

The Essential Guide To Understanding Light

Written by Nina Bailey

Especially for Canon EOS cameras



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Foreword by the author

Over the years I have written many different guides, scripts, technical publications and more presentations than I really care to remember, but this is my sixth ebook.

I love travelling, which is why my first ebook was the travel photography ebook. One of the things that I love about travelling is how much the light changes. How the scenes that are there to be captured change according to the time of day, where they are, what the weather is and the season.

Light changes more about an image that you shoot than any other single factor, it is the thing that can make a good image stunning or even a stunning scene fail to be inspiring. Yet it's not controllable, as a photographer you have to learn to understand it and work with the opportunities that it is presenting you with.

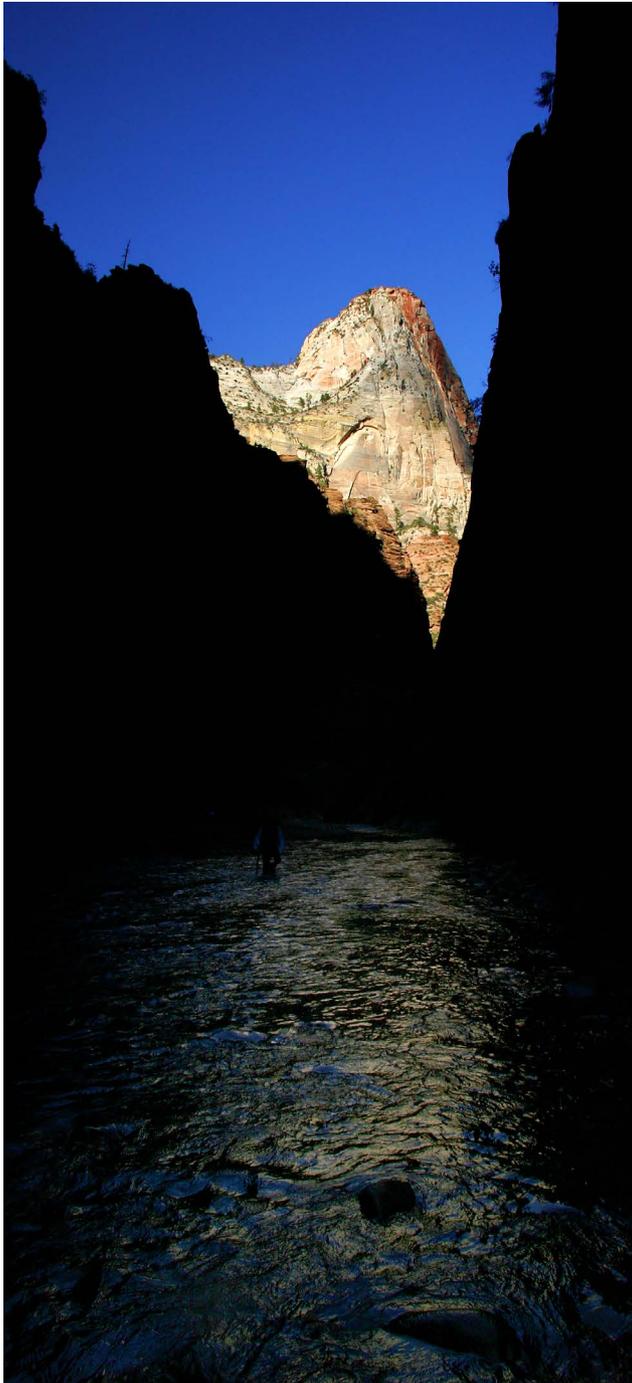
What makes all this harder is that our eyes do not portray the lighting as it really is, our brain processes the light and gives us the best possible view of the environment around us. However though this may look great, it is not possible to capture the range of tones that we see. So capturing light is also about knowing the limitations of what we can capture and turning high contrast light into photographic opportunities that can give us really stunning images, if we know how to get the camera to capture it correctly.

This book is about allowing you to understand how much the light affects the images we shoot and how to make the most of the opportunities that it presents us with.

Hopefully the images and explanations will inspire you to go out and get the very best images of the subjects that you find yourself amongst, whether it be at home or abroad.

Nina





Introduction to understanding light	6	Back lighting problems	
Chapter 01		Backlighting examples	
What is light?	8	Lighting angles	
What is light	9	Lighting angle examples	
Light and colour	10		
Example images	11		
Chapter 02		Chapter 04	
Learning to evaluate light	16	Lighting types	
Learning to evaluate light	17	How light changes	51
What direction is the light coming from?	18	Light changes colour	51
How bright is the light?	18	Kelvin scale and the colour of light	52
How intense is the light?	19	White balance overrides	53
What colour is the light?	20	Custom white balance	54
What is realistic to capture	21	Using the K settings	55
What we see verses what we capture	22	White balance examples	56
What is light?	23	Light changes according to the time of day	58
What subjects work in what light?	24	Artificial lighting	59
Image evaluation - Front lighting	25	Light changes according to the weather	60
Image evaluation - Side lighting	26	Clear sunny day lighting	61
Image evaluation - Back lighting	27	Sunny examples	62
Image evaluation - Flash and interior lighting	28	Bright sun and clouds lighting	63
Image evaluation - Contra jour	29	Bright sun and cloud examples	64
		Bright hazy condition lighting	65
		Bright hazy examples	66
		Cloudy flat and dry lighting	67
		Cloudy flat and dry examples	68
		Cloudy and wet lighting	69
		Cloudy flat and wet examples	70
		Light changes according to geographical location	71
		Light in the temperate region	72
		Temperate region examples	73
		Light in the polar region	74
		Polar region examples	75
		Light in the tropical regions	76
		Tropical region examples	77
		Light in the equatorial regions	78
		Equatorial region examples	79
		Light changes according to the time of year	80
		Spring lighting	81
		Summer lighting	82
		Autumn lighting	83
		Winter lighting	84
Chapter 03			
Understanding the direction of light	30		
Lighting directions	31		
What changes the light in the real world	32		
Opportunity or planning	33		
How to assess lighting direction	34		
What does your shadow tell you?	35		
Front lighting	36		
Front lit examples	37		
Side lighting	39		
Problems that side lighting can create	40		
Side lit examples	41		
Backlighting	43		

Spring examples	85	Telephoto lenses and lighting	122
Summer examples	86		
Autumn examples	87	Chapter 08	
Winter examples	88		
Chapter 05		Planning your shooting for the light	123
Exposing for light	89	Planning your shooting for the lighting	124
Exposing for light	90	Use the weather services to plan your shooting	126
About AE lock	92	Other online services	127
The basic principal of metering	93	Location, Location, Location	128
About the metering patterns	94	Planned images	131
The principal metering works on	95		
Problem subjects for metering	96	Chapter 09	
How to use the metering patterns	97		
Backlighting examples	99	Postproduction and lighting	130
Being creative with metering	100	The part postproduction plays in stunning images	131
		Basic corrections - 1	132
Chapter 06		Basic correction - 2	133
Modifying light with filters	100	Shadows highlights control	134
Polarising filters	102	Two area adjustment	135
Light loss when using polarising filters	103	Black and white conversion basic	136
Removing reflections	104		
Darkening skies	107	Chapter 10	
Removing haze from scenes	108		
Graduate filters	109	Understanding light summary	137
Postproduction options	111	Understanding light summary	138
High Dynamic Range or HDR postproduction	112	Take lots of variations	139
		You can never take the same image twice	140
		Make the effort	141
Chapter 07		Glossary of terms	142
Framing for the light	113	Other ebooks	149
Stop looking and start seeing	114	The Online EOS Training Academy	151
What we see versus what we shoot	115		
Framing for contrast	116		
Visualisation	117		
Visualisation examples	118		
Lens selection and light	119		
Lenses and perspective	120		
Wide angle lenses and lighting	121		



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Introduction to understanding light

This image was taken in Canyonlands National Park in the USA approaching sunset which has given beautiful golden light from a low angle that has given a 3D look to the image.

Introduction

Photography is a powerful and immediate way of recording and communicating images.

Digital SLR cameras now have such a wide range of features and controls. They become a wonderfully responsive tool, allowing the photographer to express themselves and create stunning images, regardless of their photographic interests.

Without light, we have nothing; but the correct use of lighting is fundamental in photography. Understanding it and making the best use of it is vital to producing those special images.

This lifts your photography onto new levels. How often are you disappointed with the result your camera produces. Much of this disappointment can be alleviated by observing and utilising the lighting situation in front of you.

This ebook is designed to teach you about light and help you understand the part it plays in our images. It's all about helping you fulfil your potential as a photographer.

Its also about teaching you how to use the controls on your camera that allow you to capture the image as you want and not how the camera interprets what is in front of it.

So let's move on and literally help you to see the light.

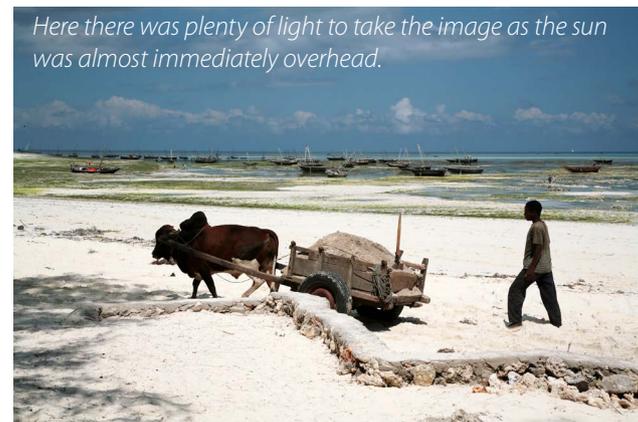
I sat and waited 15 minutes for the lighting to be right to take this image. I needed the sky to darken down to get the effect which I needed.



Sometimes it is the light that is the image itself, here it simply is lighting the subject.



Here there was plenty of light to take the image as the sun was almost immediately overhead.



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Chapter 01

What is light?

This was taken in the Blue Mosque in Istanbul, Turkey. There is a real mix of lighting present in the shot ranging from artificial light from the bulbs to daylight coming through the window to the rear.

What is light?

The very first question that we have to ask is, what part does light play in our images? The answer is a bigger part than most photographers initially imagine.

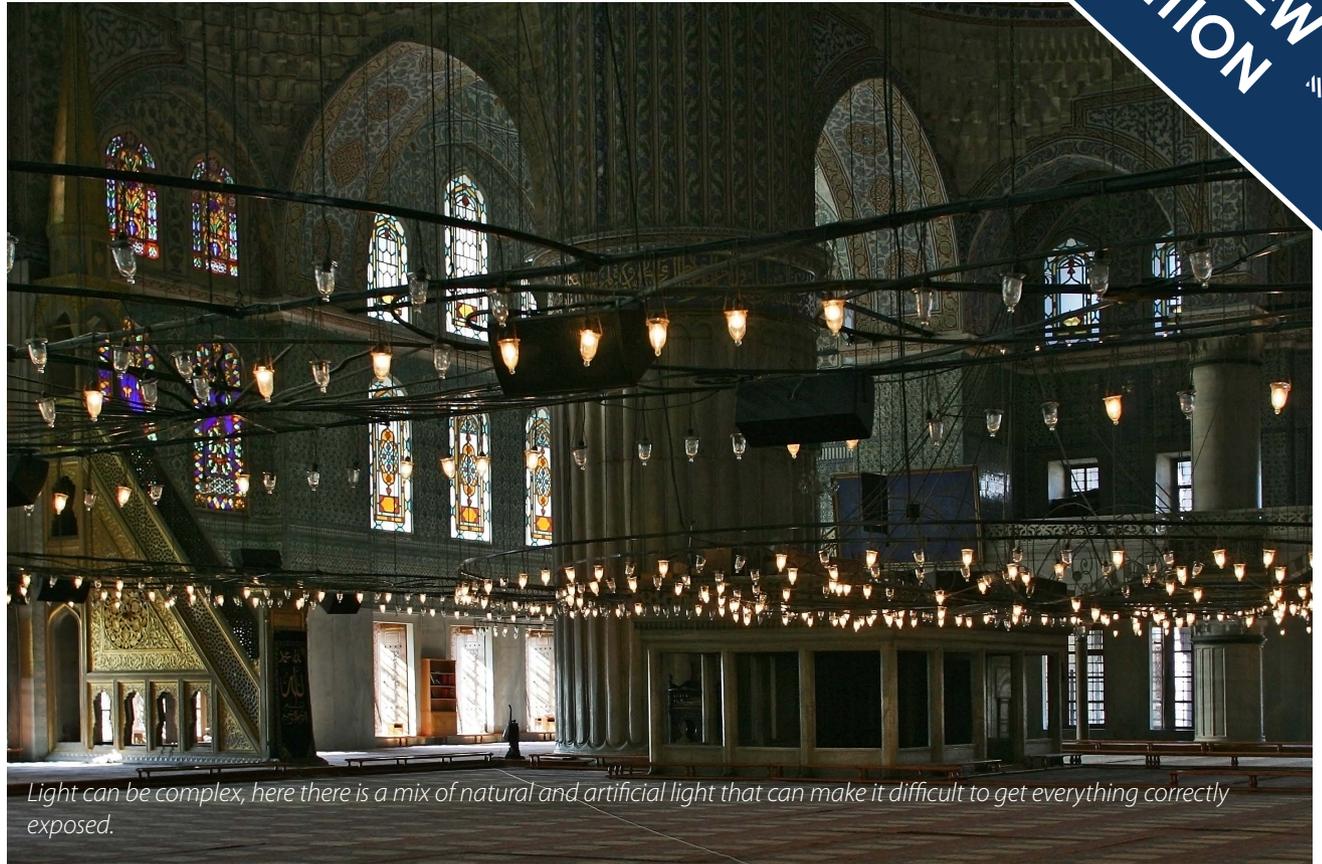
Light is the single most important thing in our images. In simple terms it is what can bring the image to life. It is the lighting that will give the image its own distinct look and feel and it defines how the subject is lit.

The correct lighting can make our subject look three dimensional, but if the lighting is flat and uninteresting, then it will make our subject look the same.

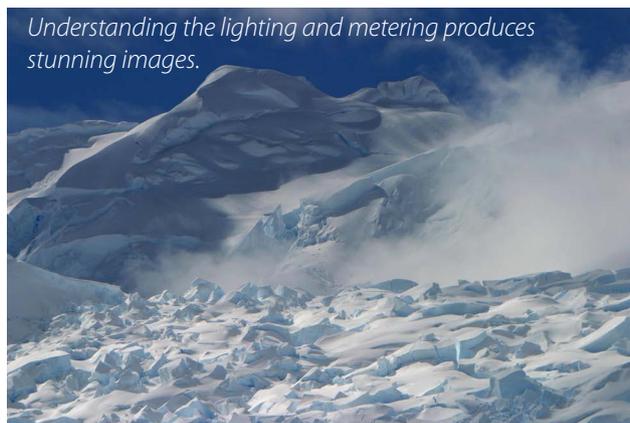
It is the variation in tones and the shadows that go hand in hand with good lighting, that gives us these effects. So it is not just about the light itself, but also the shadows and the depth of tones that these create.

The lighting at the time of shooting will also define what can and cannot be captured correctly within the shot that we are taking. In flatter lighting we can capture everything that we see.

As the lighting becomes higher in contrast it starts to be impossible to get all parts of the image correctly exposed and so we need to think about how that is going to affect the image that we are taking and more importantly where we need to exposure to get the overall shot correctly exposed.



Light can be complex, here there is a mix of natural and artificial light that can make it difficult to get everything correctly exposed.



Understanding the lighting and metering produces stunning images.



Artificial light can be the most challenging of all light.

Light and colour

Light is also going to define the colours in your image. Light changes colour with many different things, as we shall see later.

This will have a direct effect on how your subject will look and the colour of it. In some types of light, the subject may well look warmer or more orange than it naturally is. In other conditions, it may also go colder or bluer than it normally looks.

We tend to prefer images that have warmer light in them, however there are images of places such as the Arctic and Antarctic where the images need to have a cold look to make them look right.

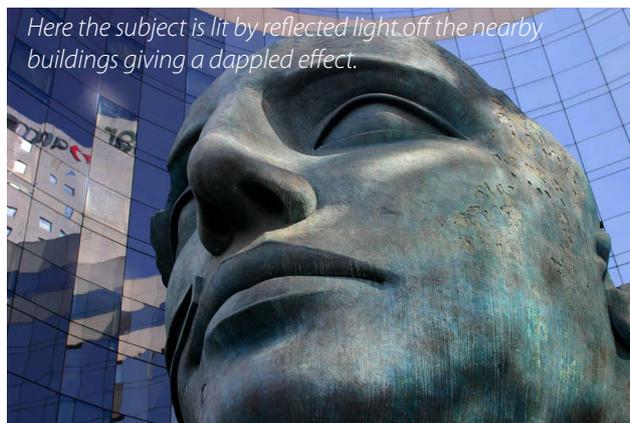
In the days of film we used filters to control the colours of light. Today it is much simpler with the camera automatically giving us what it believes is a realist colour to the image, but we also have the options within the white balance overrides to be able to change how the colours are being recorded.

Fundamentally, without light we do not have an image. Hence the recognised definition of the word photography is actually writing, or perhaps better, painting with light.

This is an excellent definition of the word. When you understand lighting, you are just like an artist, free to create the image you want from the palette that nature supplies.



The lighting in the early morning and later evening can be stunning.



Here the subject is lit by reflected light off the nearby buildings giving a dappled effect.



Midday equatorial lighting can be very cold and the white balance often needs to be overridden.

I took this image early morning in the Galápagos when the lighting was giving relief to the group of sealions in the foreground. It also helps with the disappeared later in the day.

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Sunsets are always popular with photographers, but the reality is that not every one is going to work. You also need a strong distinctive silhouette to make the image work.

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The weather was very overcast when this image was taken. If I had been shooting landscapes this could have given very flat image, bit with wildlife good images can still be produced.

Sometimes the lighting can give a challenge to the metering. Here the very dark sky was causing overexposure and so I resorted to using a spot metering on the island that was lit by the sun.

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The arctic has its own very special blue lighting for about an hour after sunset, allowing some great images to be taken.

Chapter 02

Learning to evaluate light

This image was taken in Norway on a very wet day The settings were 800 ISO 1/125th f5.6 on a 14mm lens.

Learning to evaluate light

Understanding light is not a quick thing to learn, you need to understand all the effects that light provides you with.

This requires you to be able to visualise the results that these can give you. This can take a lot of practice and experience before you really start to see the effects that are possible.

Of course since the advent of digital cameras you now have the option of taking the image and seeing how it looks and then override the camera if necessary to get the best result possible based on what you are seeing.

You also need the mastery of your camera in order to fully utilise some of the more advanced functionality, to allow you to capture the image that you want.

Some of the more common overrides that get used are partial and spot metering, AE Lock, exposure compensation and white balance overrides.

Many of the images that I have used to illustrate this ebook will have used at least one or more of these overrides in order to get the image as I wanted it.

As the photographer, you need to be aware of how all these areas are going to affect the images that you are going to be creating. You need to ask yourself some fundamental questions to see what is required, in order to produce a successful image.



Bright early morning light which was golden in colour really worked for this Venice carnival image.



Interior images have their own set of unique challenges.



Sometimes natural history images work better in more subdued overcast conditions.

What direction is the light coming from?

This will govern how the final image looks, and what areas of the subject can be correctly exposed for. We look at this in more depth in the next chapter.

How bright is the light?

Brightness is how much light there actually is. The brightness of light is going to vary according to lots of things.

Something as simple as the sun going behind a cloud, will produce a brightness change of up to 3 stops of light. This is going to have a major impact on how the camera is going to work.

The lower the light levels, the harder the photographer is going to have to work, to produce a successful image.

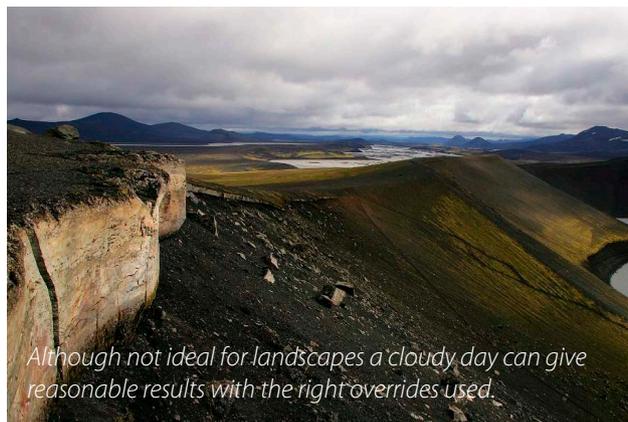
One of the biggest problems in lowlight levels is holding the camera steady, as it becomes increasingly difficult for the camera to achieve the required shutter speeds for handholding.

To rectify this, the first thing the photographer can do is to turn up the ISO. This allows safe handholding speeds or the camera needs to be put on a tripod to keep it steady.

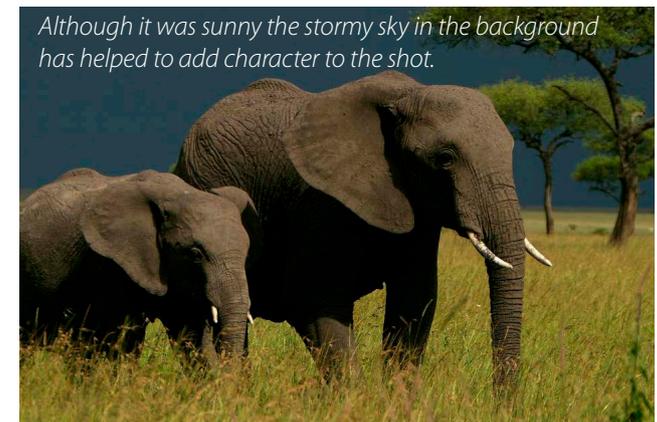
It is often difficult to notice the light levels dropping, when you are shooting with the camera to the eye. The photographer is concentrating so much on the subject, that they totally miss all the information being given to them in the viewfinder. We will look in more depth at this, later in this ebook.



It was actually raining when I took this image, the camera's ISO was set to 800 ISO to get enough light to get the image and the camera's white balance was set to cloudy to prevent the image going too cold.



Although not ideal for landscapes a cloudy day can give reasonable results with the right overrides used.



Although it was sunny the stormy sky in the background has helped to add character to the shot.

How intense is the light?

Normally the brighter the light, the more intense and contrasty it is going to be. However this does not always follow. In some situations the light can be very bright, but still not give lots of contrast.

In other situations, the lighting levels can actually be quite low, but the light is still very harsh. So as a result, you need to look at the intensity of the light separately from the brightness.

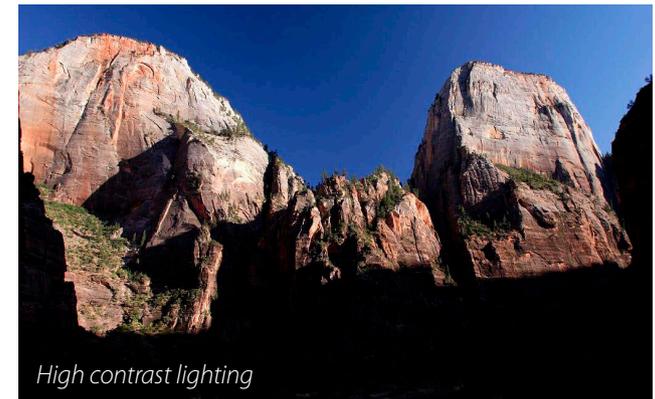
The more intense the light is, the more aware that you need to be that you might not be able to get everything correctly exposed within a shot.

The direction of the light also makes a big difference, if the subject is backlit the lighting is generally harsher. Most exposure problems are going to occur when shooting backlit, and it is normally impossible to get the whole subject correctly exposed.

Front lighting tends to give a flatter softer light and so there are less exposure problems.

Side lighting is going to give large areas of the subject that are well lit, but other areas that are in deep shade and so you have to think carefully where to focus as that provides the main point that the exposure is going to take place.

Because of the extremes that you may experience, you may need to choose what part of the scene you really want to concentrate on. We will look in more depth at this, later in the ebook.



What colour is the light?

The colour of the lighting can be determined by a number of factors. This affects the overall mood of the image, and can quite dramatically change how you feel about the picture when you view it.

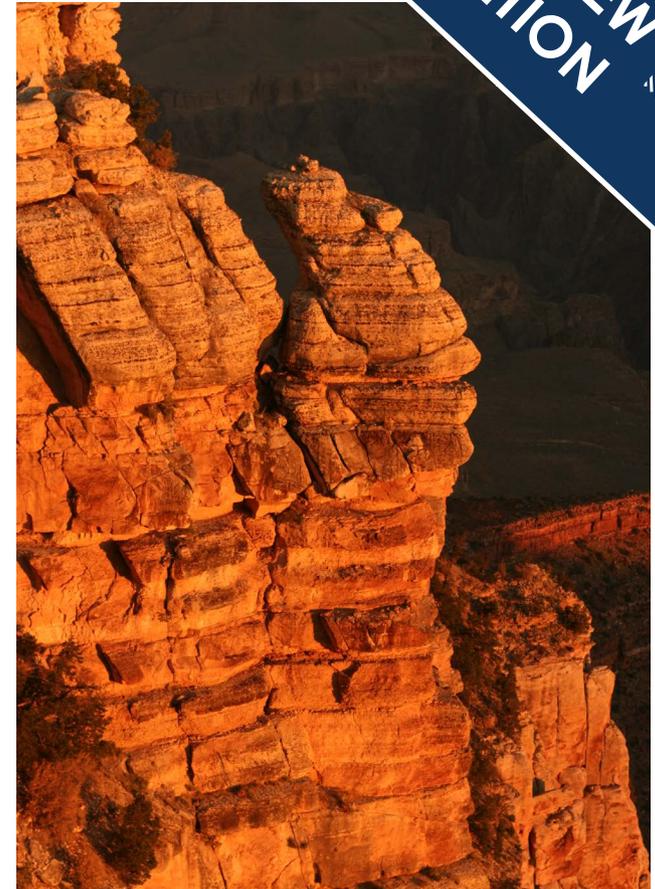
This is an area that can be changed quite significantly by the photographer using the camera's white balance system. The sample images that I have used here show how the use of the preset overrides can really change and improve the images that you take.

Therefore it is down to the photographer, as to how they want to interpret the colours in the scene. It's important to understand that this is an area where there are different interpretations as to how the scene should look.

It therefore is important to understand the white balance overrides offered by your camera, how to set them and how to make the most of what they are producing. The other thing that can make a difference to the colours that you are getting is the picturestyle that the camera is set to. Some of these enhance some colours more than others and so if shooting landscapes the landscape picture style will give much more intense blues and greens in the image than other picturestyles.

A scene can be factually recorded, it can be warmed up a little or creatively interpreted, it is up to the photographer as to how they want the image to look.

We will look in more depth at the colour of light, in later chapters of this ebook.



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