

# VISTAS WITH HIGH OR LOW CONTRAST

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These notes cover camera and development techniques for making images of landscapes, seascapes, cityscapes with high or low contrast ranges.

Low contrast images are taken with flat, diffused lighting. The shadow areas are bright, and the highlights dull. Mist may add to the effect. High contrast, or High Dynamic Range (HDR) images are typically the result of strong, harsh lighting from the side. Shadows may be black with little detail and highlights may be white (blown out). In a high contrast landscape, the sky can be exposed right, then the foreground will be under exposed. Or more usually, the foreground is correctly exposed leading to the sky being over exposed. Other typical high contrast subjects are landscapes, seascapes and cityscapes at dawn and dusk.

The dynamic range of the film or camera sensor is a key factor. Colour slide film has a particularly narrow dynamic range, so that exposure has to be accurate to within half a stop. Sensors on professional quality digital cameras can have a dynamic range of over 8 stops. This means that they will record high contrast images well. Be aware that as you increase ISO, the dynamic range of your camera's sensor may be reduced.

## CAMERA TECHNIQUES

Capturing a low contrast subject is easy and exposure is not critical. It is development where an uninteresting flat image can be brought to life. Low contrast images will have grey highlights and shadows. Consider whether to treat as high key (over expose), low key (underexpose). Increasing contrast during development may work, but this may bring out unwanted artefacts. Other techniques may be used to rework the image using a Black and White layer with a Multiply blending mode (see below).

As contrast increases, then exposure becomes more critical. Eventually it is not possible to capture the full tonality in a single exposure. High contrast images can be photographed using multiple exposures that are then combined in Photoshop, provided the subject is stationary. When you photograph a high contrast scene, use the following camera technique to get the best set of exposures to combine.

### USE THE CAMERA'S HISTOGRAM TO MEASURE CONTRAST RANGE

Use the camera's histogram to determine contrast range of the subject. Turn on Live View. Adjust display to show the live histogram. A low contrast image will have all the tones bunched together in the centre. A high contrast image will have peaks at the left and right-hand sides, signifying black areas with no detail and blown highlights.

For a high contrast image, with the camera mode as Manual, adjust the exposure until the shadows start to clip on the histogram. Then decrease the exposure time (shutter speed) until the highlights clip while counting the clicks. The number of clicks is the range of exposure in half or 1/3 EV units, depending how your camera is set up. Divide by 2 or 3 as appropriate for range in EV units.

This determines the range of shots needed to cover the range of tones. An exposure in the middle of the range is the mid exposure. Under and over expose in 1-stop intervals. Usually no more than 3 shots are required, but you may need 5 or 7 shots to cover the range.

Take these using a set white balance (not auto), and manual focus. Use manual exposure adjustments if the camera is on a tripod. Using a tripod is best – the exposures will be aligned unless you bump the tripod or the zoom ring. If the camera is hand held, take them using Mode Av, with exposure bracketing, and the shutter set to high speed burst. Hold down the shutter while it quickly fires off the required bracketed shots. This way they will be nearly aligned.

This technique only will work with static subjects. Leaves rustling in a breeze may be a problem. In this case a single exposure may be the only way.

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## GRADUATED ND FILTERS

Your camera shop will be able to provide one solution to a high contrast range – the Graduated neutral density (ND) filter. These filters are available from several companies: NiSi, Haida and Cokin being the most common brands. The system starts with a filter holder, which is available in different widths (sizes) – 70, 100, 150 and 180mm. The size is chosen depending on the filter holder and focal length of the lens you are using. The small sizes are much less expensive and are compact, but only suit filter holder sizes up to 58mm on small aperture (kit) lenses, compact cameras and small EVIL (mirrorless) cameras. If you have a large aperture wide angle DSLR lens, you are going to need a 150mm or 180mm filter system.

The filter system has a wide range of available glass filters – polarising filters, neutral density filters of different strengths, and coloured filters are the most common ones used. Cokin produce a range of special effects filters, many of which produce effects difficult to duplicate during image development.

The Graduated ND filter is a rectangular glass filter, the top half of which is grey and the bottom clear. There is a smooth graduation from the dark to the clear parts of the filter. The filter is available in different strengths, 3 stop (ND8) or 4 stop (ND16) are typical. The transition can be Hard, Medium or Soft.

With the camera on a tripod you fit the Grad ND filter dark side at the top to darken the sky, and slide it up or down so the transition is where you want it, before taking the picture.

This method is liked by those who like in-camera solutions, but is expensive. Carrying around a set of filters and the holders adds to the inconvenience of walking to the location. The other downside is that the transition is straight.

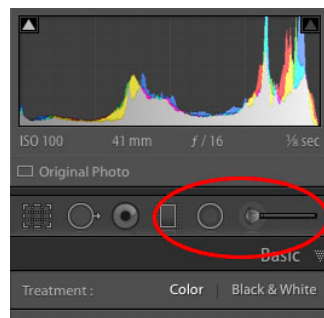
The techniques described below in development solutions are as effective as a Grad ND filter, and the effect can be applied selectively to different parts of the image. The transition can be shaped just as you want.

## IMAGE PROCESSING TECHNIQUES

### DEVELOPING A HIGH OR LOW CONTRAST SINGLE EXPOSURE – FIRST STEP

You can increase or reduce contrast on a single exposure using the Tone menu items in **Lightroom** (Contrast, Highlights, Shadows, Whites, Blacks). These are global controls, and if overdone will over or underdo things locally where you don't want. For example, increasing shadows to correct the foreground may flatten the sky.

Try instead to use the Gradient, Adjustment Brush, or radial filter to dodge or burn different areas of the image. You can increase or reduce exposure, contrast, highlights, shadows, whites, blacks, clarity, Dehaze, sharpness, and/or noise locally with these tools. This will correct the photo most of the time.



However, to get better images, it may be necessary to use one of the Photoshop developing techniques described below.

## MASKED CURVE ADJUSTMENTS IN PHOTOSHOP

The simplest technique to consider is using curves adjustments, masked to suit different parts of the image. The masks can be simple – a white mask with black painted on it to apply the adjustment where the mask is white.

Open the image in Photoshop. If necessary perform noise reduction and any touch-ups, such as moving or removing objects.

Create a new Curves layer. It will come with a white mask. The simplest way to modify the mask is to paint on it with a black brush. To darken and increase contrast in the sky for example just raise the top of the curve to get the effect you want in the sky. Paint on the bottom land part of the mask with a black brush so the effect is only applied to the sky. Be sure the Mask is active and not the Layer, or you will just turn all your lovely image pixels black.

A second curves layer can be added to adjust the contrast and brightness of the darker areas of the image. However, as the two adjustment layer masks can fight each other where they overlap, the effect can be difficult to control. Ensure you only select the tones in the image you want to adjust. This is best done using selections to create a mask.

## USING SELECTIONS TO MAKE MASKS

The quickest way to make a selection of a particular tone is to use the Quick Selection tool (Type W). Paint over the area you want to lighten, darken or change the contrast. Use the plus and minus tool options in the tool bar to add to or remove from the selection. When you are satisfied with the selection, click on the Add Adjustment layer button and choose a Curves layer. This can be modified to manage the tones in the selected area only.

The selection and the resultant mask will have hard edges. Alt/Option Click on the mask's icon to see the mask in the viewing window. Use a black or white brush at a low flow rate to add a gradient to those hard edges that are obvious.

## COMBINING IMAGE FILES AS HDR

The least subtle way of combining two or more images with a range of exposures is using HDR in either Lightroom or Photoshop. You have little control of contrast and the result has that unnatural HDR look. It was fashionable, but it now isn't.

## COMBINING IMAGE FILES USING LAYERS.

Photographs of the same scene with different exposures can be combined in Photoshop by loading the several images as layers in a single Photoshop file and then masking the layers to show the different exposures below.

If a single image has a wide dynamic range then combining two versions of the image, one processed to show the shadow areas and the other for the light tones can be used as the two basic images. This works where your camera has a high dynamic range (top of the range camera, low ISO). This technique can be used for correcting an image taken with a graduated ND filter, where something in the foreground crosses the graduated zone.

Although several images can be combined, it is usually only necessary to combine two. The first stage is to load the two images as Layers in Photoshop. There are several ways to do this, but the simplest is to highlight the two images in Lightroom's Library screen, then Photo > Edit in > Open as Layers in Photoshop.

Alternatively, in Photoshop, just navigate to the first image and open it, then the second image. They will have tabs. Go to the lighter of the two images, select it (Ctrl/Cmd + A), copy it (Ctrl/Cmd + C). Then switch to the other image and paste in the selection (Ctrl/Cmd + V). The selection will become a new layer above the background layer.

If the two images have not been exposed using a tripod, it will be necessary to align them. Select the two layers, then Edit > Auto-Align Layers > Auto.

The next thing to do is add a mask to the top layer. With the required layer active, click on the Add Mask button at the bottom of the layers panel. This will add a white mask to the highlighted layer.

## ADDING AND MODIFYING A MASK

The simplest technique of combining the images can be used where you want a smooth gradation from the lightest to the darkest parts of the image. This could be an image of a landscape from a high point, where the foreground is at the bottom and the sky at the top of the frame. The sky is usually too light. It is this sort of image you can expose in a single shot with an ND filter.

If necessary, drag the layer with the best exposure of the sky to the top. Add a mask to it by clicking on the Add Mask button.

## LOW CONTRAST - THE BLENDED BLACK & WHITE LAYER TECHNIQUE

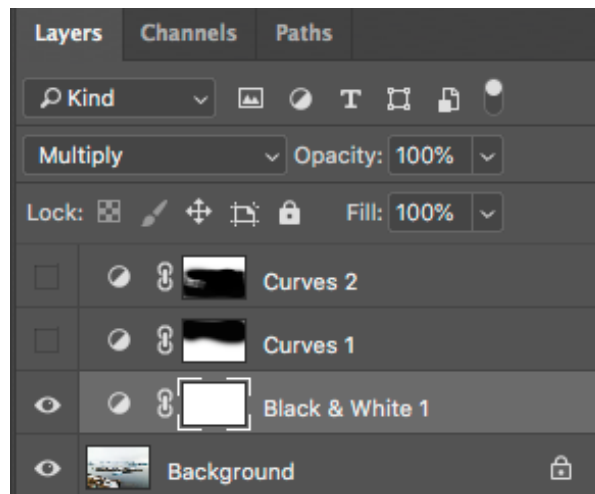
This technique gives a single image taken in flat (cloudy) lighting more punch.



Original image

Create a Black and White adjustment layer (Create new fill or Adjustment layer button > Black and white).

Change blending mode of this layer to Multiply. This will increase the tonality and mute the colours. The B&W conversion sliders should be adjusted to optimise the effect.



Black & White Adjustment layer

Add two Curves adjustment layers.

Mask one so that it covers the dark parts of the image (eg foreground) using the brush tool or the selection to mask method. Lighten this and increase contrast in the darks by dragging the dark tone part of the curve upwards.

Mask the other one to match the light tones of the image (eg sky). An inverted copy of the first mask may work. Drag the light part of the curve downwards to increase contrast and darken the lights.



Final image

A third curves layer may be required to increase contrast of the mid grey tones.

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