



# INTRODUCTION TO GRAPHICS

## BLENDING IMAGES USING LAYER MASKS

Information Sheet No.

PS646

## The Teton Technique

It is always nice to photograph scenery. These images are at the Grand Teton National Park. But something's wrong with the photos. The color differences between the left part of the image and the right part make it seem as if we're looking at two different parks—or, at least, the same park on two different days. This panorama presents a perplexing and very common problem. The landscape is too wide to capture in just one picture, so you shoot multiple photos—but the lighting and color can change as you change your angle or as time passes. The goal in this Information Sheet is to fix this problem and make the entire landscape to be a single image with consistent color.

Let's take a closer look at what we're working with. To make the exercise simpler, use only a 2-photo panorama.

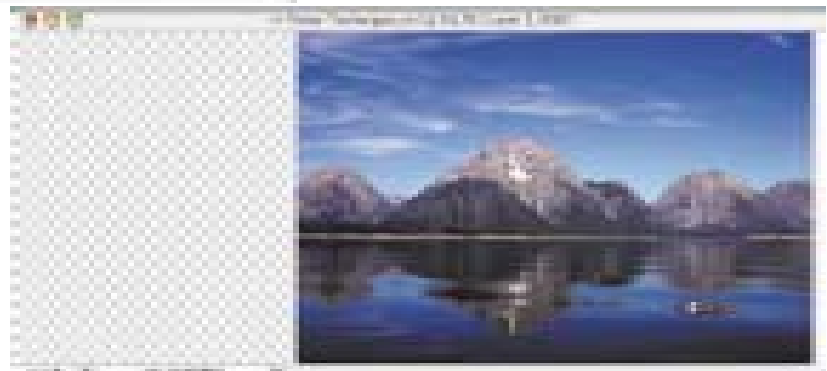
To begin, make a new file with two layers. Make layer 0 the left half of the panorama and layer 1 the right side. Hide one to see the other one alone. We will assume that layer 0 the color we want to use for the entire panorama, but your photos may be opposite. In that case just work on the opposite of suggested layers in this Information Sheet.

Layer 1, on the right (for this narrative) is the incorrect color. You probably guessed that to make them consistent we'll need to use levels. But levels can be pretty complicated on a color image like this one. If you're not an expert at using levels this Information Sheet will show you an easier way to use levels than you've probably seen before.



Layer 0, on the left, is the correct color; Layer 1, on the right, should match it.

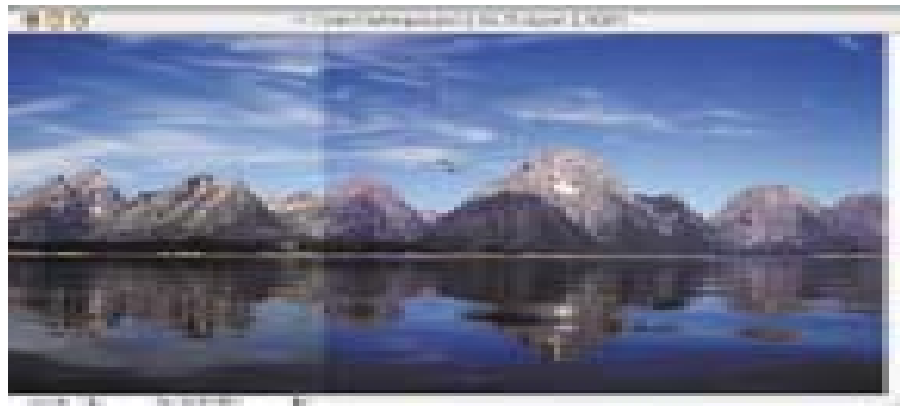
**OR TRY THIS:** Don't have any panoramic photos lying around? This technique works for more than just vacation shots. For example, you could use it to match images for prepress work: if you know one image prints well on your press, match other images to it so that you can be sure they'll print well, too.



# Channels Are the Key

Start by targeting Layer 1 in the Layers palette, because it's the layer we want to change. Remember that we want the colors in Layer 1 to match those in Layer 0. Now select the Channels tab to open the Channels palette. Channels are the secret to this whole operation. This is an RGB image, so we see the RGB channel, and a channel for each of the colors in it: red, green, and blue. So that we can see what we're working with, zoom in on the image.

Select the Zoom tool from the Toolbox. Then click and drag over the area you want to see. Often it is easier to match colors in the sky, so magnify the sky and clouds. Now remember, the color on the left, in this exercise, is the color we want, so we're going to be changing the color on the right. Because we're looking at them side-by-side, we'll know when we achieve our match.



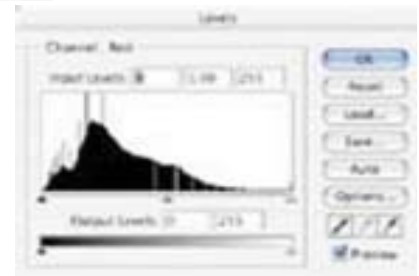
When we're finished, we want these colors to match.

Now begin to work in the channels. Start by selecting the red channel. The channel appears in gray scale. We can clearly see that the gray scale values are different in the image on the right half of the image. We'll make them the same. With the red channel targeted, choose Image > Adjustments > Levels. You are going to run levels on the gray scale image. Remember, all you have to know for

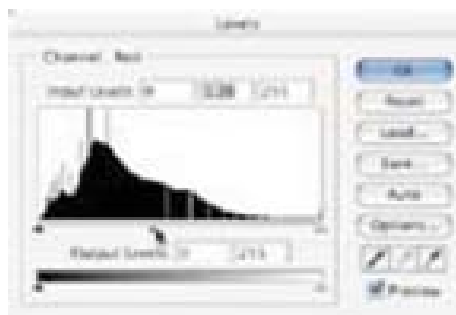
this project is how to make two shades of gray look the same. Click on the midpoint, and move it to the left. The right half of the image changes, while the image on the left stays the same. Continue to move the midpoint until the gray scale values for the images look about the same, and then click OK. Don't worry about the ugly line that separates the images. That will be fixed later.



Each channel appears in grayscale. We'll adjust the colors in the red channel first.



The changes we're making in the Levels dialog box affect only the layer on the right.



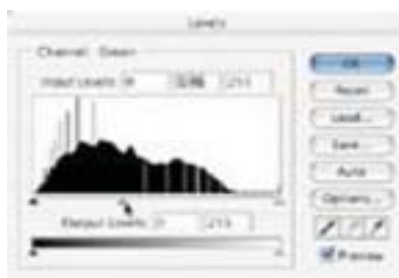
**ANOTHER WAY:** Here, we're judging our progress visually. If you want greater accuracy, you can use the Eyedropper tool to set an exact numerical value for each gray value.

Once the red channel is in good shape, move on to the green channel. Select it in the Channels palette to see whether we need to make any changes to it. Of the gray scale values for the image on the left side are different from those in the image on the right side, adjust it by choosing Image > Adjustments > Levels again. Adjust the midpoint until the two shades of gray are approximately the same, and click OK.

**NOTE:** Often, if you can get one color to look the same between the two images, the other colors come along for the ride.



The green channel needs to be adjusted, too



All that remains is the blue channel. Select it. If you see there's a problem there, choose Image > Adjustments > Levels. Slide the midpoint until it looks about right, and click OK.

The process should have become routine by now. And it's easy enough with a gray scale image to see when the values match.

You are now out of channels, so let's see what you've done. While we're still targeting the blue channel, zoom out to see the full image. (Double-click the

Hand tool to zoom to the full image quickly.)

Well, the blue channel looks pretty good. It's time to put all the pieces together again and see how we fared.

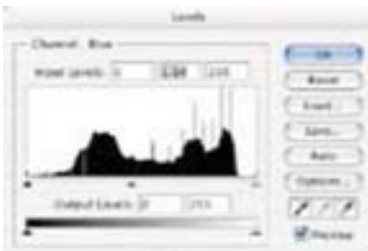
Select the RGB composite image at the top of the Channels palette. And this is what we have: We've matched the colors pretty well. That ugly line down the center is the only remaining hint that these are two images merged together.



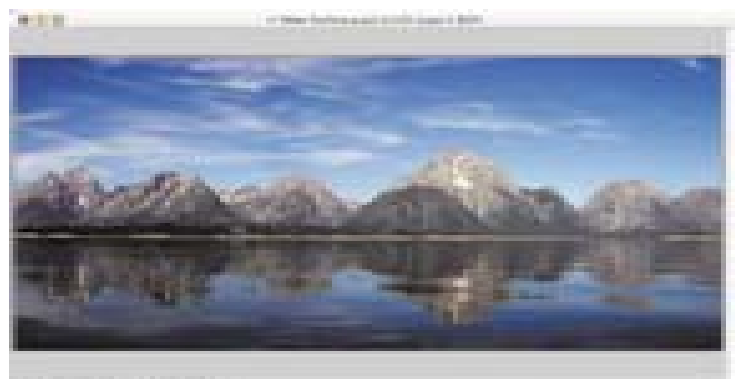
The layers don't match in the blue channel, either.



The blue channel looks good.



Slide the midpoint until the values match



Select the RGB composite image. Nice!

## Use a Layer Mask to Remove the Line

To remove that line, we're going to use a layer mask. Select the Layers tab to return to the Layers palette. Then, make sure that the topmost layer, Layer 1 (in this exercise) , is still targeted, because we want to blend Layer 1 into the background. Now we're ready to create a layer mask. Click the Add Layer Mask icon at the bottom of the Layers palette. A layer mask appears next to the thumbnail of the

layer in the Layers palette. Select the layer mask to target it, and then select a brush to use to paint over the seam between the images. For this purpose, use a soft-edge brush, with the Normal blending mode, and an opacity of 100%. Also want to make sure that the foreground color is black. Black hides the image, and white reveals the image.



Click the Add Layer Mask icon in the Layers palette to create a layer mask.



**ANOTHER WAY:** To see the mask in the image area, press the Alt or Option Key while you click the layer mask in the Layers palette. Shift-click to turn the mask off or on.

# Masking Portions of a Layer

Layer masks protect parts of your image so that you can be selective about where you apply filters, change colors or add effects. You can use a mask to blend one layer with another, or to modify part of a layer with another. For example, you could use a layer mask to fade the edges of a photograph into a white background. Or, you can blend two image edges together, as we did in this Information Sheet. While you're working with the mask, the special effects you apply don't affect the actual pixels in the layer. Only when you apply the mask do the changes become permanent.

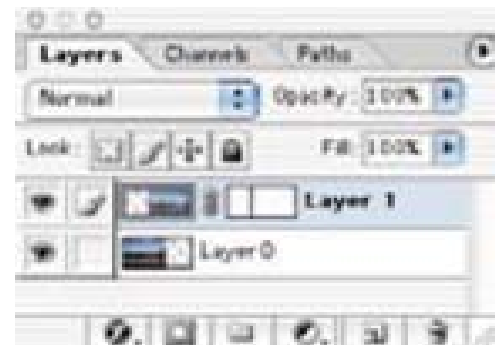
A layer mask is gray scale. What you paint in black is opaque, so the layer itself is hidden; what you paint in white is transparent, revealing the layer; and what you paint in shades of gray appears with corresponding degrees of transparency.

Click at the top of the image, on the line. Then drag the brush down to paint through the image until the two are blended together.

Look at the layer mask thumbnail in the Layers palette. The layer mask has a strip of black paint through it. That layer mask is what's blending these images together.



As you drag the brush over the line, the two sides of the image are blended together.



The black strip is the layer mask.

**OR TRY THIS:** Did you go too far with the brush? Use a white brush instead of a black brush to recover the image. To switch to a white brush, click the double-arrow icon to toggle the foreground and background colors in the Toolbox.

**SUPER USER TIP:** Here's a great time-saving technique for painting a straight line between two points in Photoshop: Click once where you want the brush stroke to start, hold down the Shift key, and then click again at the end point for your line. Photoshop draws a line with the current paintbrush between the two points.

There's the final panorama. Breathtaking, isn't it? Of course, not all images are created equal. Here, we used the midpoint slider to adjust the gray scale values. With other images, you may need to adjust the white point, black point, or even the Input sliders in the Levels dialog box to match the gray values. The midpoint slider is a good place to start, but don't be shy about experimenting with the other sliders as well.

