

How to Create False Color in Infrared Exposures

If you have begun your love affair with infrared photography, no doubt, you are familiar with the native yellow/tan and blue tones of a white balanced infrared image. This appearance, sometimes referred to as “native color” is captured by internal or external filters rated at 720 nanometers (“nm”) or below. The blue portions of the image are those areas that reflect infrared light back to the camera like the foliage on the rocks in this example taken with a 720 nm converted camera. The yellow/tan areas are areas that absorbed some or all of the infrared light like the sky.



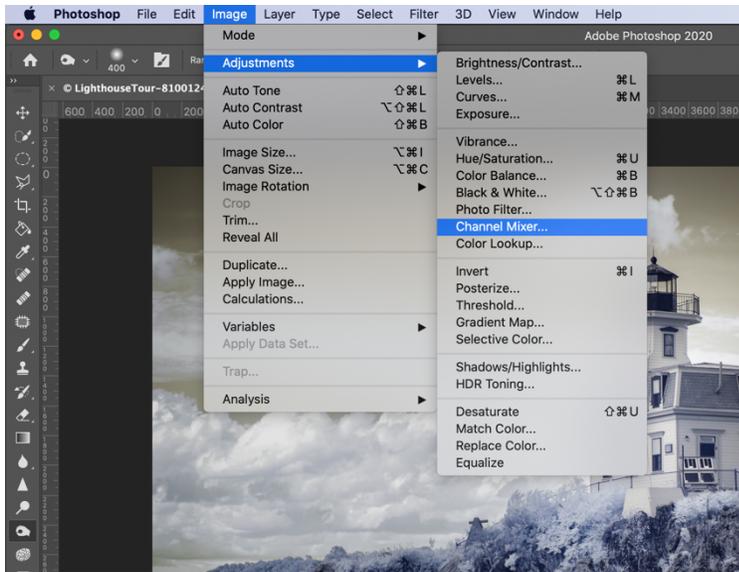
(Note: Conversions and filters above 720 nm let no visible light reach the sensor and, therefore, are totally blue. These conversions are best suited to black and white processing.)

Some images are lovely just left in native color, but others really shout out for the sky to be blue instead of yellow/tan and the foliage to be white rather than blue. Luckily there is a marvelous tool that makes it possible to make just such a change, the Channel Mixer. Using the Channel Mixer, we can do what is commonly referred to as **Channel Swapping** where we map the native colors to a more “normal” appearance. All false color rendering is done using channel swapping.

Most major image processing applications include a Channel Mixer tool, and they all work in a similar manner. For purposes of this “how to,” we will use Photoshop to illustrate.

The Red/Blue Channel Swap

Color in image editing software is specified using the RGB color system. As an additive color system, it uses combinations of red, green, and blue to create all the multitude of colors we see on our screen. With the Channel Mixer you can modify how each of these three color channels

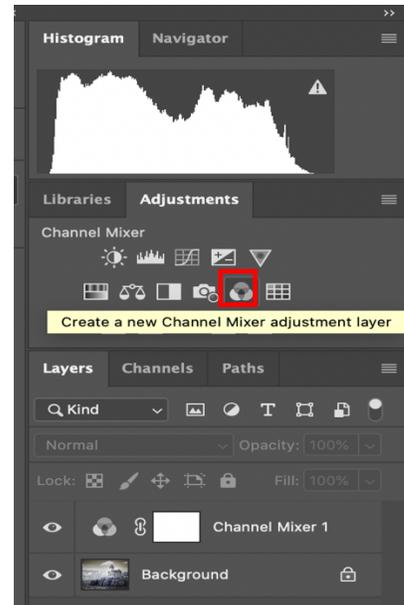


Begin the Channel Swap process by opening a white balanced infrared image in Photoshop.

Step 1: Open the Channel Mixer

There are two ways to open the Channel Mixer. The first is to navigate through the menu and select Image>Adjustments>Channel Mixer' (left).

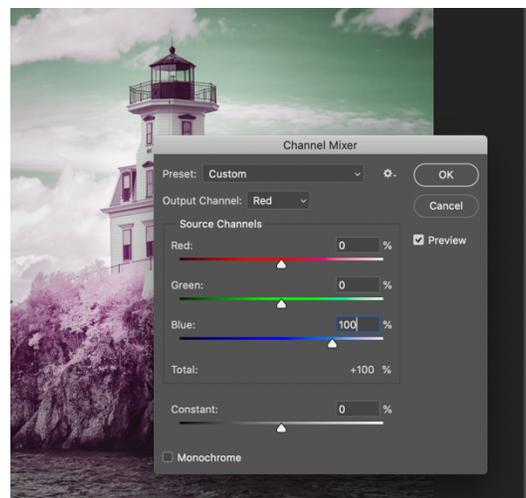
Alternatively, you can click the Channel Mixer icon in the Adjustments panel (right)



Step 2: Swap the Red Channel

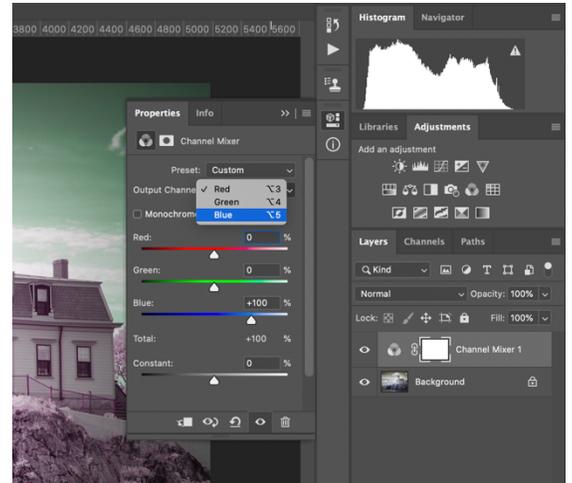
The Channel Mixer will open with the Red channel preselected. You will note, as you might have expected, this channel consists of 100% red, 0% green, and 0% blue.

Change these percentages to 0% red, 0% green, and 100% blue. (right)

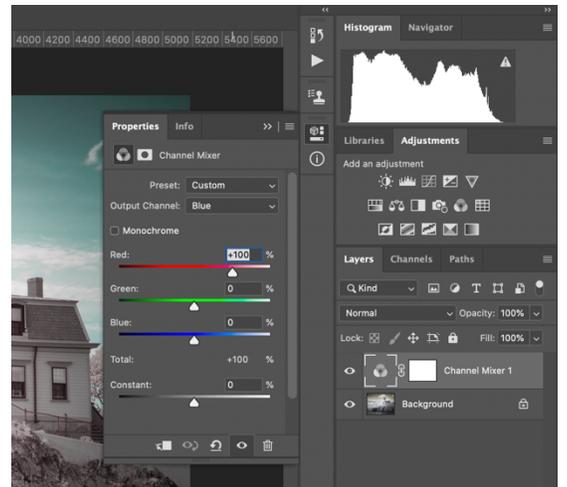


Step 3: Swap the Blue Channel

Using the Output Channel dropdown, change to the Blue channel. (right)



The blue channel's default is 0% red, 0% green, and 100% blue. Change these percentages to 100% red, 0% green, and 0% blue. (right)



No changes to the green channel are necessary. With the Red and Blue channels swapped, you should see the sky has changed to blue. (left) If the color of any part of your image is not exactly what you were hoping for, use the Hue and Saturation tool to fine tune it.