

# TONAL RANGE

## BLUEPRINT

Our camera sensors capture in tones. These start at pure black and end at pure white. The tones between black and white are not infinitely variable but are actually a series of very small steps, each one imperceptible to the eye.

It's the number of those increments between black and white that give us our dynamic (tonal) range. Because as photographers we work in and understand f-stops or EV (exposure value) as the scale we use to measure exposure, it makes sense to define the dynamic range in f-stops.



Dynamic range is **the number of steps between pure black and pure white**. Typically cameras capture between 12-15 stops of dynamic range at base ISO.

If you want to capture tonally rich images, you should have in mind the following 3 strategies:

- Using RAW files
- Avoiding blown highlights
- Using HDR

## Examples of photographs with broad tonal range



## 1 RAW FILES

Whilst jpeg files might be fine for many things, when working in difficult lighting or when needing the best quality, nothing beats the power of a raw file.



The reason for this is simple; you are getting the maximum dynamic range from your sensor. A shot that may appear to have blown highlights as a jpeg, may well be recoverable if it had been shot as a raw file.

### TIP:

If you combine shooting raw with monitoring your histogram, you will learn how far you can push the exposure abilities of your camera.

## 2 HIGHLIGHTS

Blown highlights occur when the amount of light in the scene is too much for the sensor to cope with. Once you have blown your highlights, it will be impossible to recover them in post production.



Learn to use the histogram to avoid blown highlights. When shooting in difficult conditions check the histogram after taking the shot. If your graphs spills out of the right side, then increase your shutter speed or close down your aperture until that graphs comes back inside.

### TIP:

Another way to combat blown highlights particularly in skies is to use neutral density graduated filters.

## THE 3 ESSENTIALS

### 3 HDR

An interesting and somewhat popular way of increasing the dynamic range of images is with high dynamic range (HDR) photography. To obtain HDR images, you need to shoot a few identical images (usually 3) at different exposure value levels.



Using a tripod is essential in this case because these different exposures should be combined into a single image in either Photoshop or HDR-specialized software.

### TIP:

Merging three different exposures will result in a much wider dynamic range compared with a single exposure.