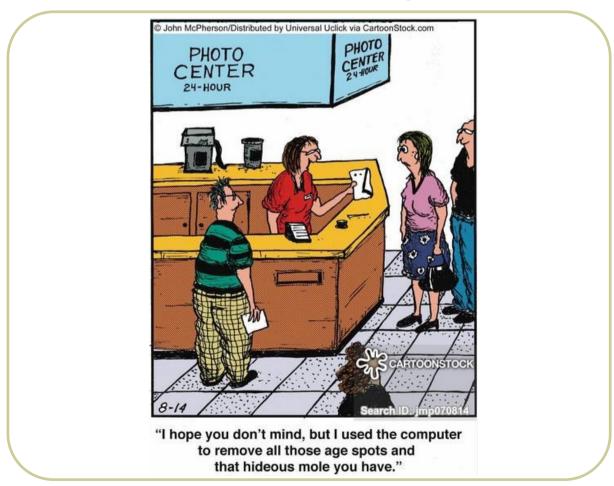
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